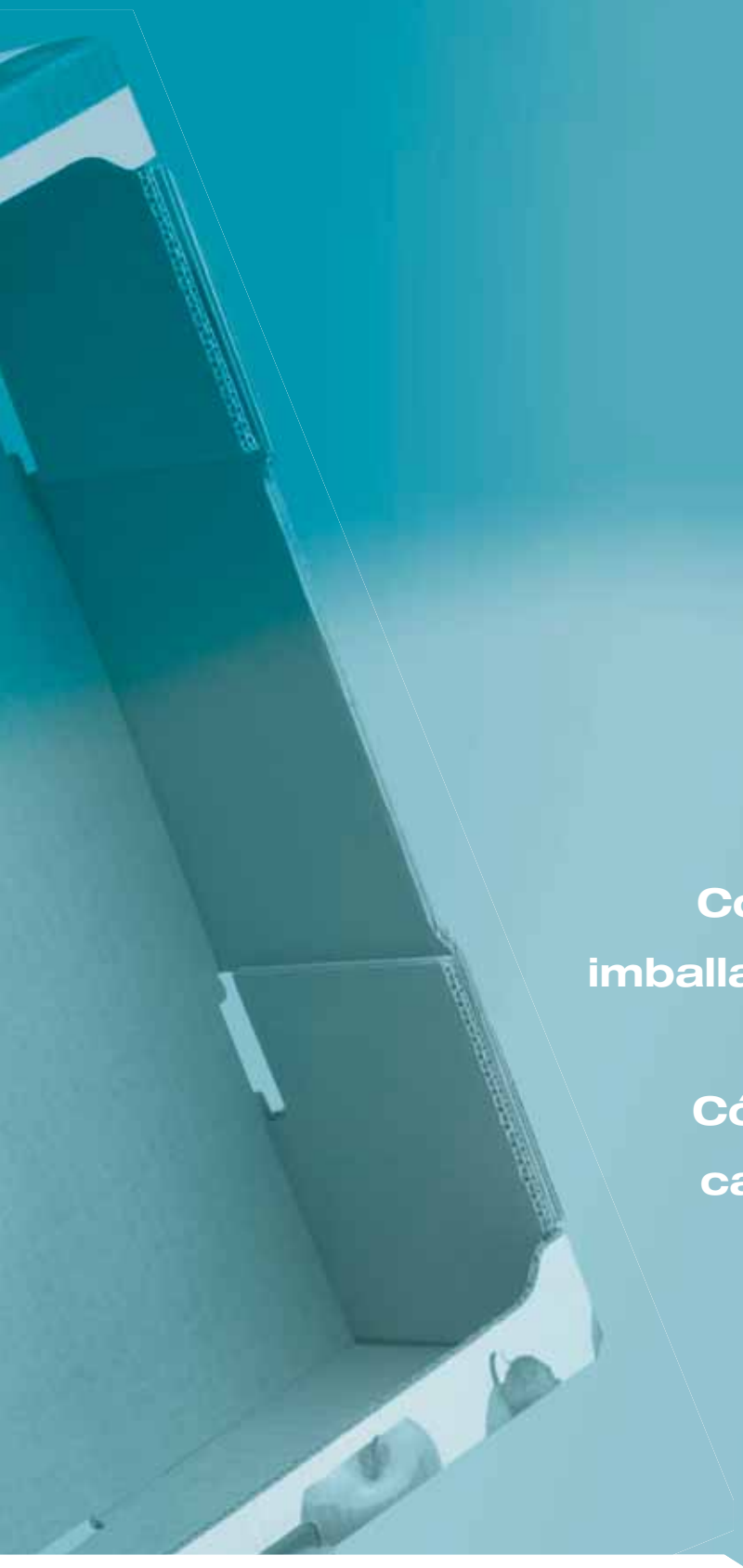

International fibreboard case code

Code international pour emballage carton

Internationaler code für versandverpackung

Codice internazionale per imballaggi in cartone ondulato

Código internacional para cajas de cartón ondulado

FEFCO
European Federation of Corrugated Board Manufacturers

ESBO
European Solid Board Organisation

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*Adopted by **ICCA**, the International Corrugated Case Association, with its worldwide membership.*

*Von **ICCA**, dem Internationalen Verband der Wellkistenhersteller, weltweit anerkannt.*

*Adopté par **ICCA**, l'Association Internationale des Fabricants de Carton Ondulé, sur le plan mondial.*

*Adottato da **ICCA**, l'Associazione Internazionale dei produttori di cartone ondulato, con la sua appartenenza a livello mondiale.*

*Adoptado por **ICCA**, la Asociación Internacional de Cajas de Cartón Ondulado, con sus asociados a nivel mundial.*

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International fibreboard case code

This Code has been developed by FEFCO and ESBO as an official system to substitute long and complicated verbal descriptions of fibreboard case and packaging constructions with simple symbols internationally understood by all, regardless of language and other differences.

The references may be used in orders and specifications for packing cases. Additions and modifications may only be made by FEFCO and ESBO.

Symbols used in drawings and computer systems

Drawing symbol	Computer code	Description
Cuts, scores, slits etc.		
	CL	contours of erected cases or cutting lines of case blanks
	SC	slotted cuts
	CI	crease lines (inward bend)
	CO	crease lines (outward bend)
	SI	slit-score lines (inward bend)
	SO	slit-score lines (outward bend)
	DS	double-score lines
	PL	perforation lines
	SE	soft edge cutting lines
	TP	tear perforation
Manufacturer's joint		
	SJ	stitched joint.
	TJ	taped Joint
	GJ	glued joint
Openings		
	PC	handholds stripped
	UC	handholds non-stripped
	NC	handholds non-stripped
Flute direction		
	FD	flute direction indicator

The layouts of the styles in this Code are always viewed from the inside of the case.

Case dimensions

Unless otherwise specified all dimensions are expressed as internal dimensions in mm as follows:

Length (L) x Breadth (B) x Height (H)
Length (L) = the longer dimension at the opening
Breadth (B) = the shorter dimension at the opening
Height (H) = the dimension from the top of the opening to the base

The dimensions L, B, H are specified in each description of the case construction, for some models the numerical value of B can exceed the numerical value of L. Dimensions should be measured under standard climatic conditions, on the flat blank from the centre of crease bearing the thickness of the material in mind.
For telescope-type boxes the height (h) of the upper part (lid) should be given as a fourth measurement after an oblique stroke, i.e.

355 x 205 x 120/40 mm
(L) (B) (H) (h)

For cases with overlapping outer flaps the length of the area of overlapping (o) should be given as a fourth measurement after an oblique stroke, i.e.

355 x 205 x 120/40 mm
(L) (B) (H) (o)

Sheet dimensions

Unless otherwise specified, the dimensions of a corrugated sheet are expressed in mm as follows:

1st dimension x 2nd dimension
1st dimension = along the glue lines
2nd dimension = across the glue lines

Style versions

Several case types may have derived versions without the necessity to create a new style. In this case a suffix should be added to the basic style number, separated by a dash.

Example: 0201-2.

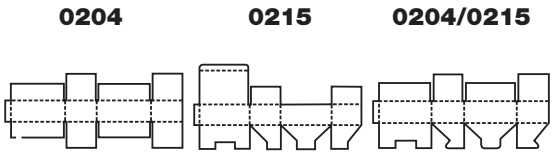
A version may be unique to individual manufacturers.

Combination of types

The construction styles shown are of the basic types of fibreboard cases. If the ultimate construction is a combination of two or three basic models, e.g. flap arrangements, they may also be described as follows:

Top flaps as 0204, Bottom flaps as 0215

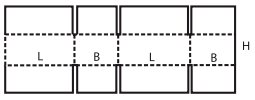
This type may also be described as 0204/0215 (Top flaps. Bottom flaps).



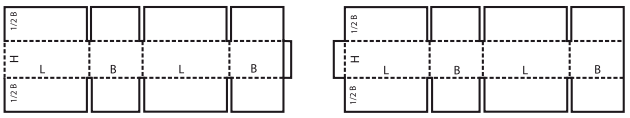
Styles and the manufacturers joint

The drawing style layouts as shown in this Code may need to be re-arranged depending on the Manufacturers Joint chosen. Some styles may have a Manufacturers Joint which may be glued, stitched or taped. A glued or stitched Joint may be an extension of either the short or the long panel. The sketches show how these would be indicated on a drawing:

Example for all styles:



Taped joint



Glued or stitched joint

This applies to all designs in this Code.

Manual or Automated erection

Each design style includes one of the following indications:

M - usually manual erection
A - usually automated erection
M/A - can be either manual or automated M+A - requires a combination of both

This indications are based on current practice and are intended to give additional information to specifiers and users. Some manually erected cases can be closed automatically (e.g : 0216 or 0712)

Description of basic type groups*

*The terms Box, Container and Case are interchangeable in the context of these descriptions.

General remarks

Please note that several case designs contained in the Code under a specific number could also be classified under other basic type groups.

01 - Commercial rolls and sheets

02 - Slotted-type boxes

Slotted-type boxes consist of basically one piece with a glued, stitched or taped manufacturers joint and top and bottom flaps. They are shipped flat, ready to use and require closing using the flaps provided.

03 - Telescope-type boxes

Telescope-type boxes consist of more than one piece and are characterised by a lid and/or bottom telescoping over the body of the box.

04 - Folder-type boxes and trays

Folder-type boxes and trays usually consist of only one piece of board. The bottom of the box is hinged to form two or all side walls and the cover. Locking tabs, handles, display panels etc., can be incorporated in some designs.

05 - Slide-type boxes

Slide-type boxes consist of several pieces of liners and sleeves sliding in different directions into each other. This group also includes outside sleeves for other cases.

06 - Rigid-type boxes

Rigid-type boxes consist of two separate end pieces and a body and require stitching or a similar operation before they can be used.

07 - Ready-glued cases

Ready-glued cases consist of basically one piece, are shipped flat and ready to use by simple setting up.

09 - Interior fitments

Interior fitments such as inside liners, pads, partitions, dividers etc., whether tied to Case Design or as singular items. Any shown number of panels is arbitrary and may be increased or decreased as required.

Writing of the style code

Full code: XXXX-XXXX	
Style	**Style version**
XXXX	**-XXXX**
The standard recognised shape/design from this code.	The version number to differentiate the variation from the standard design (corresponding to an individual drawing or CAD/CAM library).

Closure of boxes

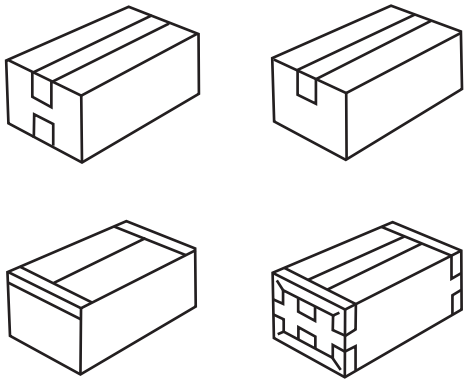
Correct and effective closure of the packages is as important as the packaging construction itself.

The following methods of closure are possible either singly or in combination:

- by gluing, cold or hot
- by taping
- by interlocking
- by stitching

Closing by taping

This can be done according to the examples shown.



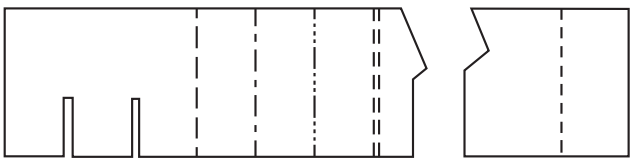
Closing by stitching

This can be done according to the examples shown.

Coding of interior fitments

The following range of interior fitments is coded depending on the number of panels used, in any combination of shapes (for computer systems).

Number of panels		CODE
2	>	0982
3	>	0983
4	>	0984
5	>	0985
6	>	0986
7	>	0987
8	>	0988
9	>	0989
10	>	0990
11	>	0991
12	>	0992
13	>	0993
14	>	0994
15	>	0995
16	>	0996
17	>	0997
18	>	0998
19	>	0999



0982/0999
M

Internationaler code für versandverpackung

Der vorliegende Code wurde von der FEFCO und der ESBO ausgearbeitet mit dem Ziel, umständliche Definitionen von Well kisten- und Verpackungskonstruktionen durch einfache, international gültige Symbole zu ersetzen, die unabhängig von sprachlichen und anderen Schwierigkeiten allgemein verständlich sind.

Der Code kann ferner für Aufträge und Spezifikationen von Versandverpackung benutzt werden. Änderungen und Ergänzungen können nur die FEFCO bzw. die ESBO vornehmen.

Für Zeichnungen und Rechnersysteme verwendete Symbole

Symbol	Beschreibung	Rechnercode
Schneid- und Rillinien, Schlitze, Ausstanzungen usw.		
	CL	Konturen fertig geformter Schachteln bzw. Schneidlinien von Schachtelzuschnitten
	SC	Ausgestanzte Schlitze
	CI	Rillinien der Zuschnitte (nach innen faltend)
	CO	Rillinien der Zuschnitte (nach außen faltend)
	SI	Ritzlinien der Zuschnitte (nach innen faltend)
	SO	Ritzlinien der Zuschnitte (nach außen faltend)
	DS	Doppelte Rillinien der Zuschnitte
	PL	Perforationslinien der Zuschnitte
	SE	Weiche Schnittkanten der Zuschnitte (nurWellpappe)
	TP	Aufreißperforation
Fabrikkanten- und Laschenverbindungen		
	SJ	Verbindung durch Drahtheftung
	TJ	Verbindung durch Klebestreifen
	GJ	Verbindung durch Laschenklebung
Handgriff-Öffnungen		
	PC	Handgrifföffnung, ausgebroche
	UC	Handgrifföffnung, nicht ausgebrochen
	NC	Handgrifföffnung, nicht ausgebrochen
Wellenrichtung		
	FD	Wellen richtungsanzeiger

Die Skizzen der in diesem Leitfaden aufgeführten Schachteltypen sind vom Innern der Schachtel her gesehen dargestellt.

Abmessungen der Schachteln

Sofern nichts anderes angegeben ist, werden als Abmessungen die im folgenden definierten Innenmaße in mm angeführt:

Länge (L) x Breite (B) x Höhe (H)
Länge (L) = die längere Abmessung an der Öffnungsseite
Breite (B) = die kürzere Abmessung an der Öffnungsseite
Höhe (H) = die Abmessung zwischen der Oberkante an der Öffnungsseite und der Bodenkante

Die Größen L, B, H, sind in jeder Beschreibung der Gehäusekonstruktion angegeben. Bei einigen Modellen kan der numerische Wert von B der numerischen Wert von L übersteigen.
Die Maße sind unter genormten klimatischen Bedingungen am flachliegenden Zuschnitt von der Rillinienmitte aus unter Berücksichtigung der Packstoffdicke zu messen.
Bei Deckel- oder Stülpschachteln ist die Höhe (h) des oberen Teils (Deckels) als viertes Maß hinter einem Schrägstrich anzugeben:

355 x 205 x 120/40 mm
(L) (B) (H) (h)

Bei Schachteln mit überlappenden äußeren Versctilußklappen ist die Länge bzw. die Fläche der Überlappung (0) als viertes Maß anzugeben:

355 x 205 x 120/40 mm
(L) (B) (H) (0)

Wellplattenabmessungen

Die Abmessugen einer Wellplatte sind, wenn nichts anderes vermerkt ist, wie folgt in mm angegeben:

Abmessung 1x Abmessung 2
Abmessung 1 = den Klebfugen entlang
Abmessung 2 = quer durch die Kelbfugen

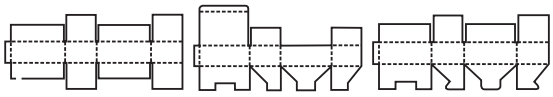
Abgewandelte Ausführungen

Bei bestimmten Kistentypen kann es sich um Abwandlungen von Ausführungen handeln, wobei es nicht notwendig ist, einen neuen Typ zu kreieren. In diesem Fall ist dieNummer des Grundtyps durch eine Zahl zu ergänzen, die von ersterer durch einen Längsstrich abgetrennt wird: 0201-2.
Bei bestimmten Ausführungen kann es sich um einmalige Kreationen einzelner Hersteller handeln.

Kombinationen von Schachteltypen

Im folgenden sind die Grundtypen von Voll pappe- und Wellpappeschachteln abgebildet. Ist eine Ausführung eine Kombination von mehreren Grundformen, beispielsweise von Klappen, kann die Beschreibung wie folgt lauten: Deckelklappen wie 0204, Bodenklappen wie 0215 oder auch 0204/0215 (Deckelklappen/Bodenklappen).

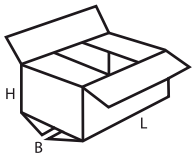
0204 **0215** **0204/0215**

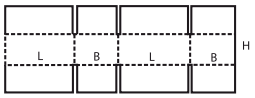


Verbindung durch Klebestreifen

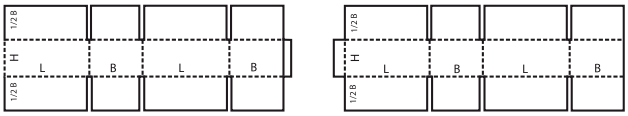
Verbindung durch Laschenklebung bzw. Drahtheftung
Das trifft auf alle in diesem Leitfaden aufgeführten Ausführungen zu.

0201





Verbindung durch Klebestreifen



Verbindung durch Laschenklebung bzw.Drahtheftung

Das trifft auf alle in diesem Leitfaden aufgeführten Ausführungen zu.

Manuelle oder automatische Montage

Zu jeder Bauart gehort eine der folgenden Bezeichnungen
M - normalerweisz manuelle Montage
A - normalerweisz automatische Montage
M/A = manuell oder automatisch
M+A = eine Kombination beider Montagearten ist erforderlisch Diese Bezeichnurgen basieren auf der aktuellen Praxis und sollen für Spezifikationselemente und Benutzer zusätziiche Informationen liefern.
-
Einige manuell montierte Gehäuse können automatisch geschlossen werden (z.B. 0216 oder 0712).

Beschreibung der Gruppen von Grundtypen* Schreibung des Typencodes

*Die Bezeichnungen ‚Schachteln' und ‚Kisten' sind in den vorliegenden Beschreibungen identisch.

Hinweis

Bitte beachten Sie, daß manche der im Leitfaden unter einer bestimmten Nummer aufgeführten Kistenausführungen auch unter anderen Gruppen von Grundtypen eingeordnet werden könnten.

01 - Handelsübliche Rollen und Tafeln

02 - Faltschachteln (Faltkisten)

Faltschachteln (Faltkisten) bestehen in der Regel aus einem Stück mit einer durch Laschenklebung, Drahtheftung bzw. Klebestreifen verbundenen Fabrikkante sowie Deckel- und Bodenklappen. Sie werden flach zusammengefaltet versandt, sind gebrauchsfertig und werden anhand der Klappen verschlossen.

03 - Deckelschachteln

Deckelschachteln (Stülpschachteln) bestehen aus zwei oder mehr Teilen. Ein Oberteil (Deckel) wird über ein Unterteil (Boden) gestülpt oder beide über einen Rumpf.

04 - Falthüllen und Trays

Falthüllen und Trays bestehen im allgemeinen aus einem Zuschnitt. Zwei oder alle Seitenwände und der Deckel sind am Boden angelenkt. Sperrvorrichtungen, Handgriffe, Verkaufsteller usw. können bei dieser Ausführungsart mit vorgesehen werden.

05 - Schiebeschachteln

Schiebeschachteln (Gürtelschachteln) bestehen aus mehreren in verschiedenen Richtungen ineinanderschiebbaren Ringeinsätzen und Manschetten. Zu dieser Gruppe gehören auch Überschiebhülsen.

06 - Formfeste Schachteln

Formfeste Schachteln bestehen in der Regel aus zwei Seitenteilen und einem Mittelteil, das Boden und Dekkel bildet. Diese Schachteln können als vorbereitete Zuschnitte geliefert werden und sind dann vom Verbraucher durch Drahtheftung zu verbinden.

07 - Fertig geklebte Schachteln

Fertig geklebte Schachteln sind einteilige, faltbare Schachteln, die zusammengelegt geliefert und durch einfaches Aufrichten gebrauchsfertig aufgestellt werden. Die Schachteln können mit einem Faltboden (Faltbodenschachtel) oder mit Diagonalbiegung (Aufrichteschachtel) ausgerüstet sein.

09 - Inneneinrichtungen

Inneneinrichtungen wie Einlagen, Einsätze, Stege, Trennwände, Gefache, Polster und dgl., ob mit der Kiste fest verbunden oder als getrennte Elemente. Zahlenangaben für Wände sind beliebig und können ggf. höher oder niedriger ausfallen.

Schreibung des Typencodes

Voller Code: XXXX-XXXX	
Typ	**Abwandlung**
XXXX	**-XXXX**
Die Standardform bzw. -ausführung nach diesem Leitfaden	Die Nummer zur Unterscheidung der von der Standardausführung abweichenden Form (einem individuellen Modell entsprechend oder einem, das in einer CAD/ CAM-Programmbibliothek enthalten ist).

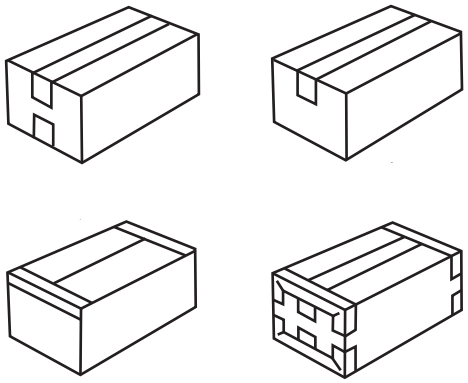
Verschließen der Schachteln

Der sachgemäße, sichere Verschluß der Schachteln ist ebenso wichtig wie die Konstruktion der Verpackung. Der Verschluß erfolgt nach den folgenden Verfahren, die einzeln oder miteinander kombiniert angewandt werden:

- Laschenklebung (kalt oder heiß)
- Klebestreifenklebung
- Verriegelung
- Drahtheftung

Verschlußdurch Klebestreifen

DerVerschluß durch Klebestreifen kann gemäß den gezeigten Beispielen erfolgen.



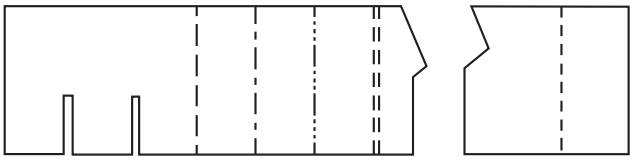
Verschlußdurch Drahrheftung

DerVerschluß durch Klebestreifen kann gemäß den gezeigten Beispielen erfolgen.

Kodifizierung der Inneneinrichtungen

Die folgenden Inneneinrichtungen werden nach der Anzahl der verwendeten Tafeln codiert, und zwar in jeder Kombination (für Computersysteme).

DerVerschluß durch Klebestreifen		CODE
2	>	0982
3	>	0983
4	>	0984
5	>	0985
6	>	0986
7	>	0987
8	>	0988
9	>	0989
10	>	0990
11	>	0991
12	>	0992
13	>	0993
14	>	0994
15	>	0995
16	>	0996
17	>	0997
18	>	0998
19	>	0999



0982/0999
M

Code international pour emballage carton

Ce Code a été établi par la FEFCO et l'ESBO en vue de décrire des emballages en carton par des modèles et symboles simples, internationalement compréhensibles, et pour être utilisé dans toutes les spécifications d'emballages, ainsi que dans les transactions commerciales.

la FEFCO et l'ESBO sont les seules habilitées à apporter des modifications ou des compléments.

Symboles utilisés dans les dessins et dans les systèmes informatiques.

Symbole de dessin	Code informatique	Désignation
Coupes, refoulures, entailles etc.		
	CL	Contours de caisses montées ou lignes de coupe des formats
	SC	Echancrures
	CI	Refoulures (pli vers l'intérieur)
	CO	Refoulures (pli vers l'extérieur)
	SI	Coupe mi-chair (vers l'intérieur)
	SO	Coupe mi-chair (vers l'extérieur)
	DS	Double ligne de refoulage
	PL	Lignes de perforation
	SE	Bords anti-coupe
	TP	Lignes d'arrachage
Joints d'assemblage		
	SJ	Joint agrafé
	TJ	Joint à bande gommée
	GJ	Joint à patte collée
Ouvertures		
	PC	Poignées décortiquées
	UC	Poignées non décortiquées
	NC	Poignées non décortiquées
Sens de la cannelure		
	FD	Indicateur du sens de la cannelure

Les dessins des modèles du présent Code sont toujours vus à partir de l'intérieur de la caisse.

Dimensions des emballages

Sauf spécification contraire, toutes les dimensions sont exprimées en dimensions interieures en mm comme suit:

Longueur (L) x Largeur (B) x Hauteur (H)
Longueur (L)= la dimension la plus longue à l'ouverture
Largeur (B) = la dimension la plus courte à l'ouverture
Hauteur (H) = la dimension du niveau de l'ouverture jusqu'à la base

Les dimensions L, B et H sont indiquées dans chaque description de la construction du boîtier. Pour certains modèle, la valeur numérique de B peut être supérieure à la valeur numérique de L.
Les dimensions doivent être mesurées dans les conditions de climat normalisées sur le format à plat, à partir du milieu des lignes de refoulage. Les dimensions réelles sont ensuite déduites en prenant en compte l'épaisseur de la plaque.
Pour les caisses télescopiques, la hauteur (h) de la partie supérieure (couvercle) sera indiquée comme la quatrième dimension après une barre oblique, soit:

355 x 205 x 120/40 mm
(L) (B) (H) (h)

Pour les caisses avec rabats extérieurs recouvrants, la profondeur de recouvrement (O) sera indiquée comme une quatrième dimension, après une barre oblique, soit:

355 x 205 x 120/40 mm
(L) (B) (H) (O)

Dimensions des feuilles

Sauf indication contraire, les dimensions d'une feuille de papier ondulé sont exprimées en mm comme suit:

1ére dimension x 2éme dimension
1ére dimension = le long des lignes de collage
2éme dimension = en diagonale par rapport aux lignes de collage

Variantes

Plusieurs types de caisses peuvent comporter des variantes sans qu'il soit nécessaire de créer un nouveau type. Dans ce cas, il y a lieu d'ajouter au numéro de base du type un suffixe séparé par un tiret.

Exemple: 0201-2.

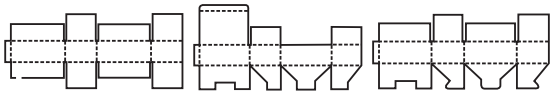
Une variante pourra être particulière à un fabricant.

Combinaisons des types de caisses

Les types de construction représentés sont les types de base pour les caisses en carton. Si l'emballage fini est une combinaison de deux ou trois modèles de base, par exemple en ce qui concerne la disposition des rabats, il pourra également être défini comme suit:

Rabats supérieurs, comme 0204, Rabats du fond comme 0215. Ce modèle peut aussi être défini comme 0204/0215 (Rabats supérieurs/rabats du fond).

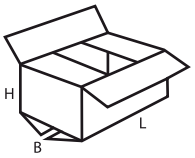
0204 **0215** **0204/0215**



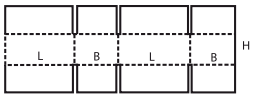
Adaptation des dessins selon le type de jonction

Les dessins des modèles figurant dans le présent Code auront éventuellement besoin d'être aménagés en fonction du type de jonction choisi. Certains types peuvent avoir une jonction collée, agrafée ou à bande gommée.
Une jonction collée ou agrafée pourra être une extension du panneau court ou du panneau long.
Les croquis montrent la manière d'indiquer ces jonctions sur un dessin:

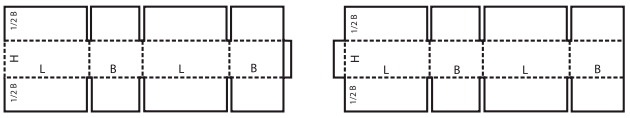
Exemple pour tous les styles:



0201



Jonction à bande gommée



Jonction collée ou agrafée

Ceci s'applique à tous les modèles du présent Code.

Montage manuel ou automatisé

Chaque type de conception comporte l'une des indication suivante:
M - généralement montage manuel
A - généralement montage automatisé
M/A : le montage peut être manuel ou automatisé
M+A : nécéssite la combinaison des deux types de montages

Ces indications sont issues des pratiques actuelles et ont pour but de fournir des informations complémentaires aux rédacteurs des caractéristiques tech.oiques ainsi qu'au utilisateurs. Dans certains cas, lorsque le montage a été effectué manuellement, la fermeture peut-être automatisée (ex 0216 ou 0712).

Désignation des principaux groupes de modèles*

*Les termes de Boîte, Emballage et Caisse sont interchangeables dans le contexte de ces descriptions.

Remarques générales

Il s'agit d'une classification très générale. Toutefois, quelques uns des modèles d'emballages d'un groupe pourraient régalement appartenir à d'autres groupes.

01 - Bobines, feuilles ou plaques commerciales

02 - Caisses à rabats

Caisses à rabats, d'une seule pièce, avec joint d'assemblage collé, agrafé ou à bande gommée. Elles sont livrées à plat, prêtes à l'emploi et nécessitent d'être fermées.

03 - Caisses télescopiques

Caisses télescopiques constituées par plus d'une pièce et caractérisées par un couvercle et/ou un fond séparé se glissant su r le corps de la caisse.

04 - Enveloppes et plateaux

Enveloppes et plateaux en général constitués d'une seule pièce, montés sans agrafage ni bande gommée, et pouvant comporter des éléments de vérrouillage, d'encliquetage, et des poignées.

05 - Boîtes coulissantes

Boîtes coulissantes constituées par plusieurs manchons coulissants rentrant en différentes directions les uns dans les autres. Ce groupe comprend aussi les manchons extérieurs pour d'autres caisses.

06 - Caisses rigides

Caisses rigides constituées de plusieurs pièces nécesssitant un assemblage avant emploi.

07 - Caisses collées prêtes à l'emploi

Caisses collées prêtes à l'emploi, constituées en principe par une seule pièce, livrées à plat et prêtes à l'emploi après un simple montage.

09 - Conditionnement intérieur

Conditionnement intérieur, tel que doublures intérieures, rembourrages, casiers, cloisons, etc ... , faisant partie du modèle de caisse ou utilisés comme éléments indépendants. Tout nombre de panneaux indiqué est arbitraire et pourra être augmenté ou diminué selon les besoins.

Ecriture du code du modèle

Code complet: XXXX-XXXX	
Modèle	**Variante**
XXXX	**-XXXX**
Pour modèle de base du présent code.	Pour distinguer un modèle dérivé d'un modèle de base du présent code ou introduire un repère de stockage en mémoire dans une bibliothèque informatique

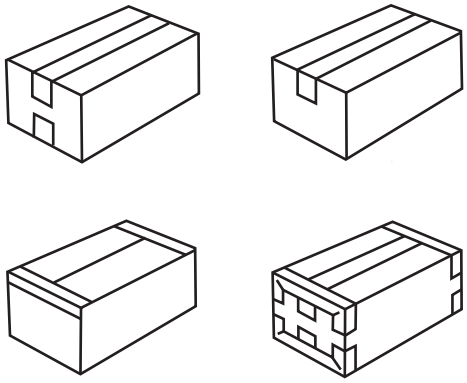
Fermeture des caisses

La fermeture correcte et efficace des emballages est aussi importante que leur construction elle-même.
Les méthodes de fermeture suivantes sont possibles, seules ou en combinaison:

- Collage, à froid ou à chaud
- Bande gommée ou bande adhésive
- Encliquetage
- Agrafage

Fermeture par bande

Elle pourra être réalisée conformément aux exemples représentés.



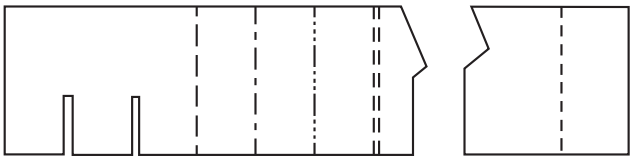
Fermeture par agrafage

Elle pourra être réalisée conformément aux exemples représentés.

Codification des conditionnements interieurs

La gamme suivante de conditionnements interieurs est codée selon le nombre de panneaux, pour toute combinaison de formes (pour systèmes informatisés).

Nombre de panneaux		CODE
2	>	0982
3	>	0983
4	>	0984
5	>	0985
6	>	0986
7	>	0987
8	>	0988
9	>	0989
10	>	0990
11	>	0991
12	>	0992
13	>	0993
14	>	0994
15	>	0995
16	>	0996
17	>	0997
18	>	0998
19	>	0999



0982/0999
M

Codice internazionale per imballaggi in cartone ondulato

Questo codice è stato sviluppato dalla FEFCO e dall'ESBO per creare un sistema ufficiale con cui sostituire la lunga e complicata descrizione verbale della struttura di scatole e imballaggi in cartone ondulato, attraverso semplici simboli che tutti possano capire a livello internazionale, a prescindere dalle differenze di lingua o altro. Questi riferimenti possono essere utilizzati negli ordini e nelle specifiche per gli imballaggi.
Eventuali aggiunte o modifiche potranno essere effettuate soltanto dalla FEFCO e dall'ESBO.

Simboli utilizzati nei disegni e nei sistemi di computer

Simbolo di disegno	Codice di computer	Descrizione
Tagli, cordonature, slit ecc.		
	CL	contorni degli imballaggi montati o delle linee di taglio degli imballaggi stesi
	SC	slits
	CI	cordonatura (piega verso l'interno)
	CO	cordonatura (piega verso l'esterno)
	SI	linea di slits-cordonatura (piega verso l'interno)
	SO	linea di slits-cordonatura (piega verso l'esterno)
	DS	doppia cordonatura
	PL	linea di perforazione
	SE	linea di taglio antinfortunistico
	TP	perforazione per strappo
Giunta di fabbricazione		
	SJ	giunta cucita
	TJ	giunta a nastro adesivo
	GJ	giunta incollata
Aperture		
	PC	maniglie tranciate
	UC	maniglie semitranciate
	NC	maniglie semitranciate
Direzione onda		
	FD	indicatore direzione onda

Nei disegni dei modelli con questo Codice è sempre esposto il lato interno dell'imballaggio.

Dimensioni dell'imballaggio

Se non diversamente specificato le dimensioni sono tutte dimensioni interne in mm come segue:

Lunghezza (L) x Larghezza (B) x Altezza (H)
Lunghezza (L) = la dimensione più lunga all'apertura
Larghezza (B) = la dimensione più corta all'apertura
Altezza (H) = la dimensione dalla parte superiore dell'apertura fino alla base

Le dimensioni L, B, H sono specificate in ogni descrizione della costruzione dell'imballaggio, per alcuni modelli il valore numerico della B può superare il valore numerico della L.
Le dimensioni andrebbero misurate in condizioni climatiche standard, sull'imballaggio aperto e steso, partendo dal centro della cordonatura e considerando lo spessore del materiale.
Per contenitori di tipo telescopico l'altezza (h) della parte superiore (cioè il coperchio) andrebbe indicata come quarta misura di seguito ad una barra obliqua, cioè:

355x205x120/40 mm
(L) (B) (H) (h)

Per contenitori con le falde esterne che si sovrappongono, l'area della sovrapposizione (o) andrebbe indicata come quarta misura di seguito ad una barra obliqua, cioè:

355x205x120/40 mm
(L) (B) (H) (o)

Dimensioni del foglio

Se non diversamente indicato, le dimensioni di un foglio di cartone ondulato sono espresse in mm come segue:

1ª dimensione x 2ª dimensione
1ª dimensione = parallela alle linee d'incollaggio
2ª dimensione = perpendicolare alle linee d'incollaggio

Più versioni di un modello

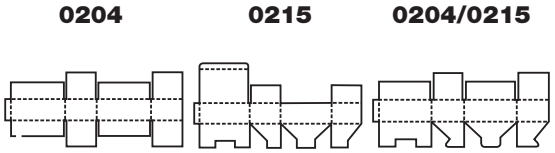
Per diversi tipi di imballaggio possono esistere delle versioni modificate senza che ci sia necessità di creare un modello nuovo. In tale caso andrebbe aggiunto un sottonumero dietro il numero base del modello, separato da un trattino.

Esempio: 0201-2.

E' possibile che una determinata versione venga realizzata da un singolo produttore.

Combinazione di più tipi

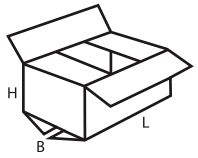
I modelli di costruzione mostrati sono dei tipi base degli imballaggi in cartone ondulato.
Nel caso in cui la costruzione finale sia una combinazione di due o tre modelli base, per esempio riguardo all'arrangiamento delle falde, si può fare una descrizione come la seguente: Falde superiori come 0204, falde inferiori come 0215. Questo tipo può anche essere descritto come 0204/0215 (Falde superiori/Falde inferiori)

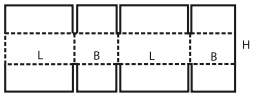


I modelli e la giunta di fabbricazione

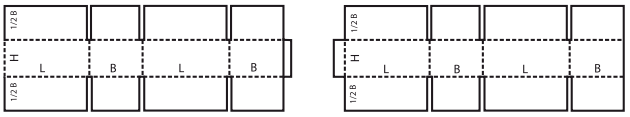
I disegni dei modelli inclusi in questo Codice possono essere riadattati in funzione della scelta del tipo di giunta di fabbricazione.
Alcuni modelli possono avere una giunta incollata, cucita o nastrata. Una giunta incollata o cucita può essere realizzata tramite l'estensione o del pannello o del pannello lungo.
Nelle immagini vengono illustrate le relative indicazioni sul disegno:

Esempio per tutti i tipi





Giunta nastrata



Giunta incollatGiunta incollata o cucita

Quanto sopra è valido per tutti i modelli in questo Codice.

Manuale o Automatico

Ognuno dei modelli include una delle indicazioni seguenti:
M – montaggio in genere manuale
A – montaggio in genere automatico
M/A – può essere o manuale oppure automatico
M+A – richiede una combinazione dei due

Queste indicazioni vengono date in base ai metodi attualmente adoperati e con lo scopo di dare ulteriori informazioni agli addetti alla preparazione delle specifiche e agli utilizzatori.

Alcuni degli imballaggi a monatggio manuale possono essere chiusi anche in automatico (per es.: 0216 o 0712)

Descrizione dei gruppi di modelli base*

*I termini Scatola, Contenitore ed Imballaggio sono interscambiabili nel contesto delle descrizioni sopra.

Note generali

N.B. Diversi modelli di imballaggio tra quelli inclusi nel Codice con un determinato numero potrebbero essere classificati anche all'interno di altri gruppi di modelli base.

01 - Bobine e fogli pronti per vendita

02 - Scatole americane

Scatole americane costruite in un singolo pezzo base con la giunta incollata, cucita o nastrata e con falde superiori e inferiori. Sono consegnate stese, pronte da utilizzare e richiedono chiusura tramite le apposite falde.

03 - Scatole telescopich

Scatole telescopiche costituite da più di un componente e caratterizzate da un coperchio e/o fondo che scorre esternamente al corpo della scatola.

04 - Contenitori e vassoi

Contenitori e vassoi formati normalmente dalla piegatura di un pezzo di cartone. Il fondo del contenitore è delimitato da pieghe in modo da formare due o tutti i pannelli laterali ed il pannello superiore. In certi modelli possono essere incorporati delle linguette di chiusura, delle maniglie, dei pannelli da espositori ecc.

05 - Contenitori telescopicio

Contenitori telescopicio composti da diversi pezzi che scorrono l'uno con l'altro. In questo gruppo sono incluse anche le fasce esterne per scatole.

06 - Imballaggi rigidi

Imballaggi rigidi composti da due pezzi laterali separati e un corpo, e richiedono una fase di cucitura o altro prima di essere utilizzati.

07 - Imballaggi incollati

Imballaggi incollati già pronti composti in genere da un pezzo, sono consegnati piegati e sono pronti per l'uso tramite una semplice fase di montaggio apertura.

09 - Pezzi interni

Pezzi interni come fodere interne, imbottiture, separatori, divisori ecc., sia come accessori ad un imballaggio, sia come articoli a se stanti. I numeri di pannelli che compaiono nei disegni sono arbitrari e possono essere diminuiti o aumentati secondo le esigenze.

Formato scritto del codice del modello

Codice completo: XXXX-XXXX	
Modello	**Versione del modello**
XXXX	**-XXXX**
Il tipo / Il modello standard riconosciuto da questo codice.	Il numero della versione per diversificare il modello modificato dal modello standard (corrispondente ad un disegno specifico, oppure ad un archivio CAD/CAM).

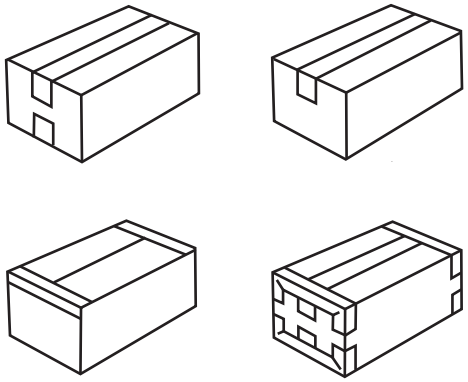
Chiusura degli imballaggi

Una chiusura corretta ed efficiente dell'imballaggio è importante quanto la costruzione stessa dell'imballaggio. I metodi di chiusura seguenti vengono effettuati sia singolarmente sia in combinazioni:

- tramite incollatura, a freddo o a caldo
- tramite nastratura
- tramite incastro
- tramite cucitura

Chiusura tramite nastratura

Potrà essere effettuata secondo gli esempi qui esposti.



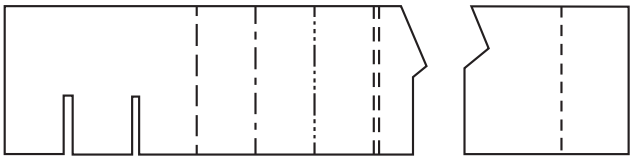
Chiusura tramite cucitura

Potrà essere effettuata secondo gli esempi qui esposti.

Codifica degli interni

La seguente gamma di interni è classificata sulla base del numero di pannelli usati in ogni combinazione di forma.

Numero di pannelli		CODE
2	>	0982
3	>	0983
4	>	0984
5	>	0985
6	>	0986
7	>	0987
8	>	0988
9	>	0989
10	>	0990
11	>	0991
12	>	0992
13	>	0993
14	>	0994
15	>	0995
16	>	0996
17	>	0997
18	>	0998
19	>	0999



0982/0999
M

Código internacional para cajas de cartón ondulado

Este código ha sido desarrollado por FEFCO y ESBO, como sistema oficial, para sustituir largas y complicadas descrip-ciones verbales de cajas de cartón ondulado y diseños, por símbolos sencillos de comprensión internacional, sin atender al lenguaje u otras diferencias.

Estas referencias pueden emplearse en pedidos y especifica- ciones de cajas de cartón ondulado para embalaje.
Sólo FEFCO y ESBO están autorizados hacer adiciones y modificaciones.

Símbolos empleados en planos y sistemas informáticos

Símbolo dibujado	Código Ordenador	Descripción
Cuts, scores, slits etc.		
	CL	Contorno de cajas armadas o líneas de corte en plancha
	SC	Cortes ranurados
	CI	Líneas de hendido (plegado hacia el interior)
	CO	Líneas de hendido (plegado hacia el exterior)
	SI	Líneas de corte-hendido (plegado hacia el interior)
	SO	Líneas de corte-hendido (plegado hacia el exterior)
	DS	Líneas de doble hendido
	PL	Líneas de perforado
	SE	Líneas de corte intermitente
	TP	Perforación para desgarro
Junta de fabricación		
	SJ	Grapada
	TJ	Encintada
	GJ	Encolada
Aperturas		
	PC	handholds stripped
	UC	Asas parcialmente recortadas
	NC	Asas parcialmente recortadas
Dirección de la onda		
	FD	Indicador de la dirección de la onda

Los planos de los modelos de este código son siempre desde la perspectiva interior de la caja.

Dimensiones de la caja

UAl menos que se indique los contrario, todas las dimensiones se entienden como dimensiones internas en mm, y son como siguen:

Longitud (L) x Anchura (B) x Altura (H)
Longitud (L) = la dimensión mayor al abrir
Anchura (B) = la dimensión menor al abrir
Altura (H) = la dimensión desde la parte superior de la abertura hasta la base

Las dimensiones L, B, H se especifican en la descripción de cada modelo de caja. En algunos modelos, el valor numérico B puede ser mayor que el valor numérico L. Las mediciones deben realizarse bajo condiciones climáticas normalizadas, sobre planchas lisas y desde el centro del hendido, teniendo en cuenta el espesor del material.
Para cajas de tipo telescópico, la altura (h) de la parte superior (tapa) debe darse como una cuarta medida tras una barra inclinada, por ejemplo:

355 x 205 x 120/40 mm
(L) (B) (H) (h)

Para cajas con solapas exteriores que monten, la longitud del área superpuesta (o) debe darse como una cuarta medida tras una barra inclinada, por ejemplo:

355 x 205 x 120/40 mm
(L) (B) (H) (o)

Dimensiones de la plancha

Al menos que se indique lo contrario, las dimensiones de la plancha de cartón ondulado se expresan en mm como sigue:

1º dimensión x 2ª dimensión
1º dimensión = paralela a las líneas de pegado
2ª dimensión = perpendicular a la líneas de pegado

Versiones de un modelo

Algunos tipos de cajas pueden tener versiones derivadas sin necesidad de crear un nuevo modelo. En este caso se debe añadir un sufijo al número básico de modelo, separado por un guión.

Ejemplo: 0201-2.

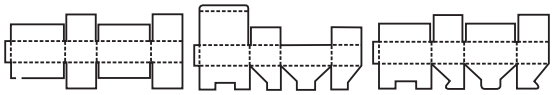
Una versión puede ser única de un fabricante particular.

Combinación de tipos

Los modelos mostrados son los tipos básicos de cajas de cartón ondulado. Si el diseño final es una combinación de dos o tres modelos básicos, por ejemplo en lo concerniente a la disposición de solapas, pueden describirse como sigue:

Solapas superiores como en 0204. Sopalas inferiores como en 0215. Este modelo también puede ser descrito como 0204/0215 (solapas superiores/solapas inferiores).

0204 **0215** **0204/0215**

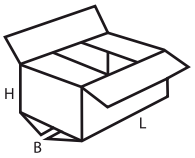


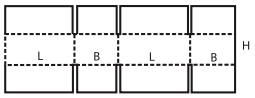
Modelos y juntas de fabricación

Los planos de los desarrollos de los distintos modelos mostrados en este código, pueden necesitar modificaciones, dependiendo de la junta de fabricación elegida.
Algunos modelos pueden tener juntas de fabricación encolada, grapada o pegada con cinta. Una junta encolada o grapada puede ser tanto una extensión del panel corto como del largo.
Los ejemplos muestran cómo deberían indicarse éstas sobre un plano:

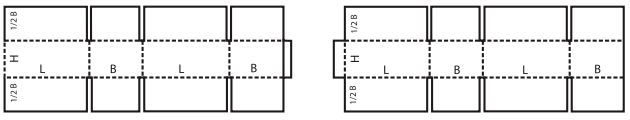
Ejemplo para todos los tipos

0201





Junta pegada con cinta



Junta encolada o grapada

Esto es aplicable a todos los modelos de este código.

Montaje manual o automático

Cada modelo incluye una de las siguientes indicaciones:

M – montaje manual normalmente
A - montaje automático normalmente
M/A – el montaje puede ser manual o automático
M+A – se requiere una combinación de ambos

Estas indicaciones se basan en la práctica corriente y pretenden dar una información adicional a fabricantes y usuarios.
Algunas cajas de montaje manual pueden cerrarse de forma automática (ejemplo : 0216 ó 0712)

Descripción de los grupos de modelos básicos*

Los términos caja, contenedor y embalaje son intercambiables en el contexto de estas descripciones.

Consideraciones generales

Hay que tener en cuenta que algunos de los modelos de caja contenidos en el código bajo un número específico pueden también clasificarse en otros grupos de modelos básicos.

01 - Rollos y planchas comerciales

02 - Cajas de tipo ranurado

Cajas de tipo ranurado: consisten básicamente en una pieza con juntas de fabricación encolada, cosida o pegada con cinta y solapas superiores e inferiores. Se despachan extendidas en un plano, listas para su uso y se cierran utilizando las solapas superiores e inferiores.

03Cajas telescópicas

Cajas telescópicas: fabricada con más de una pieza, se caracterizan por una tapa y/o fondo que se desliza sobre el cuerpo de la caja.

04 - Cajas plegables y bandejas

Cajas plegables y bandejas: son en general de una única pieza de cartón ondulado. El fondo de la caja se pliega para formar dos, o todas las paredes laterales, y la tapa. Pueden incorporarse al diseño elementos de cierre, asas, paneles expositores, etc.

05 - Cajas de tipo deslizante

Cajas de tipo deslizante: constan de varias piezas de forros interiores y fundas que deslizan en diferentes direcciones uno dentro de otro. Este grupo incluye también fundas exteriores para otras cajas.

06 - Cajas de tipo rígidas

Cajas de tipo rígidas: formadas por dos piezas separadas, para los extremos y un cuerpo; requieren un grapado u otra operación similar antes de que puedan utilizarse.

07 - Cajas de encolado rápido

Cajas de encolado rápido: están hechas generalmente de una sola pieza, se entregan extendidas en un plano o plegadas y listas para su utilización por medio de un sencillo montaje.

09 - Acondicionadores interiores

Acondicionadores interiores: como forros, refuerzos, casilleros, divisiones interiores, tanto si se ajustan a un modelo de caja o como piezas sueltas. El número de piezas de los acondicionadores interiores mostrados es arbitrario y puede aumentarse o disminuirse de acuerdo con las necesidades.

Escritura de los modelos del código

Código completo: XXXX-XXXX	
Modelo	**Versión**
XXXX	**-XXXX**
Modelo/diseño estándar reconocido mediante este código	El número de versión para diferenciar las variaciones sobre el diseño estandarizado (corresponde a un diseño particular o del archivo CAD/CAM).

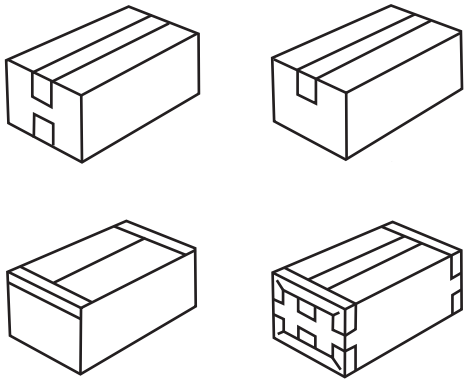
Cierre de las cajas

Un cierre correcto y efectivo de las cajas es tan importante como su propia fabricación.
Todos los métodos de cierre siguientes son posibles, tanto individualmente como combinados:

- encolado
- frío o caliente cinta
- automontaje
- grapado

Cierre por medio de cinta

Puede realizarse de acuerdo con los ejemplos que se muestran



Cierre por grapado

Puede realizarse de acuerdo con los ejemplos que se muestran

Codificación de acondicionadores interiores

La siguiente gama de acondicionadotes interiores se codifica de acuerdo al número de paneles empleados, en cualquier combinación de formas (para sistemas informáticos).

Número de paneles		CODE
2	>	0982
3	>	0983
4	>	0984
5	>	0985
6	>	0986
7	>	0987
8	>	0988
9	>	0989
10	>	0990
11	>	0991
12	>	0992
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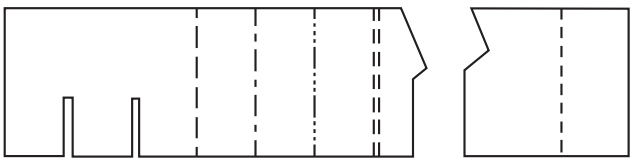
19	>	0999

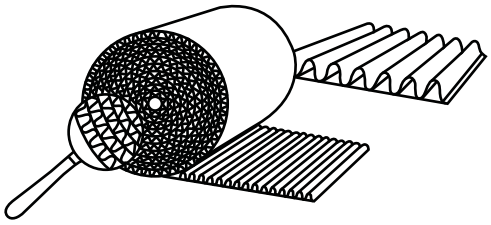


0982/0999
M

0100

- **Commercial rolls and sheets**
- **Bobines, feuilles ou plaques commerciales.**
- **Handelsübliche Rollen und Tafeln**
- **Bobine e fogli pronti per vendita**
- **Rollos y planchas comerciales**

0100



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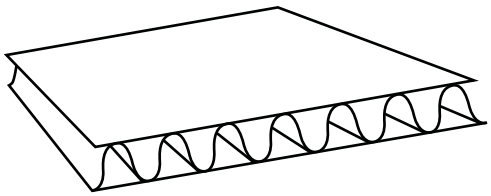

0200

- **Slotted-type boxes** consist of basically one piece with a glued, stitched or taped manufacturers joint and top and bottom flaps. They are shipped flat, ready to use and require closing using the flaps provided.
- **Caisses à rabats**, d'une seule pièce, avec joint d'assemblage collé, agrafé ou à bande gommée. Elles sont livrées à plat, prêtes à l'emploi et nécessitent d'être fermées.
- **Faltschachteln (Faltkisten)** bestehen in der Regel aus einem Stück mit einer durch Laschenklebung, Drahtheftung bzw. Klebestreifen verbundenen Fabrikkante sowie Deckel- und Bodenklappen. Sie werden flach zusammengefaltet versandt, sind gebrauchsfertig und werden anhand der Klappen verschlossen.
- **Casse a falde**: Scatole americane costruite in un singolo pezzo base con la giunta incollata, cucita o nastrata e con falde superiori e inferiori. Sono consegnate stese, pronte da utilizzare e richiedono chiusura tramite le apposite falde.
- **Cajas de tipo ranurado**: consisten básicamente en una pieza con juntas de fabricación encolada, cosida o pegada con cinta y solapas superiores e inferiores. Se despachan extendidas en un plano, listas para su uso y se cierran utilizando las solapas superiores e inferiores.

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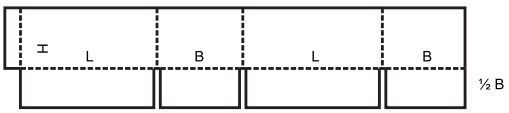

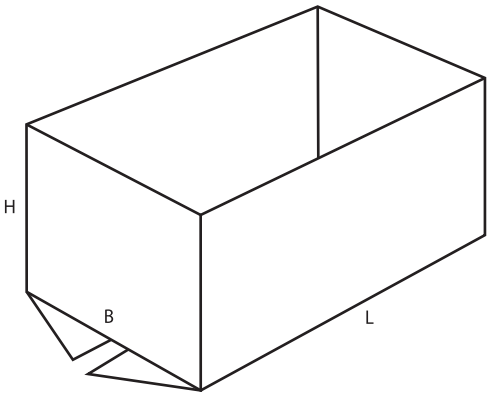

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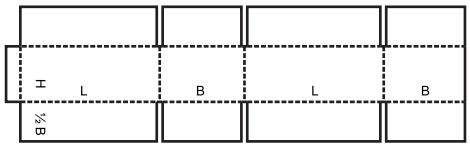

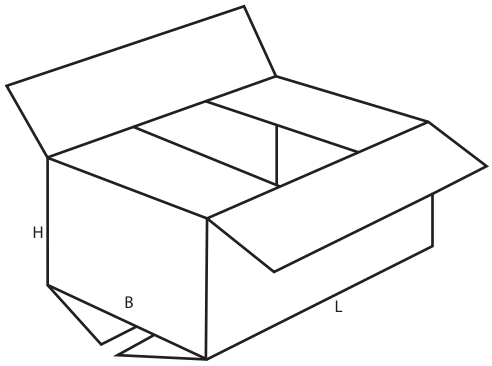

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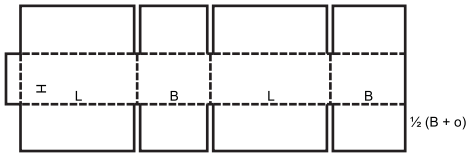

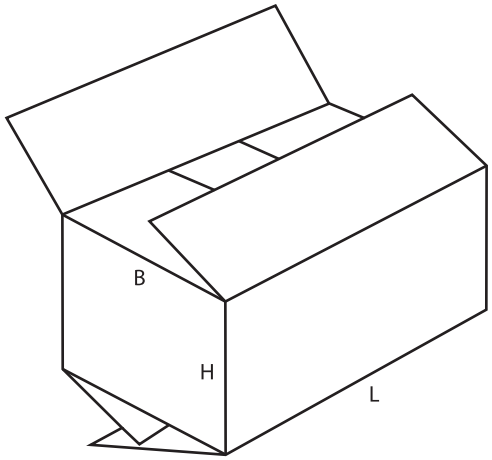

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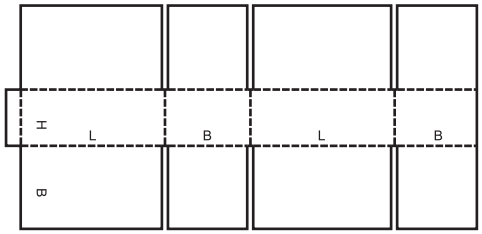

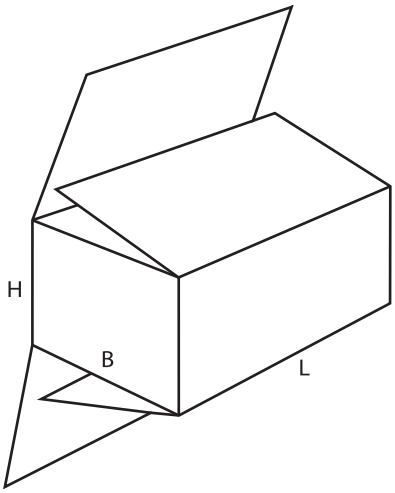

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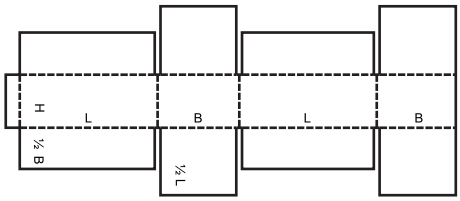

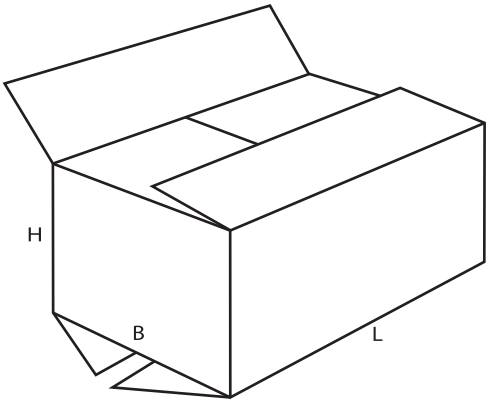

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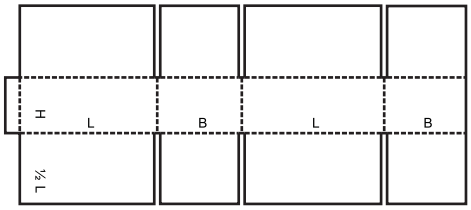

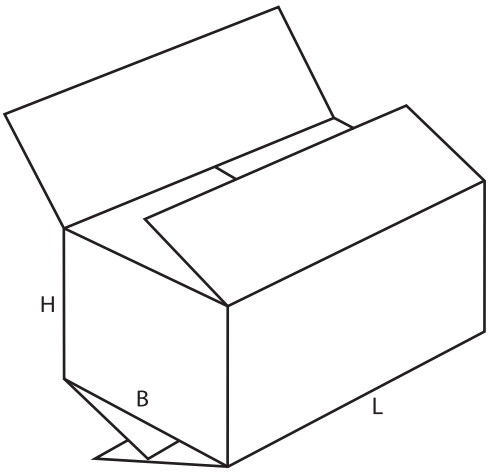

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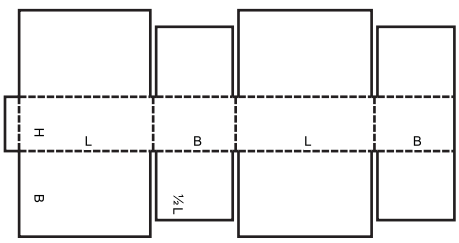

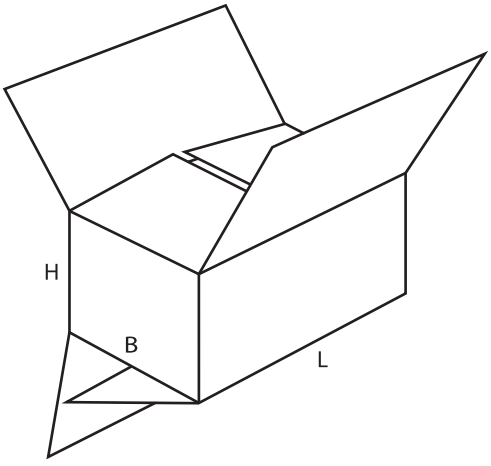

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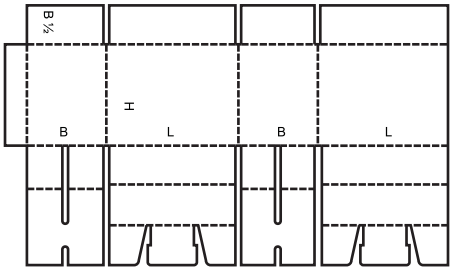

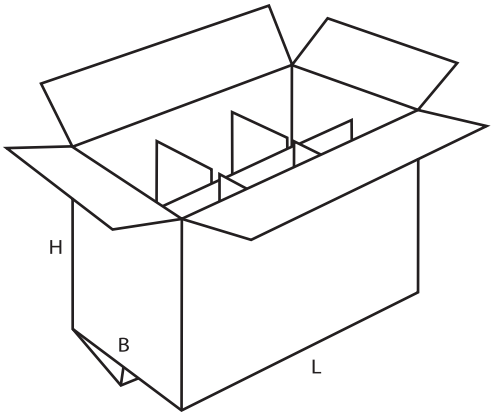

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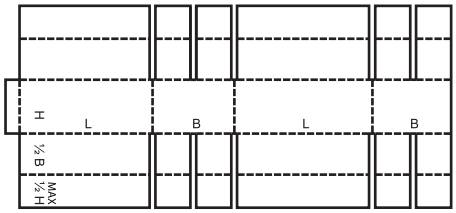

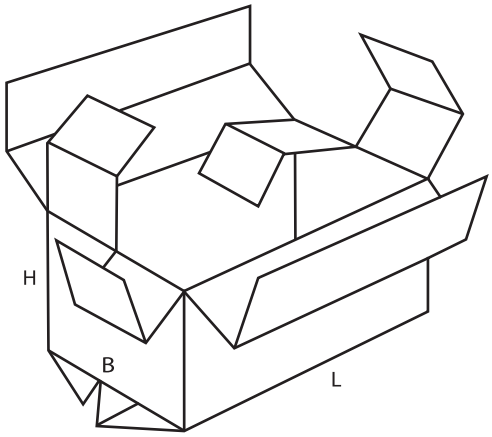

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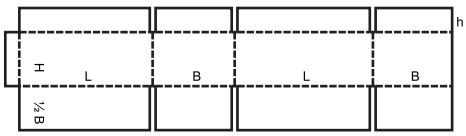

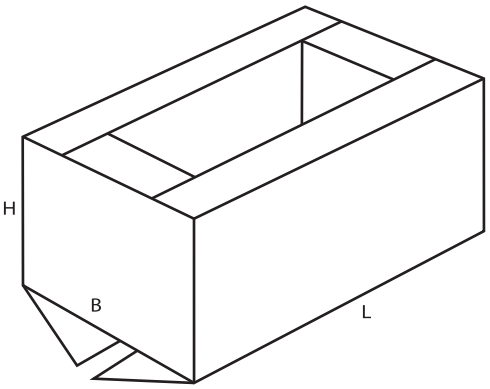

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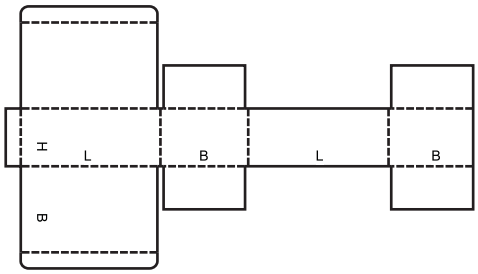

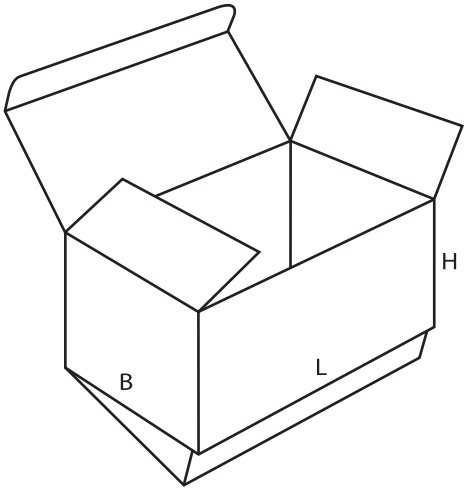

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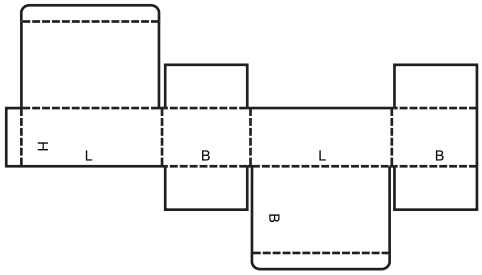

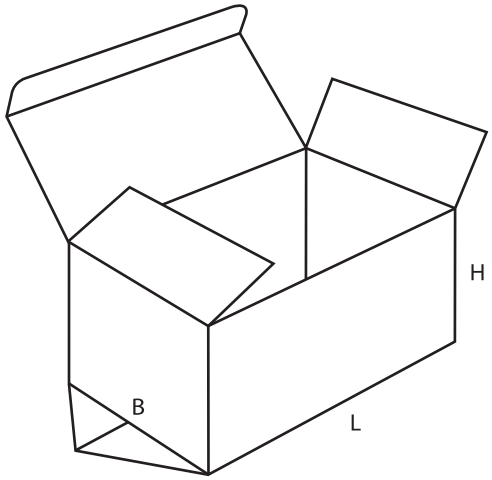

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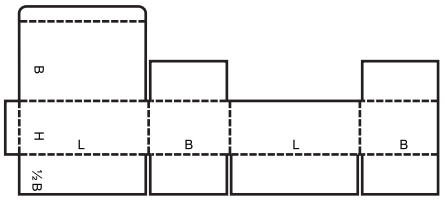

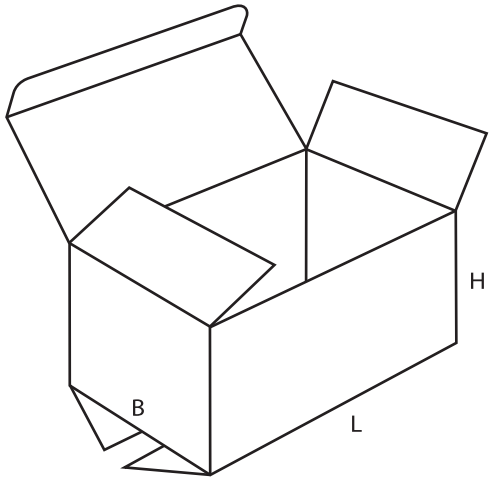

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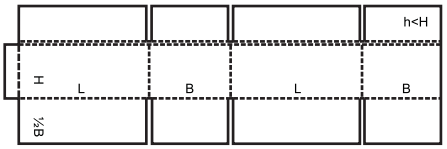

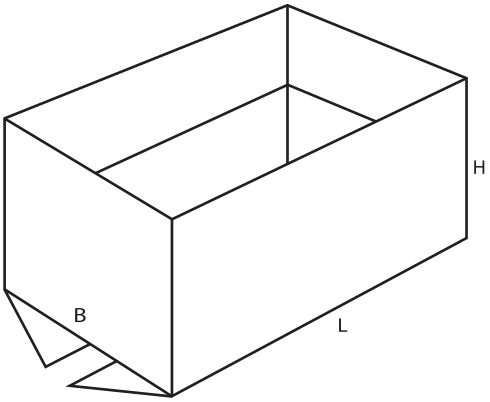

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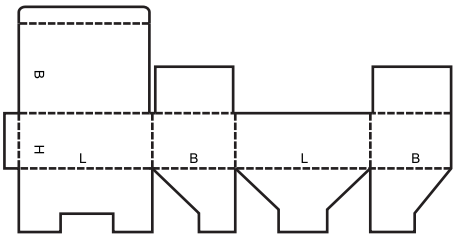

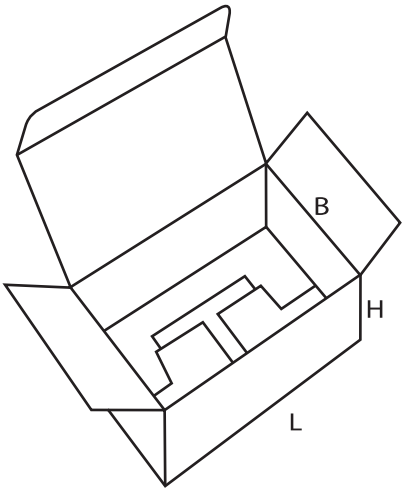

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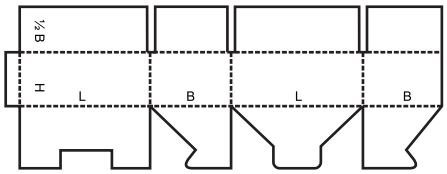
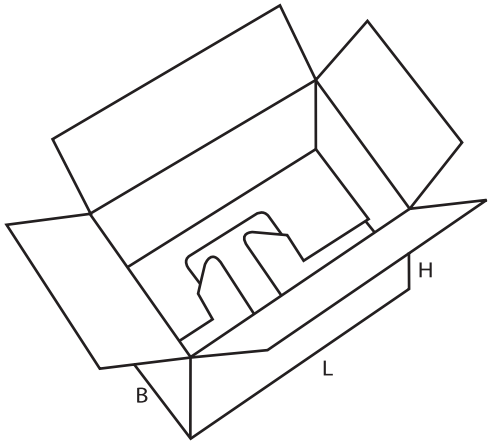


closure of top can be automated
la fermeture du dessus peut être automatisée
Der verschluss des aufsatzes kann automatisiert werden



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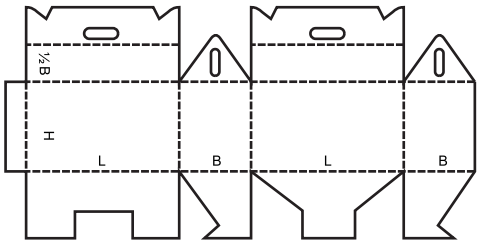

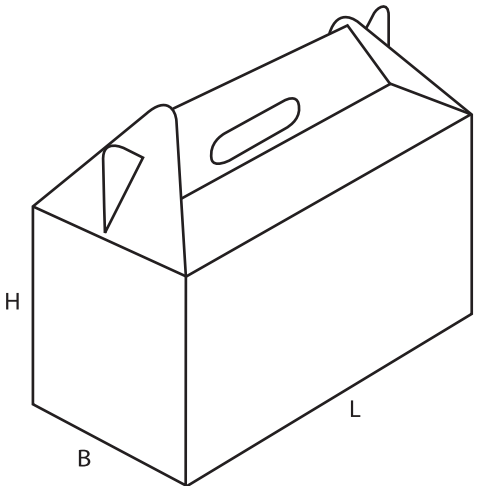

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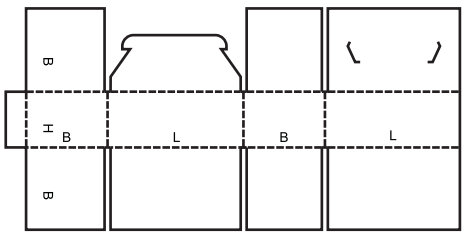

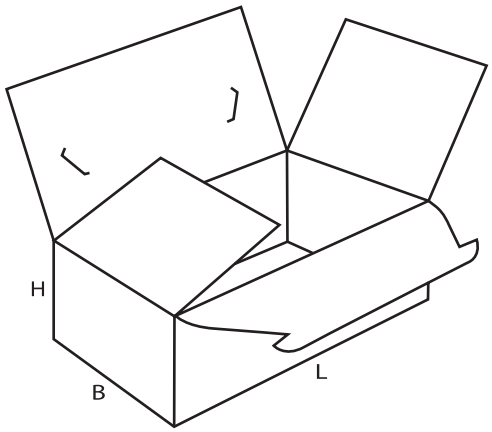

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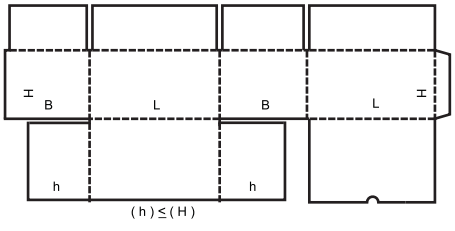

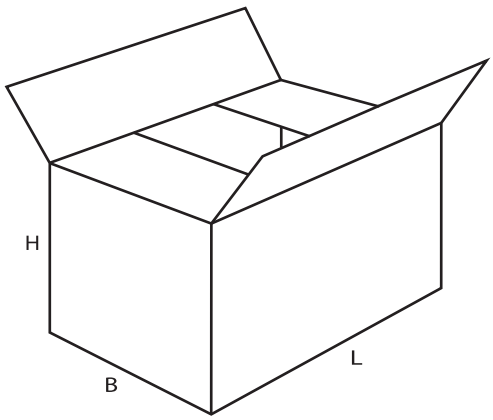

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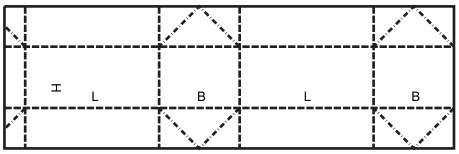

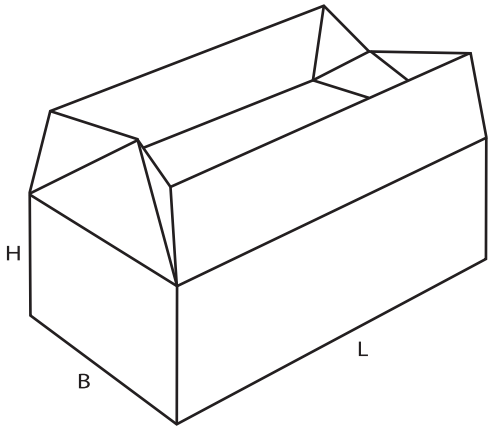

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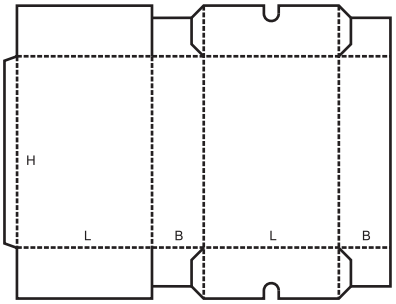
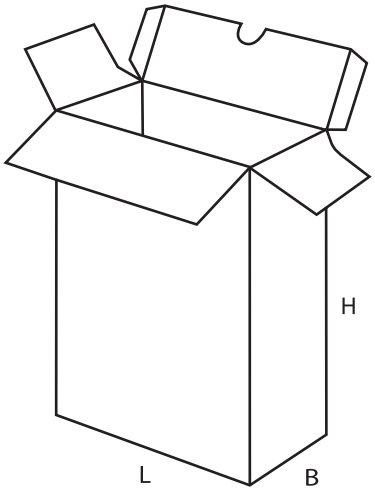
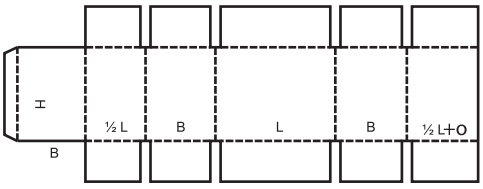
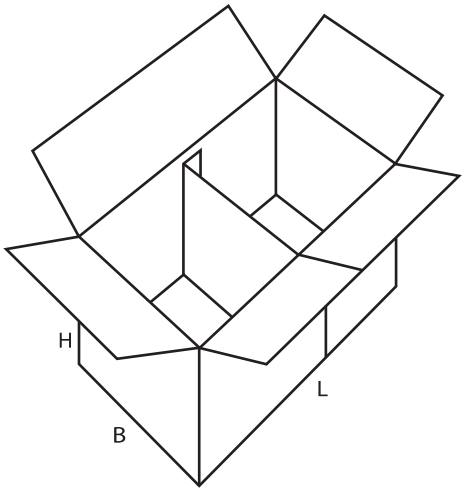


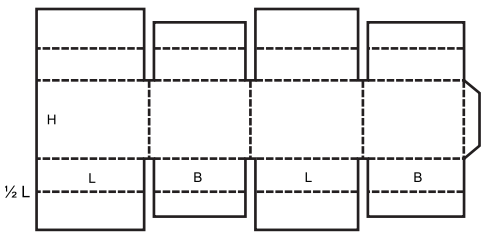


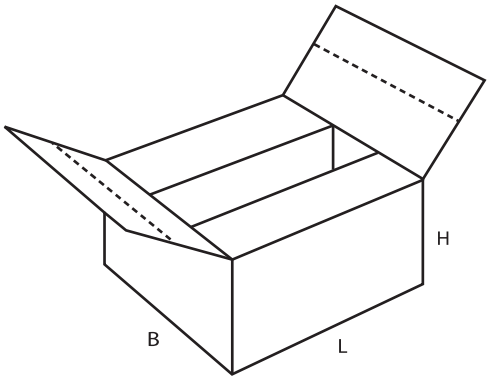
0228 M/A



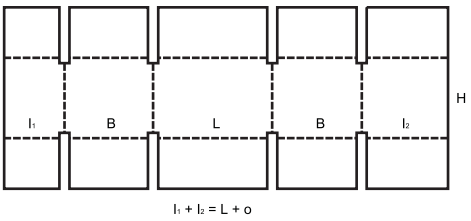


0229 M

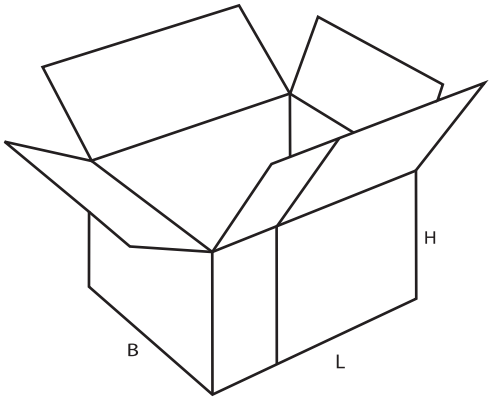




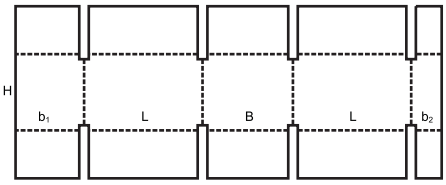
0230 M/A



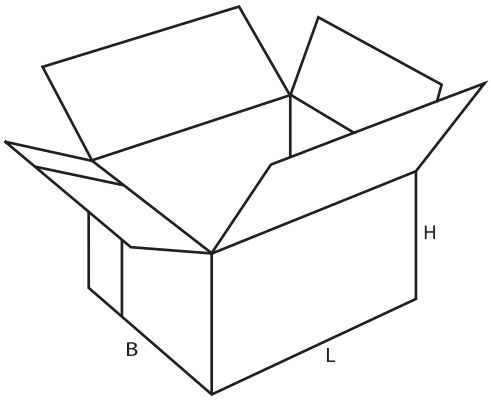
$l_1 + l_2 = L + o$



0231 M/A



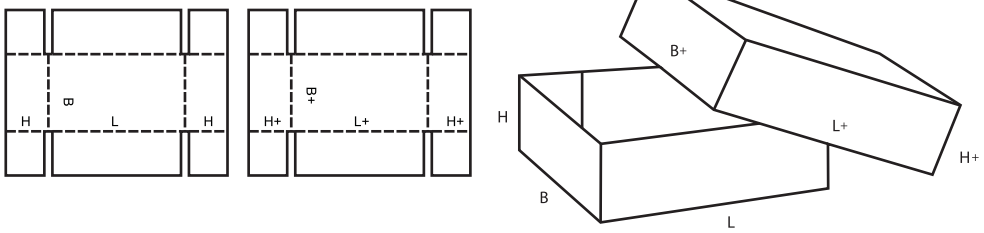
$b_1 + b_2 = B + o$



0300

- **Telescope-type** boxes consist of more than one piece and are characterised by a lid and/or bottom telescoping over the body of the box.
- **Caisses télescopiques** constituées par plus d'une pièce et caractérisées par un couvercle et/ou un fond séparé se glissant sur le corps de la caisse.
- **Deckelschachteln (Stülpschachteln)** bestehen aus zwei oder mehr Teilen. Ein Oberteil (Deckel) wird über ein Unterteil (Boden) gestülpt oder beide über einen Rumpf.
- **Casse telescopiche:** Scatole telescopiche costituite da più di un componente e caratterizzate da un coperchio e/o fondo che scorre esternamente al corpo della scatola.
- **Cajas telescópicas**: fabricada con más de una pieza, se caracterizan por una tapa y/o fondo que se desliza sobre el cuerpo de la caja.

0300 M/A



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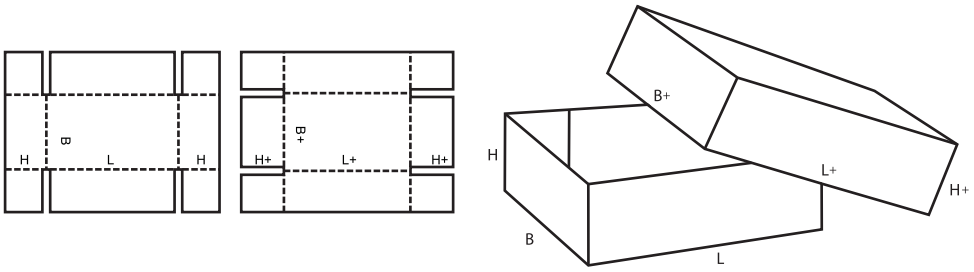

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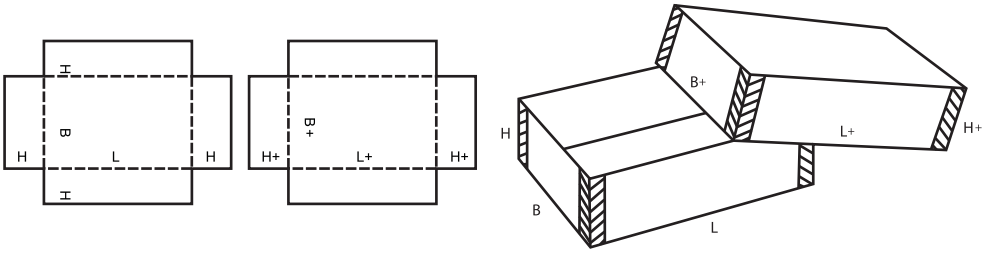

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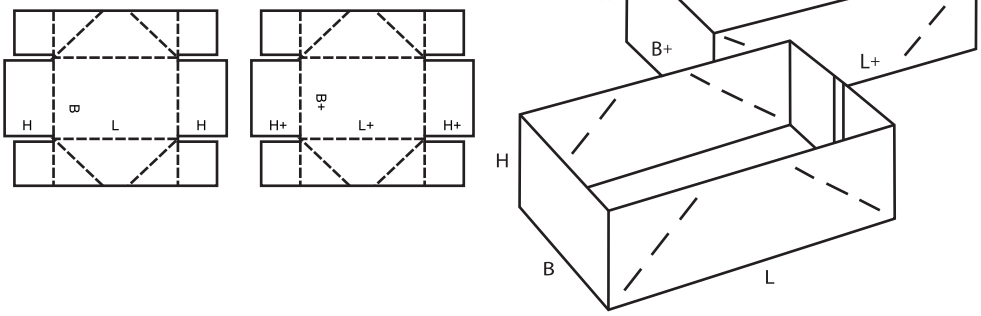

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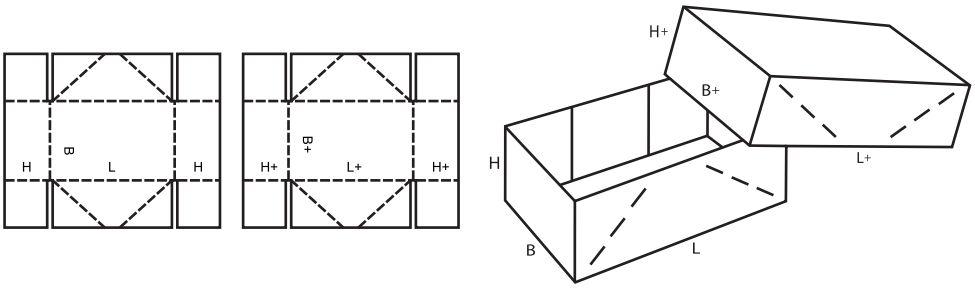

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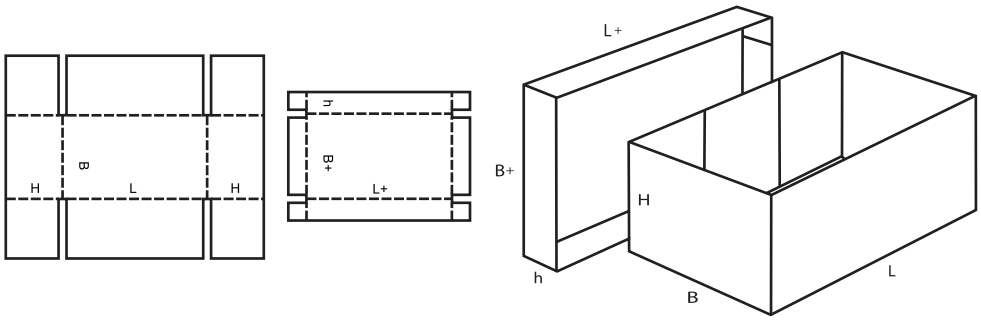

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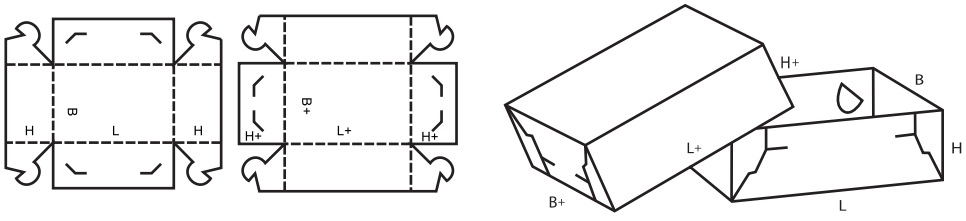

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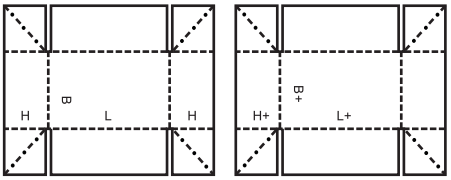

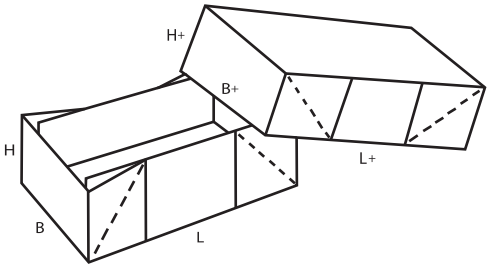

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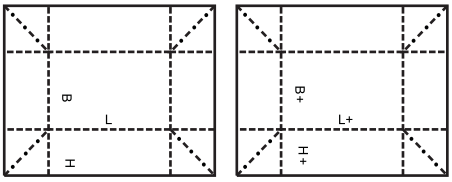

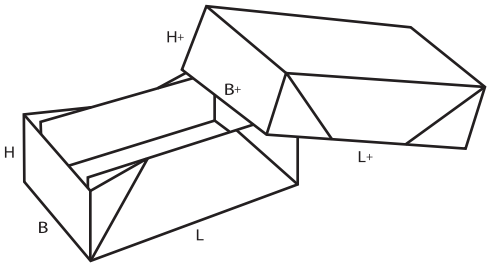

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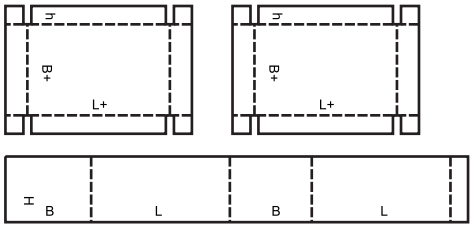

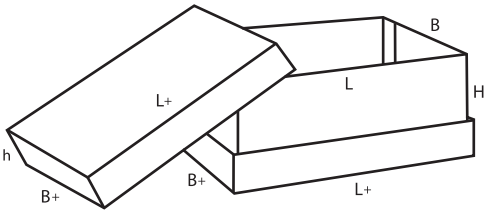

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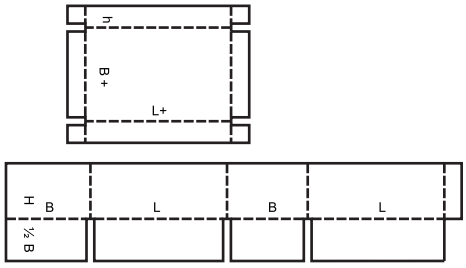

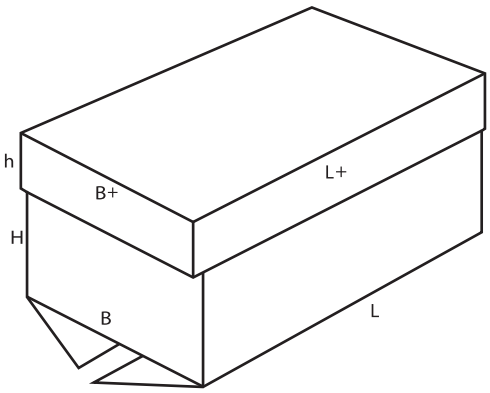

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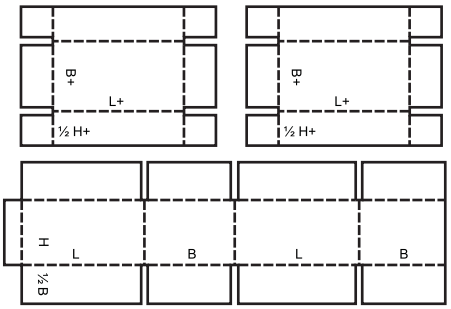

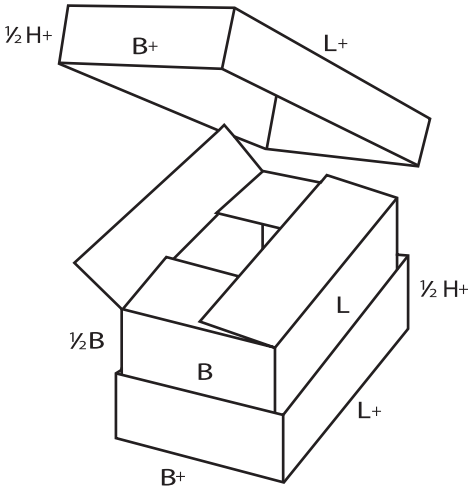

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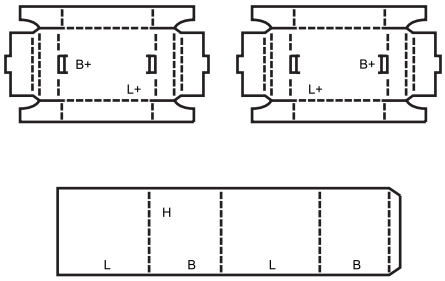

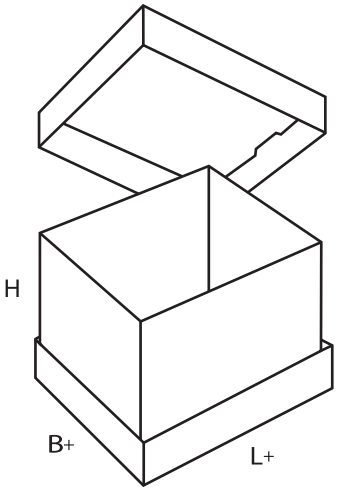

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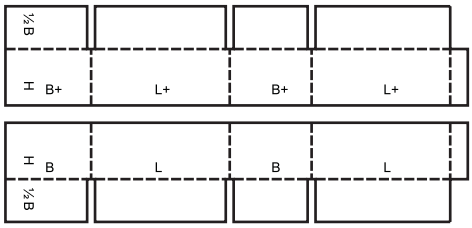

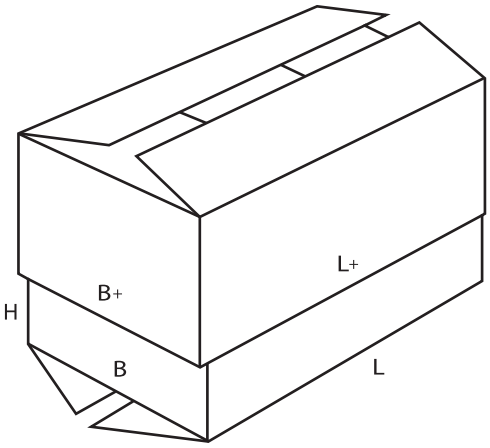

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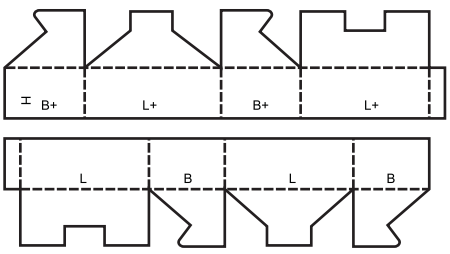

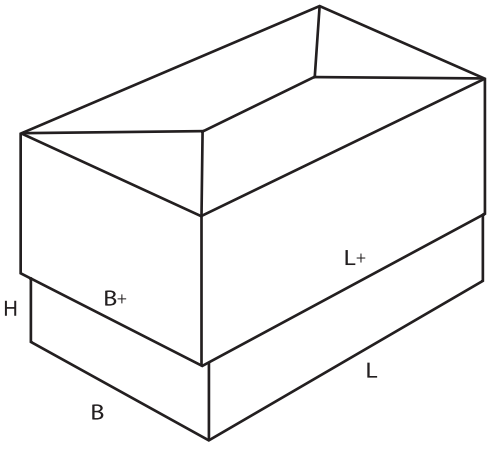

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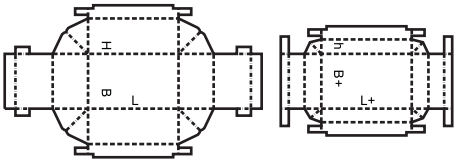

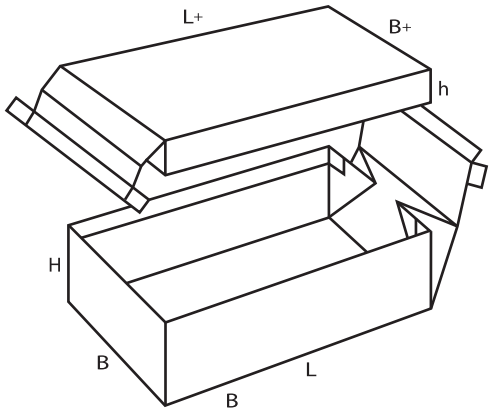

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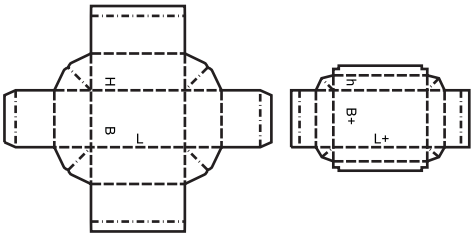

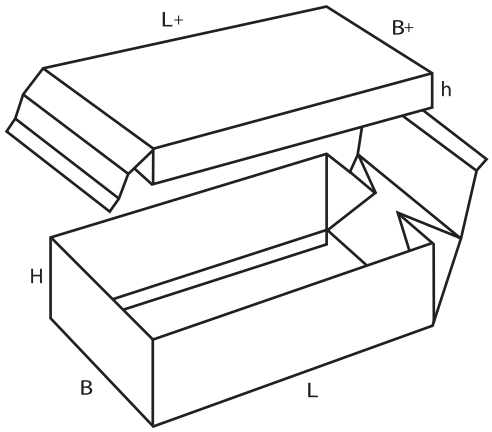

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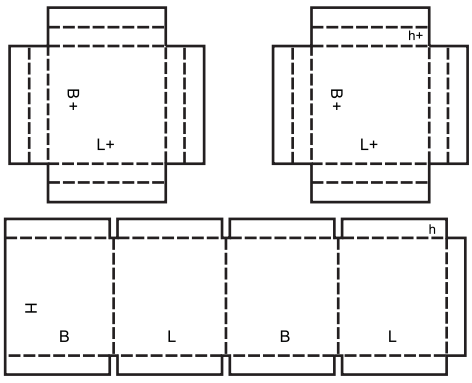

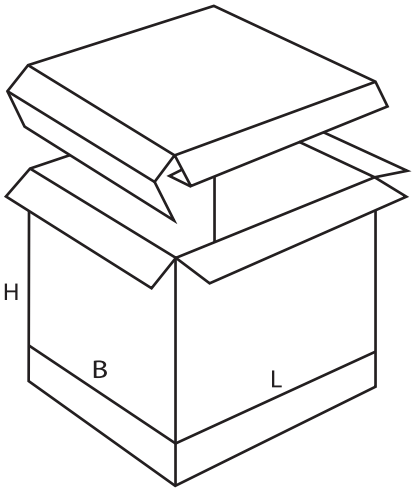

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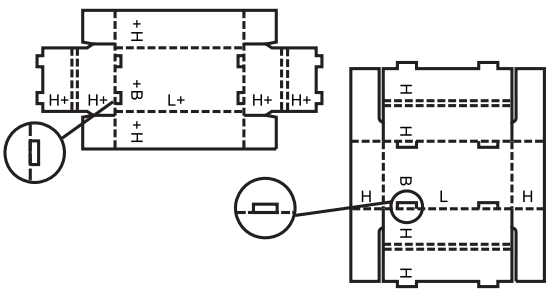

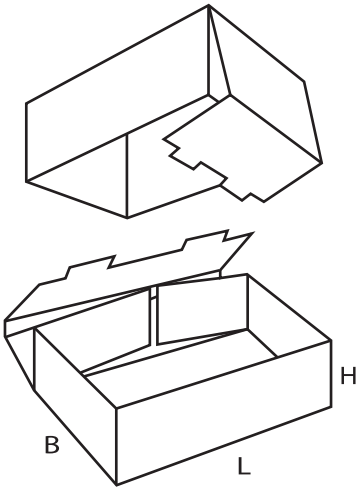

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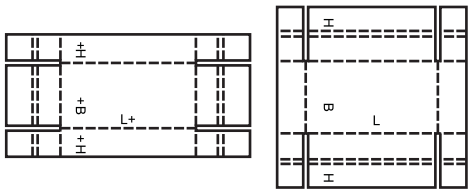

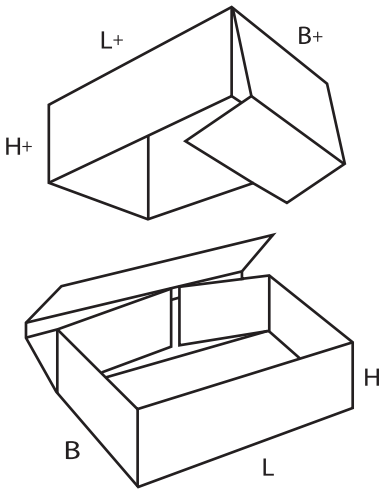

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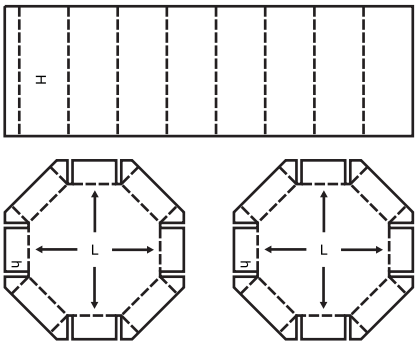

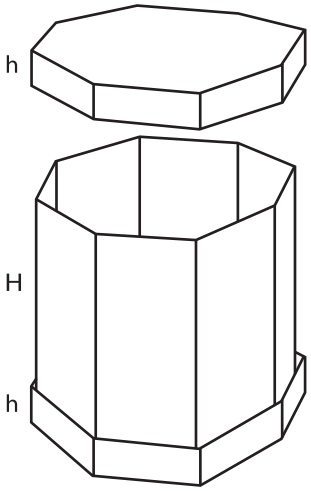

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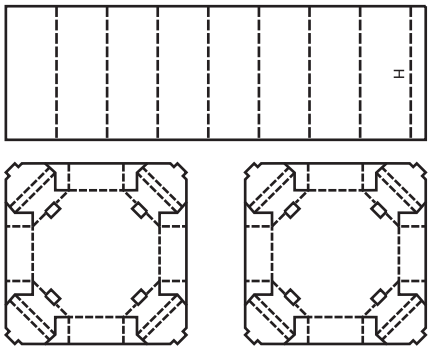

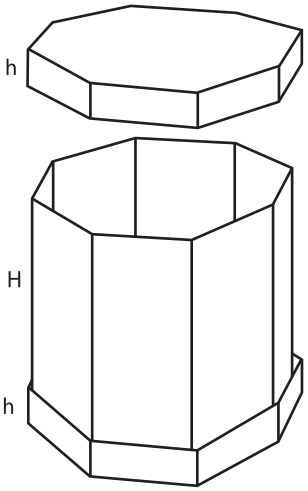

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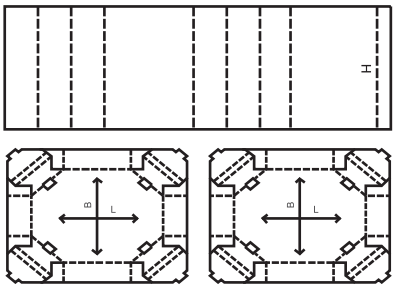
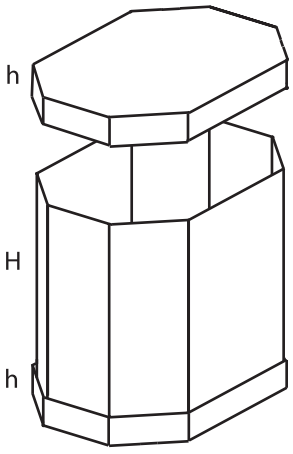
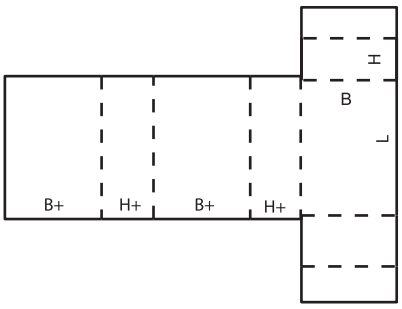


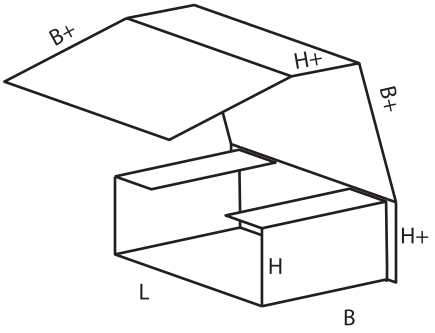


0400

- **Folder-type boxes** and trays usually consist of only one piece of board. The bottom of the box is hinged to form two or all side walls and the cover. Locking tabs, handles, display panels etc., can be incorporated in some designs.
- **Enveloppes et plateaux** en général constitués d'une seule pièce, montés sans agrafage ni bande gommée, et pouvant comporter des éléments de vérrouillage, d'encliquetage, et des poignées.
- **Falthüllen und Trays** bestehen im allgemeinen aus einem Zuschnitt. Zwei oder alle Seitenwände und der Deckel sind am Boden angelenkt. Sperrvorrichtungen, Handgriffe, Verkaufsteller usw. können bei dieser Ausführungsart mit vorgesehen werden.
- **Scatole pieghevoli e vassoi:** Contenitori e vassoi formati normalmente dalla piegatura di un pezzo di cartone. Il fondo del contenitore è delimitato da pieghe in modo da formare due o tutti i pannelli laterali ed il pannello superiore. In certi modelli possono essere incorporati delle linguette di chiusura, delle maniglie, dei pannelli da espositori ecc.
- **Cajas plegables y bandejas**: son en general de una única pieza de cartón ondulado. El fondo de la caja se pliega para formar dos, o todas las paredes laterales, y la tapa. Pueden incorporarse al diseño elementos de cierre, asas, paneles expositores, etc.

0400 M





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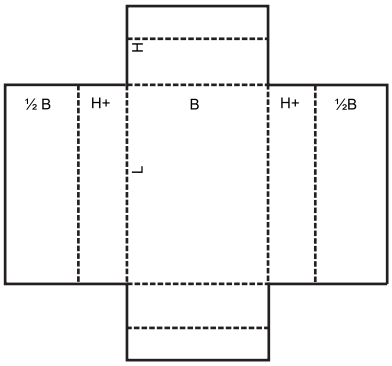

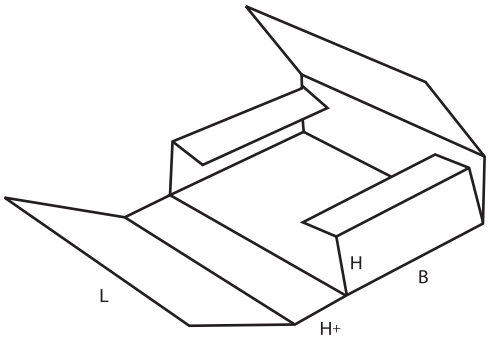

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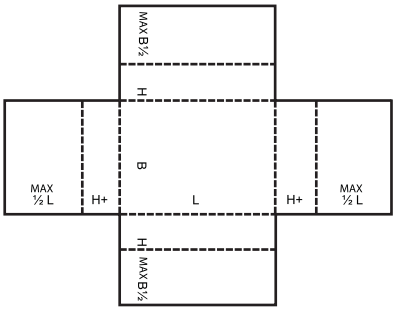

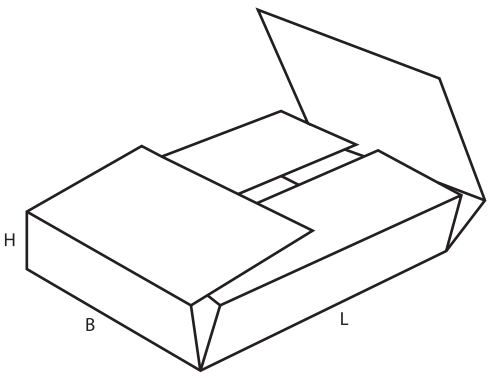

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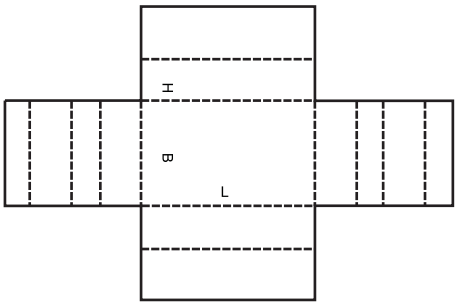

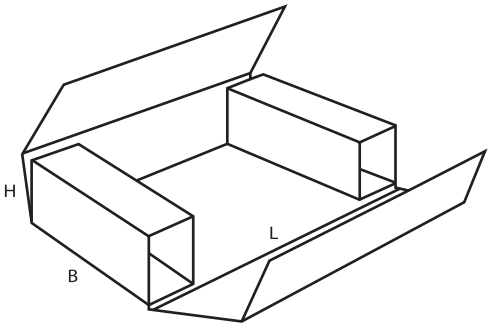

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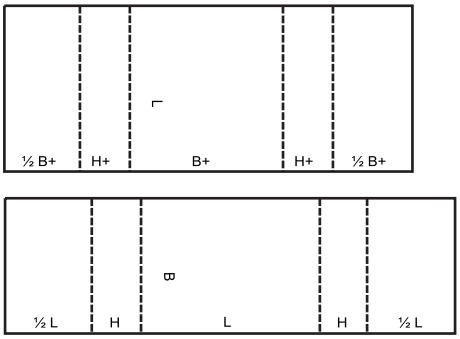

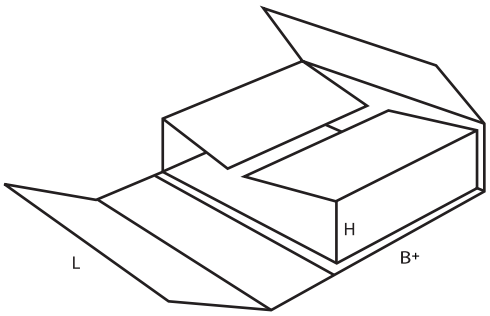

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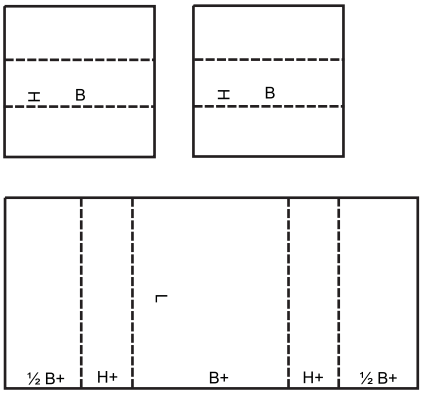

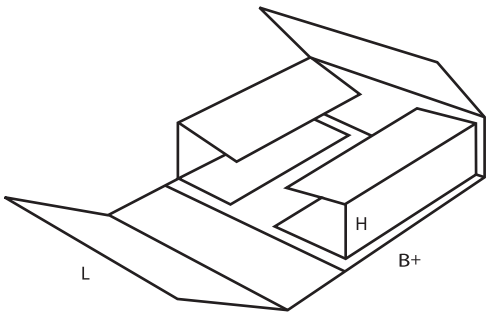

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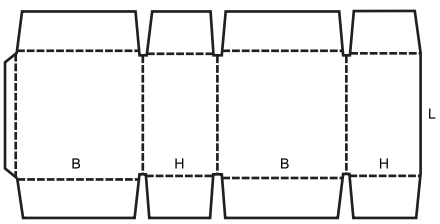

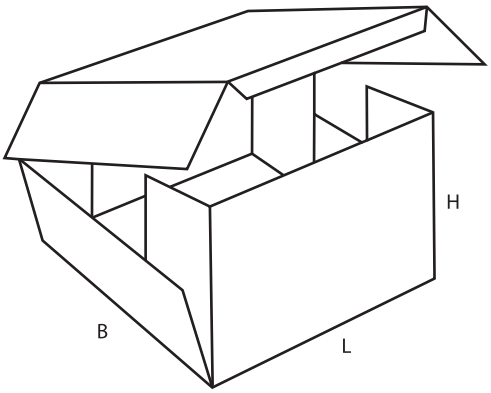

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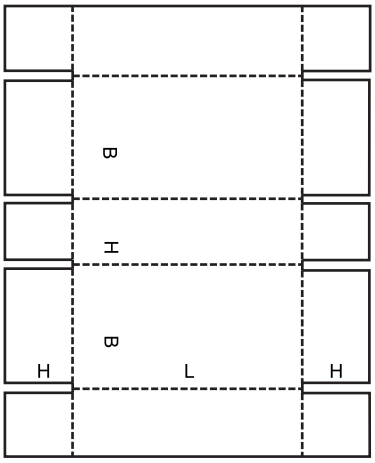

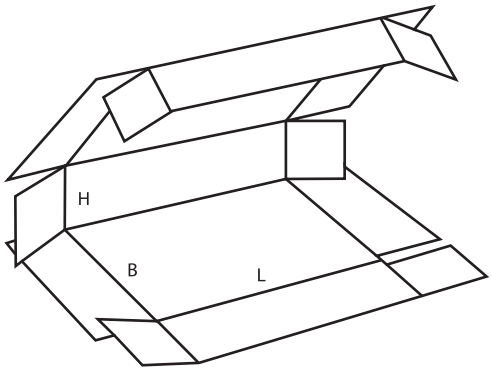

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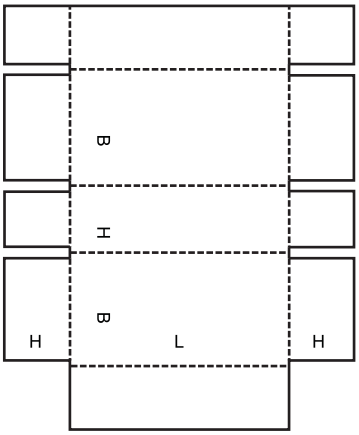

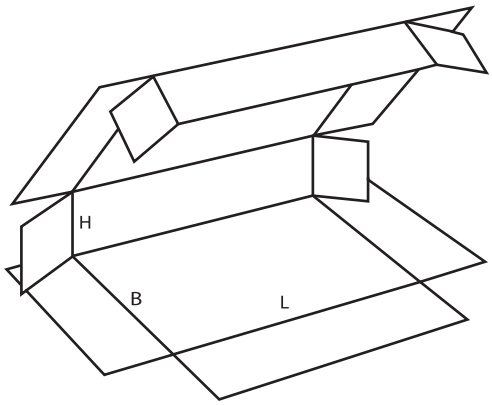

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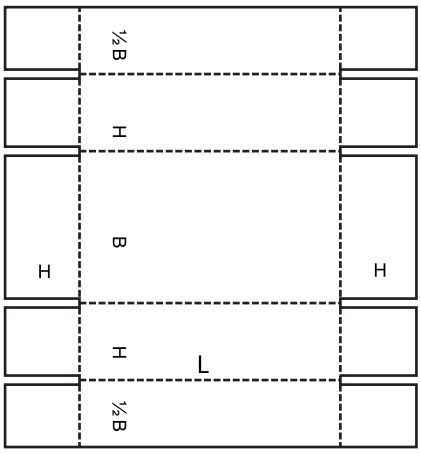

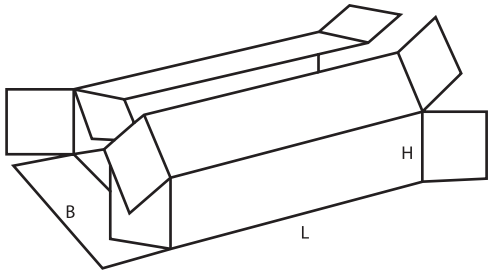

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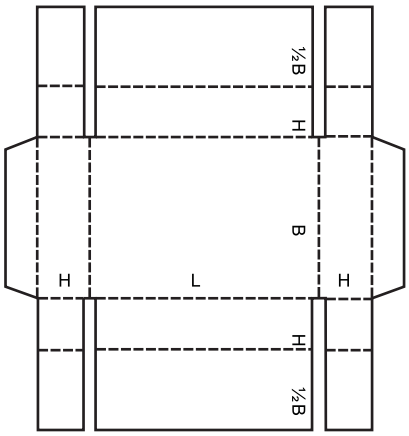

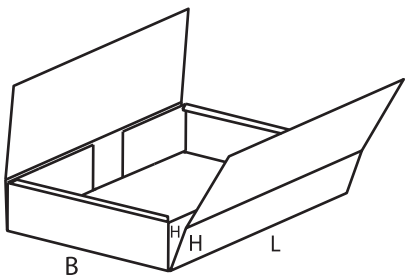

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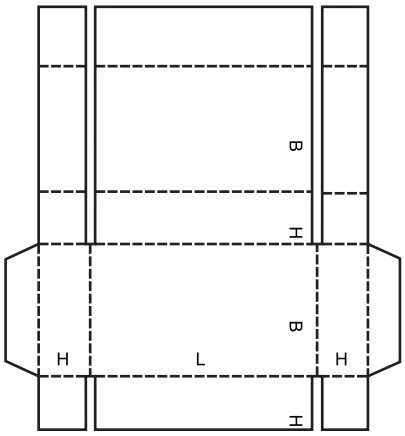

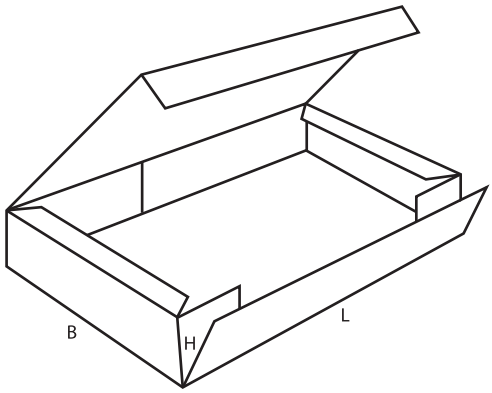

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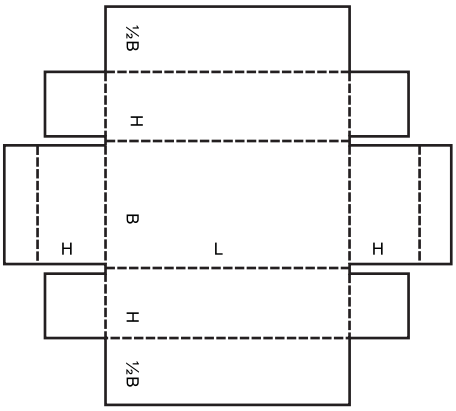

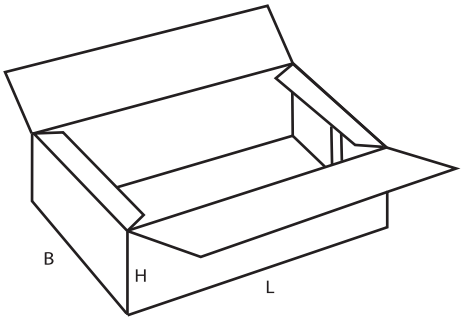

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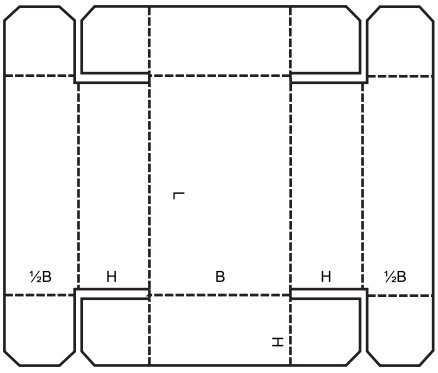

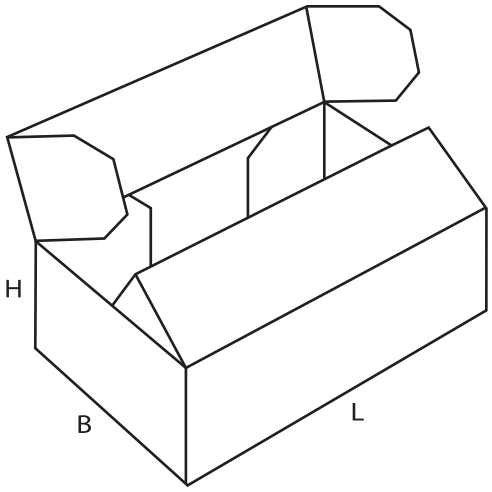

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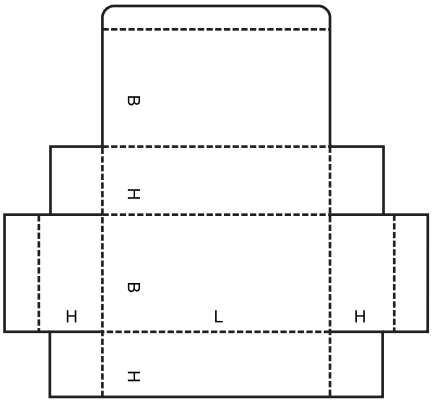

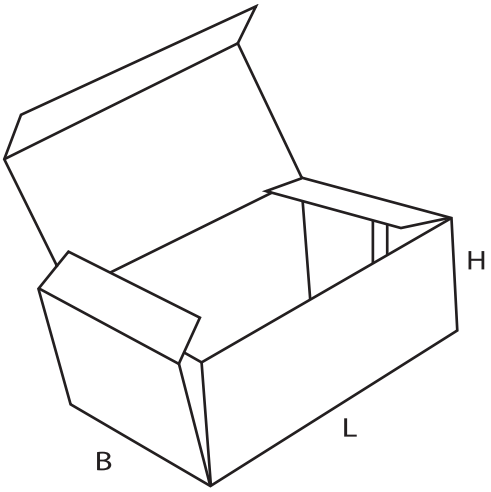

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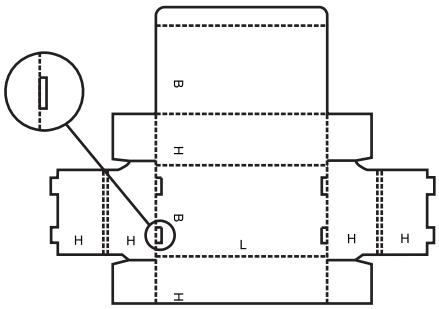

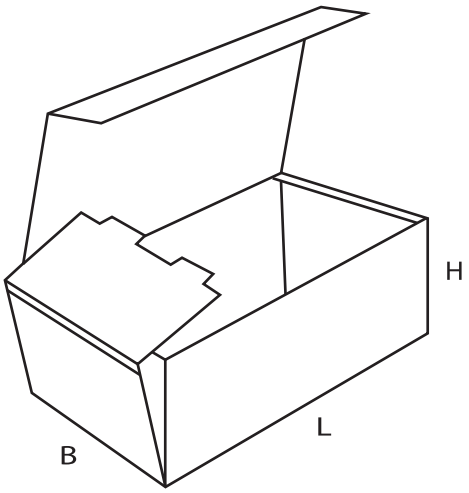

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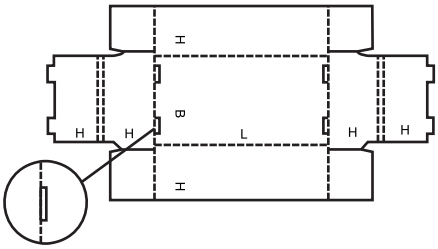

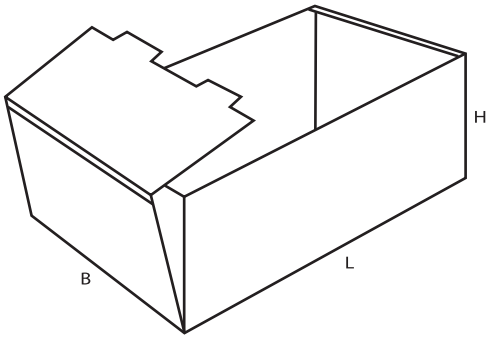

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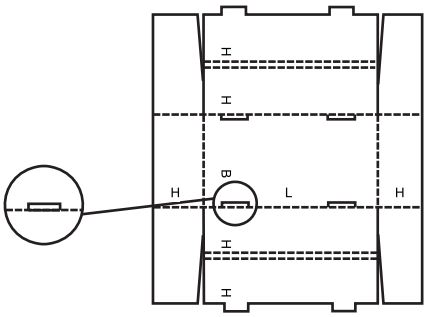

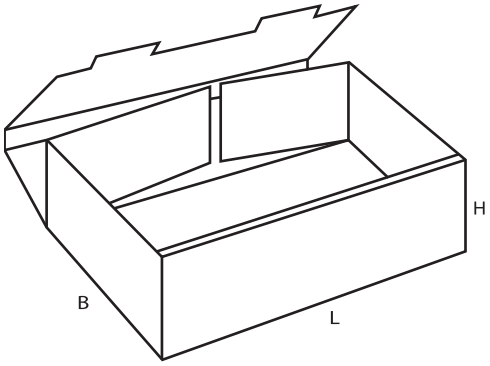

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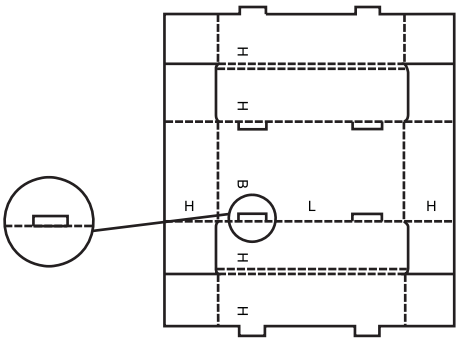

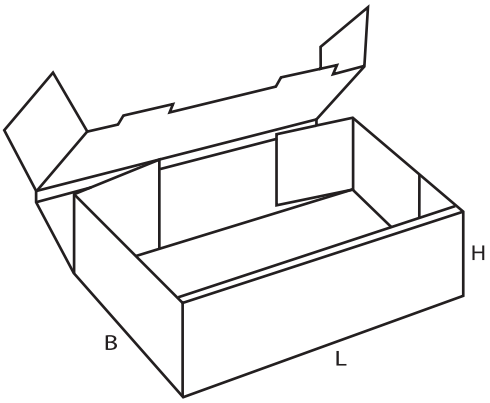

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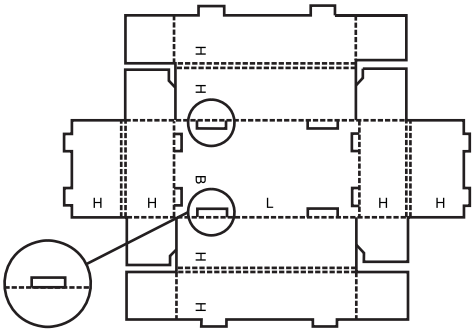

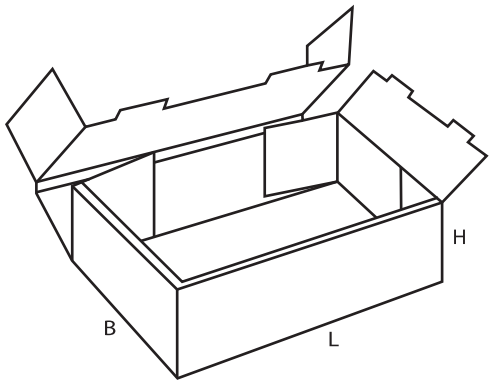

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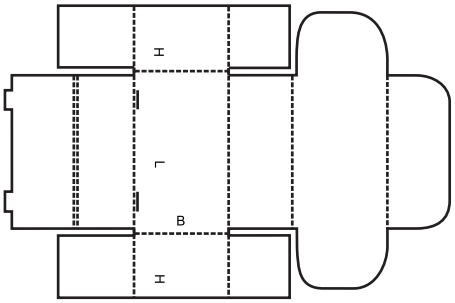

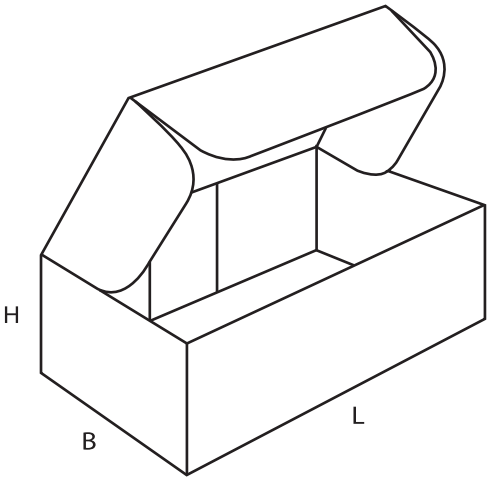

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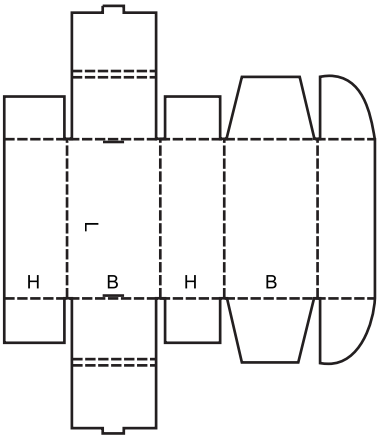

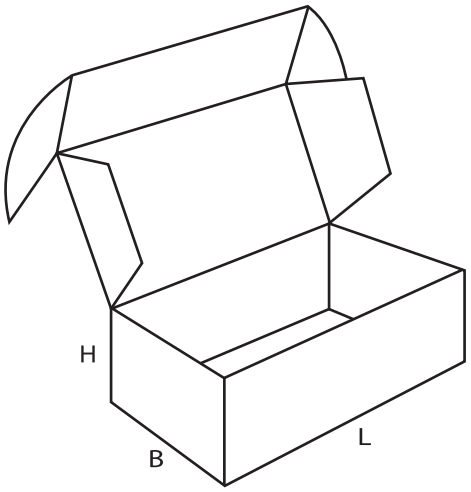

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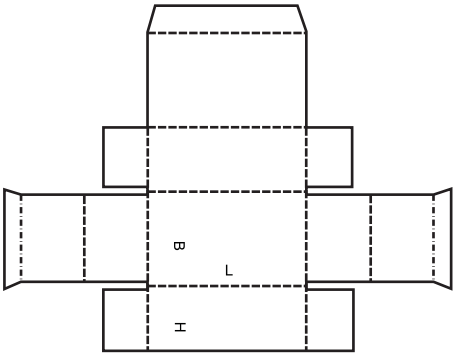

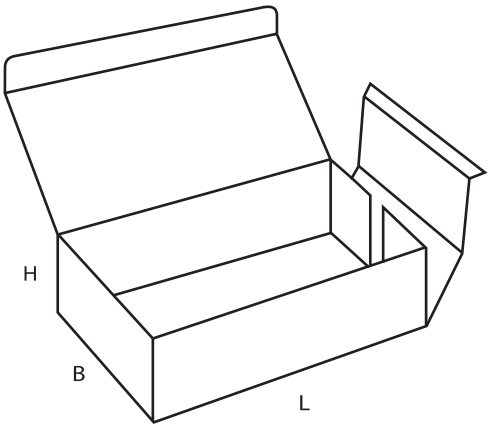

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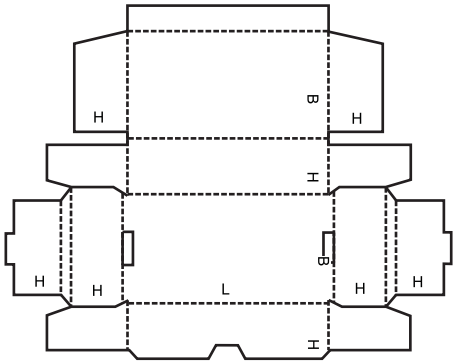

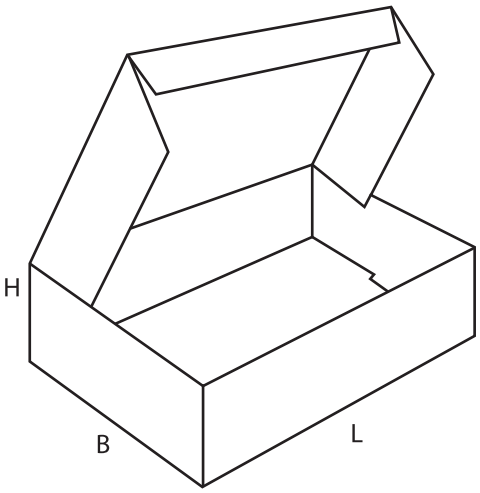

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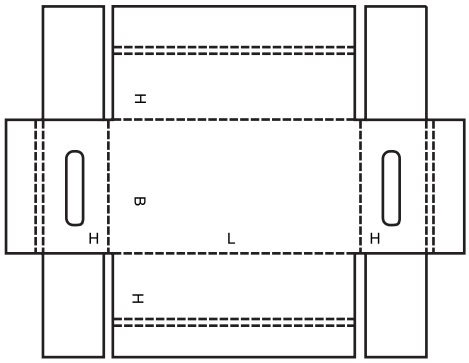

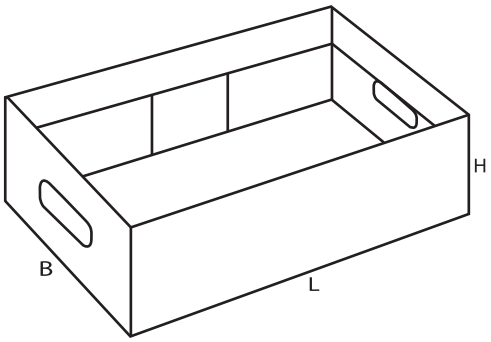

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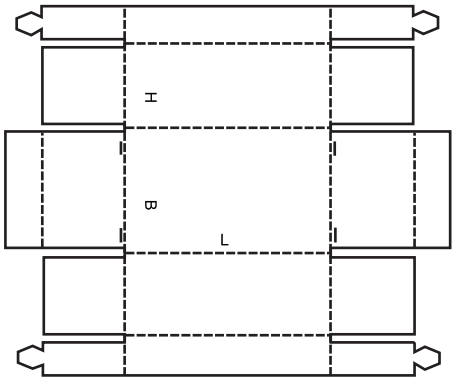

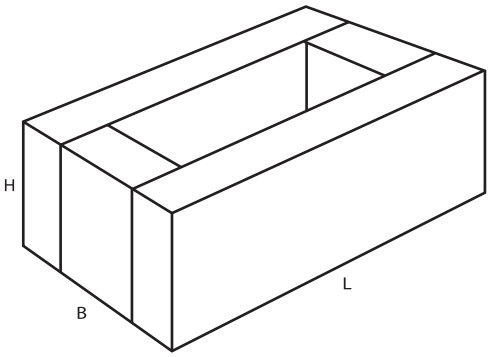

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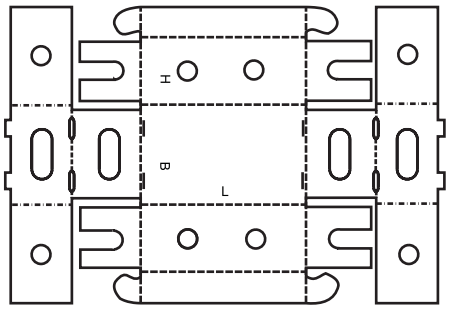

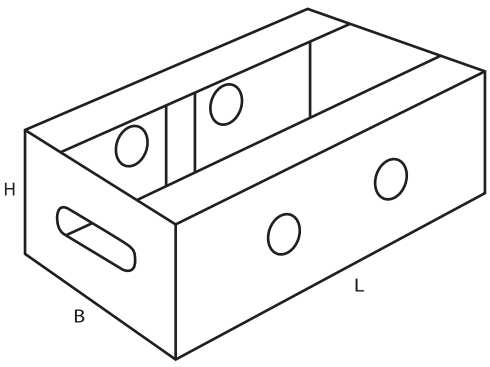

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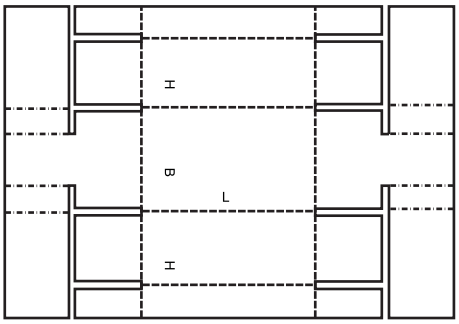

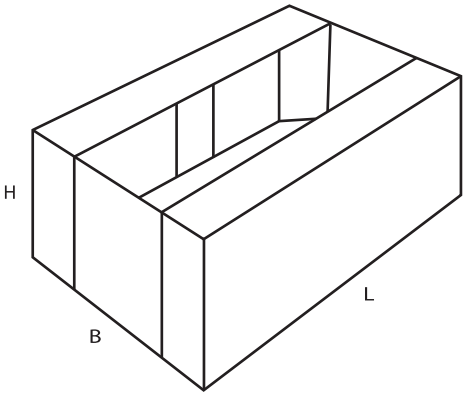

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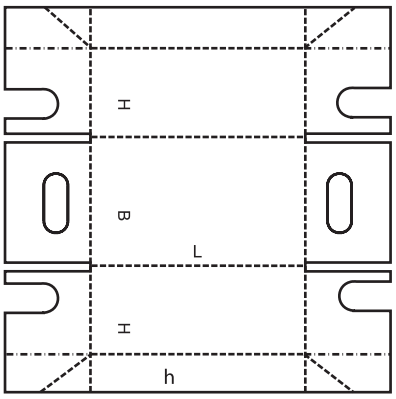

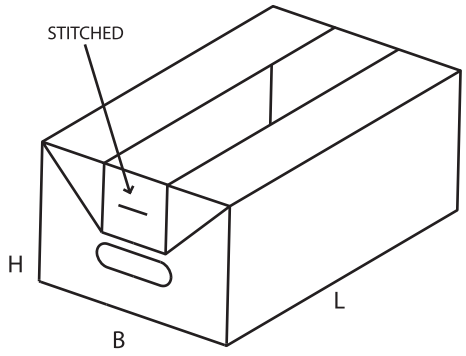

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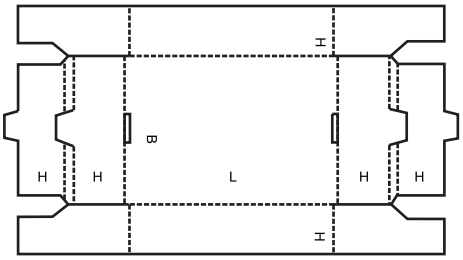
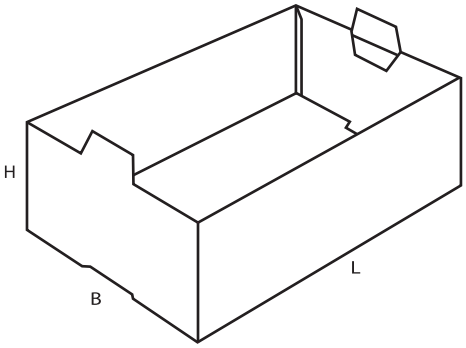
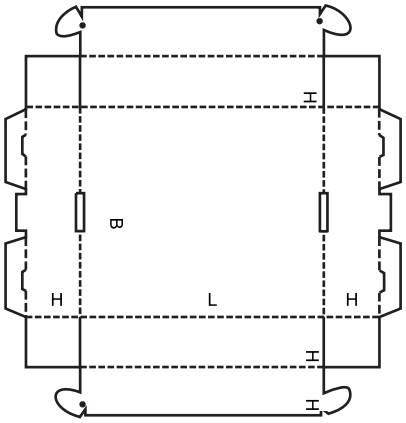
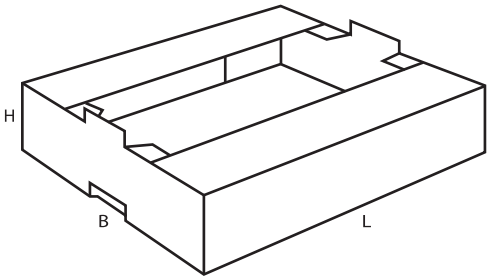




0436 M





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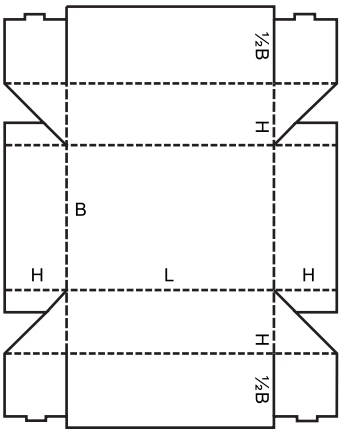

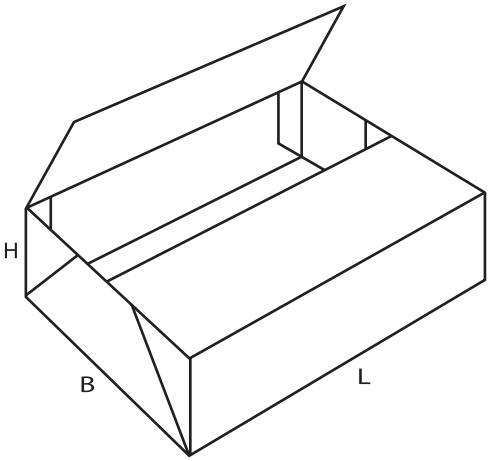

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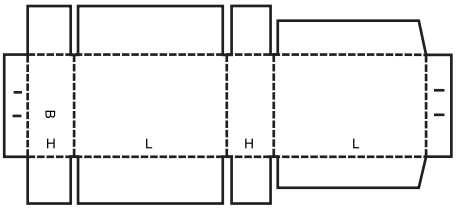

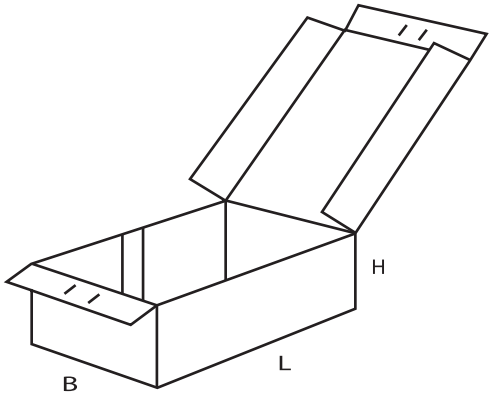

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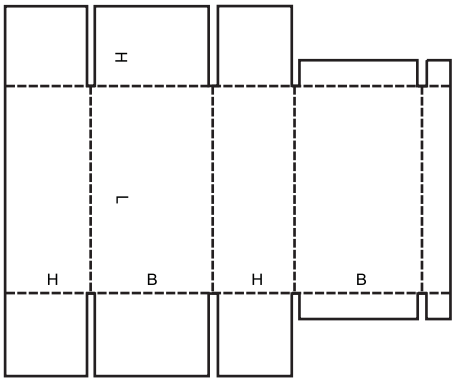

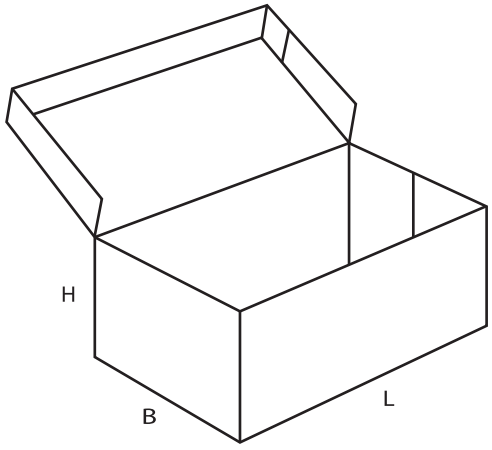

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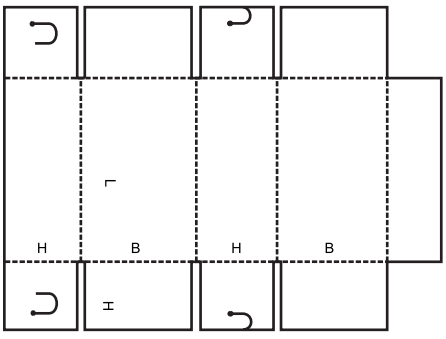

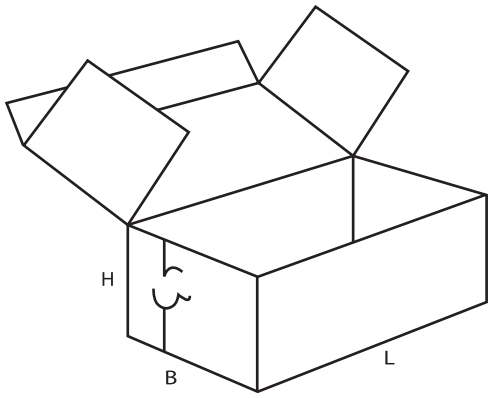

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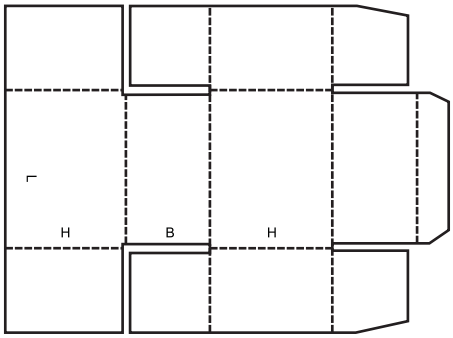

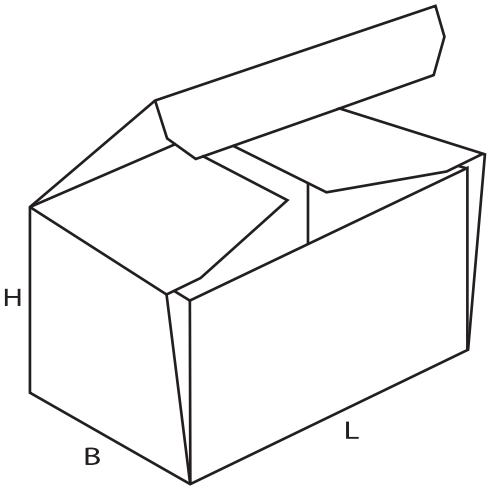

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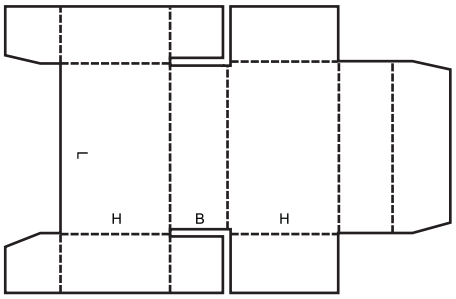

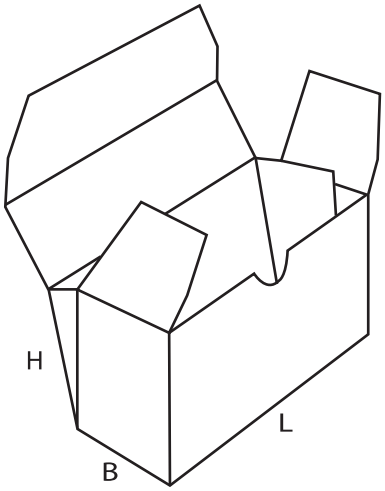

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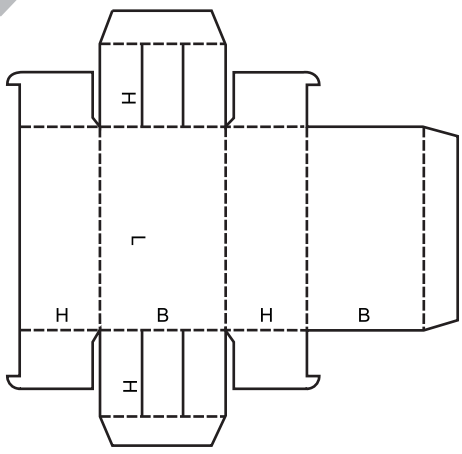

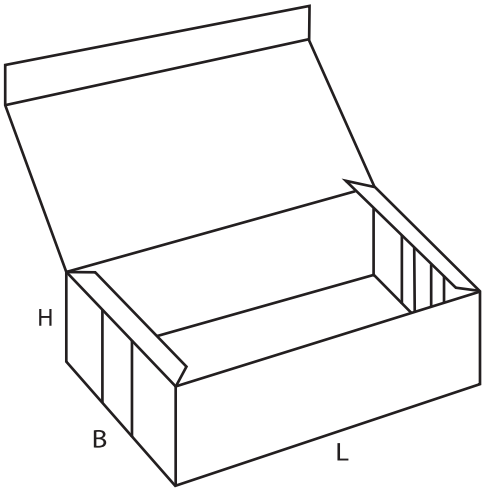

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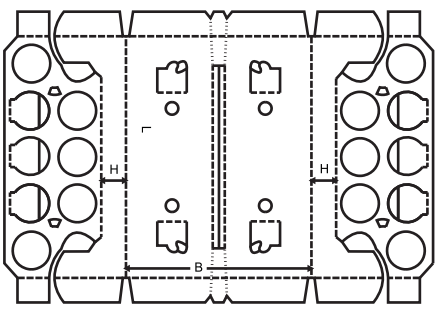

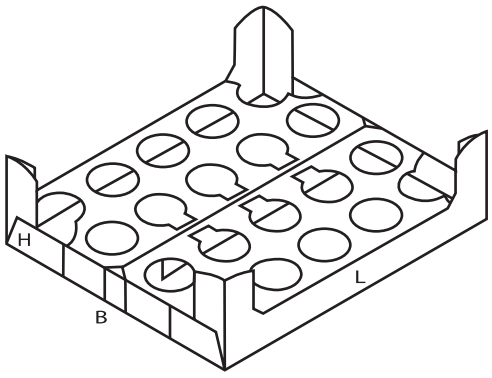

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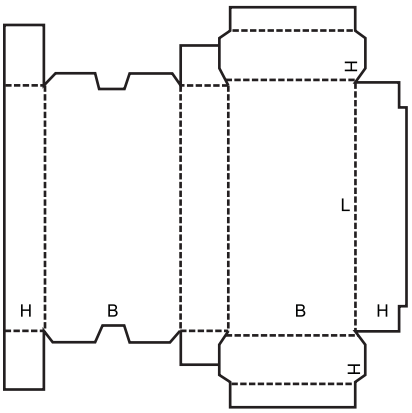

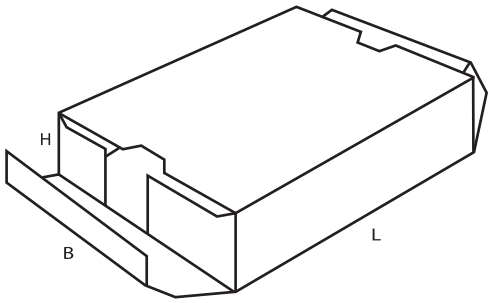

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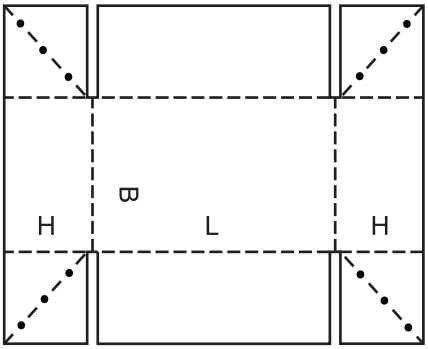

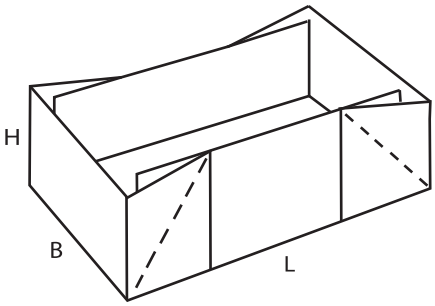

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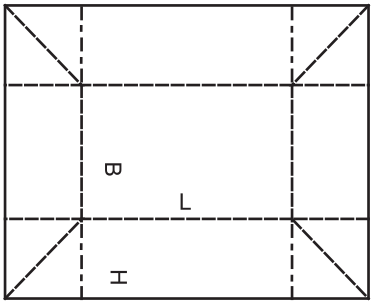

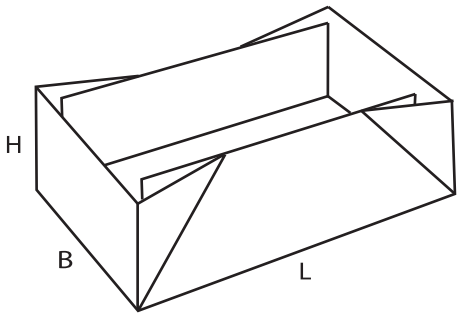

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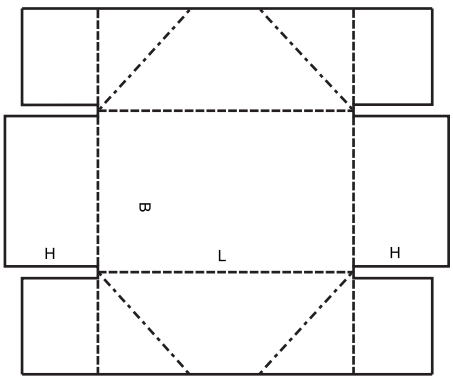

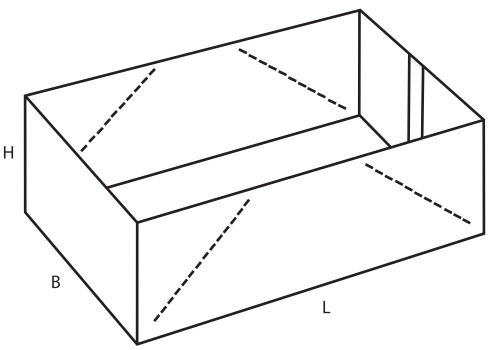

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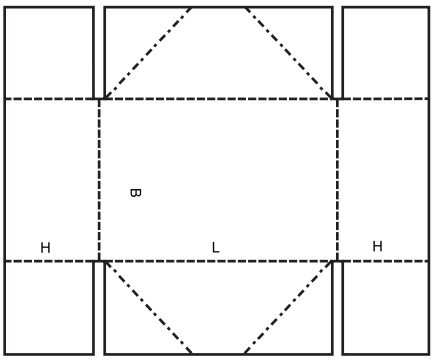

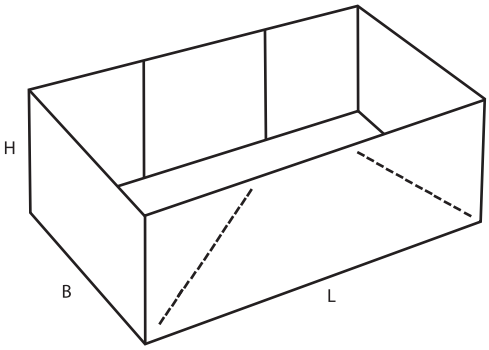

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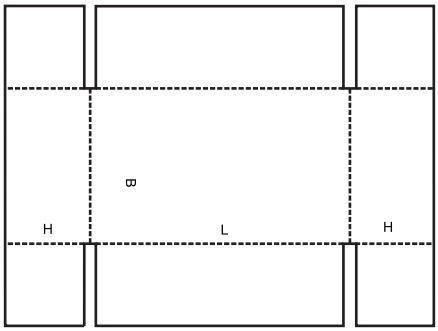

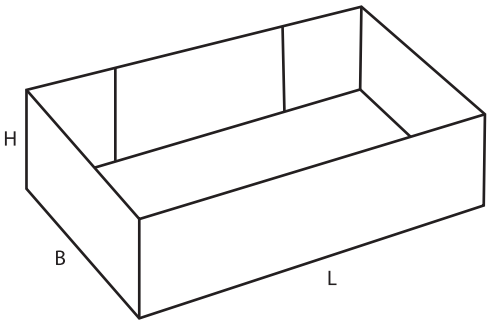

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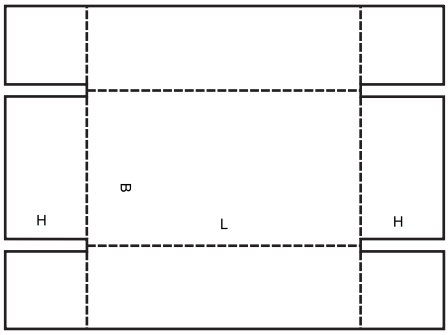

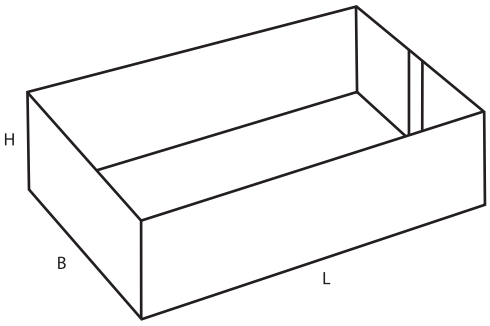

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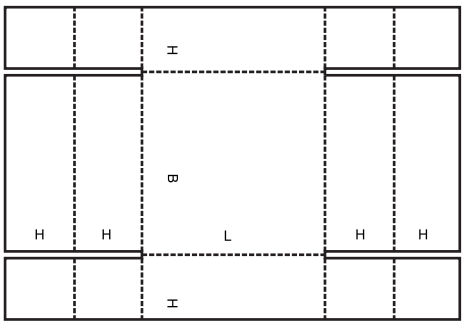

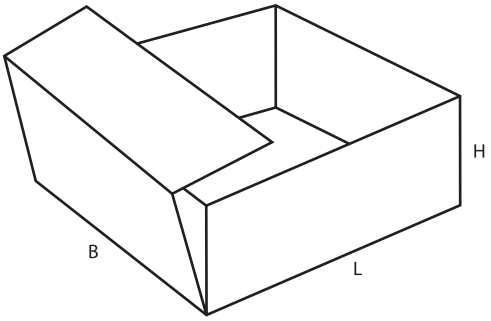

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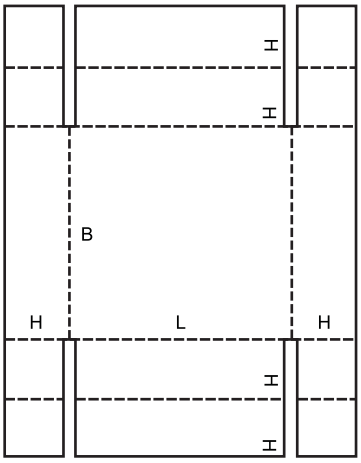

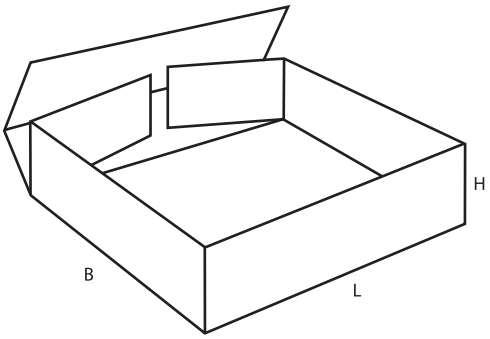

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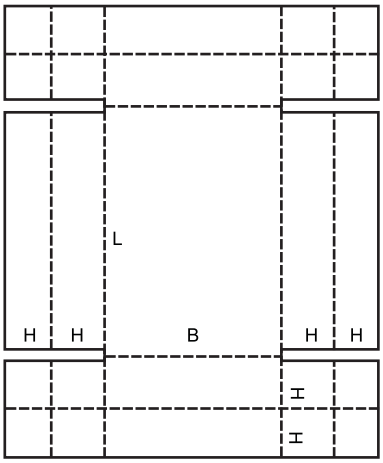

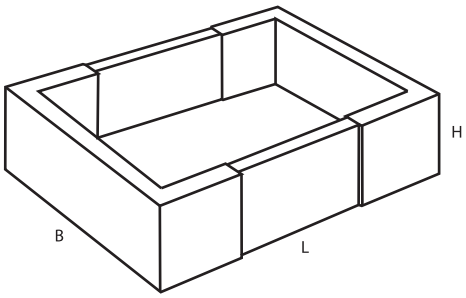

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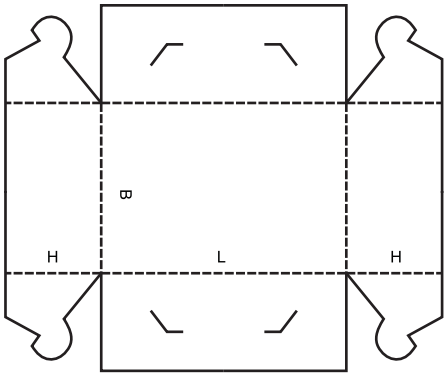

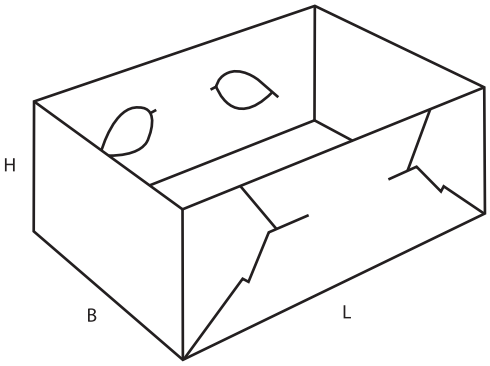

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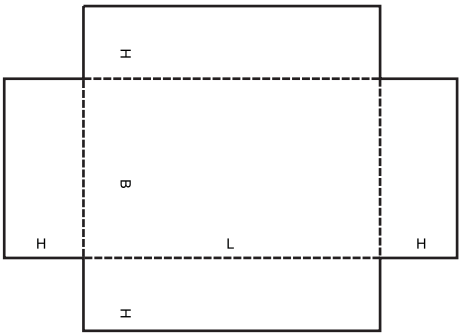

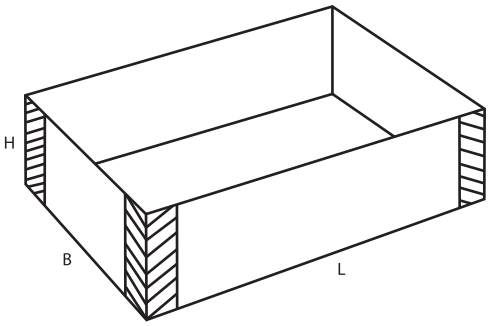

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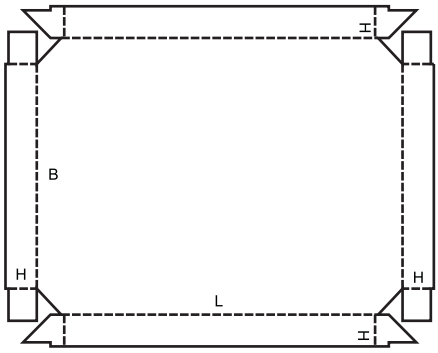

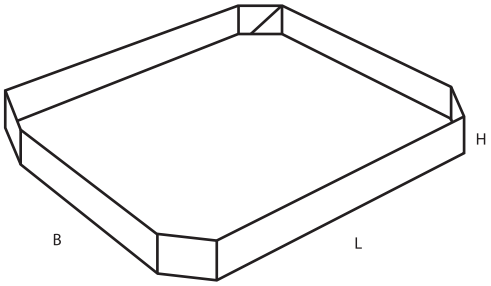

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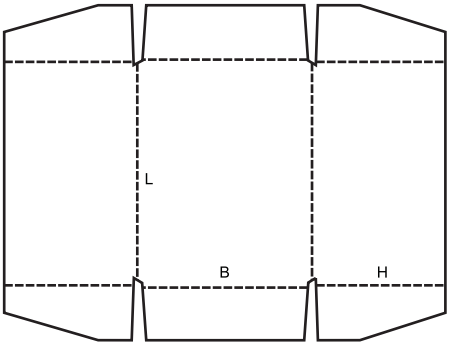

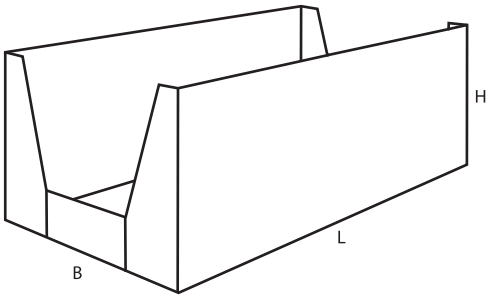

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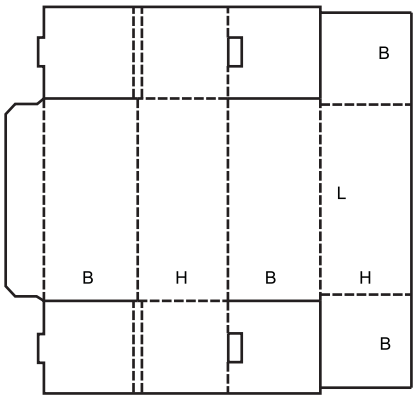

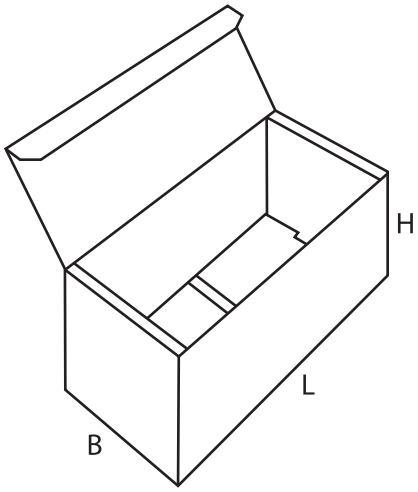

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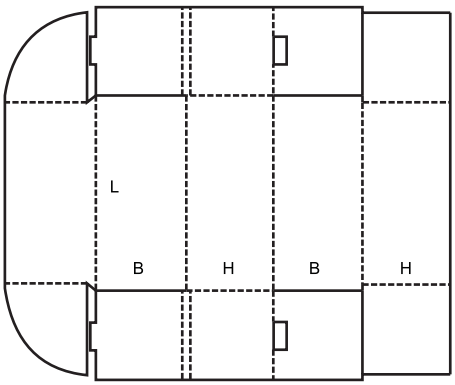

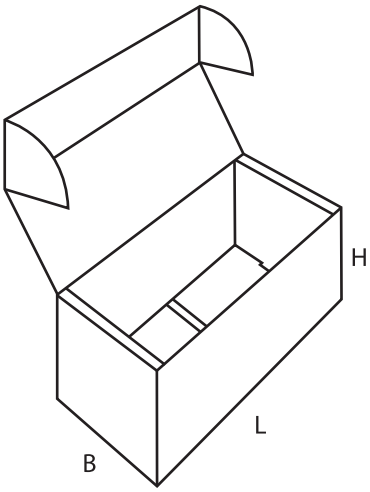

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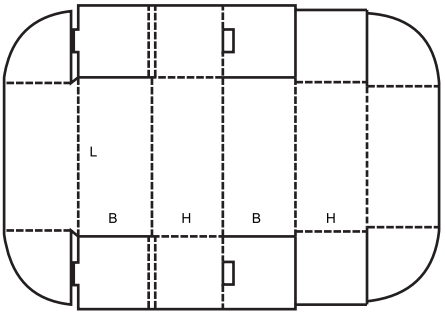

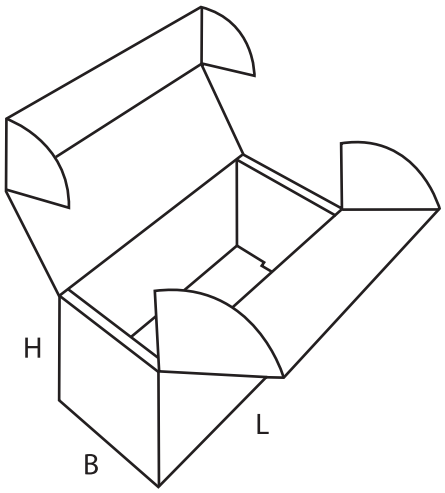

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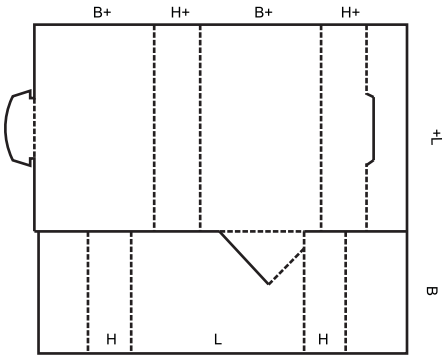
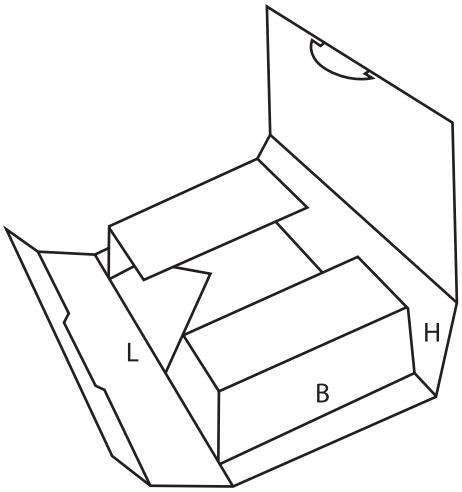
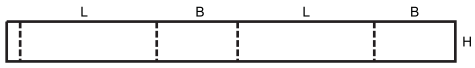


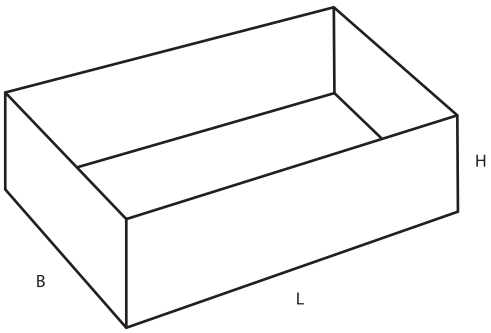


0500

- **Slide-type boxes** consist of several pieces of liners and sleeves sliding in different directions into each other. This group also includes outside sleeves for other cases.
- **Boîtes coulissantes** constituées par plusieurs manchons coulissants rentrant en différentes directions les uns dans les autres. Ce groupe comprend aussi les manchons extérieurs pour d'autres caisses.
- **Schiebeschachteln (Gürtelschachteln)** bestehen aus mehreren in verschiedenen Richtungen ineinanderschiebbaren Ringeinsätzen und Manschetten. Zu dieser Gruppe gehören auch Überschiebhülsen.
- **Scatole scorrevoli:** Contenitori telescopicio composti da diversi pezzi che scorrono l'uno con l'altro. In questo gruppo sono incluse anche le fasce esterne per scatole.
- **Cajas de tipo deslizante**: constan de varias piezas de forros interiores y fundas que deslizan en diferentes direcciones uno dentro de otro. Este grupo incluye también fundas exteriores para otras cajas.

0501 M





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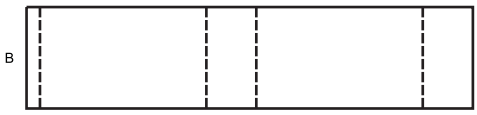

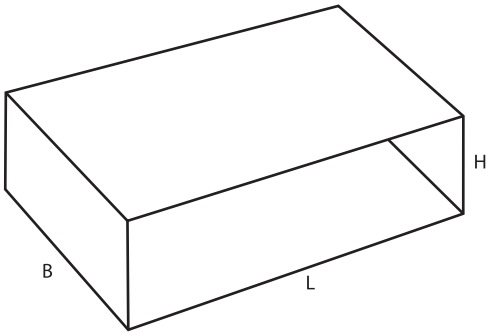

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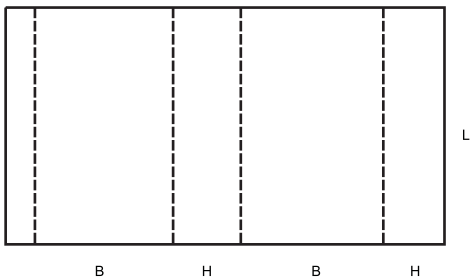

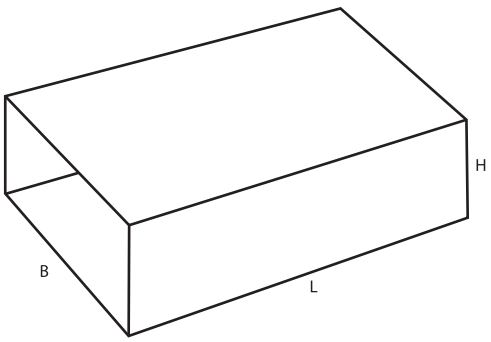

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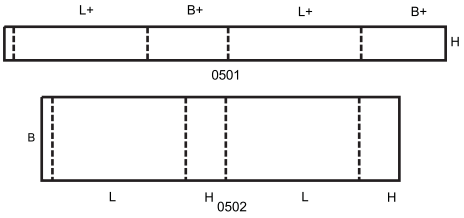

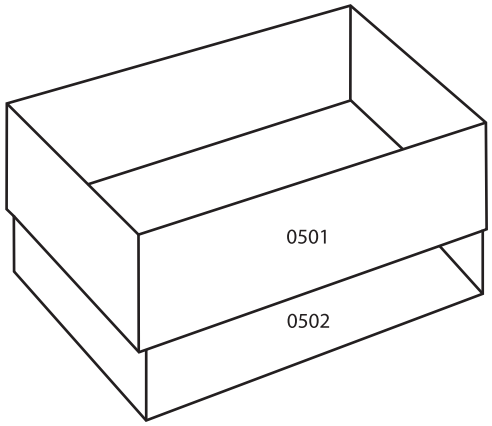

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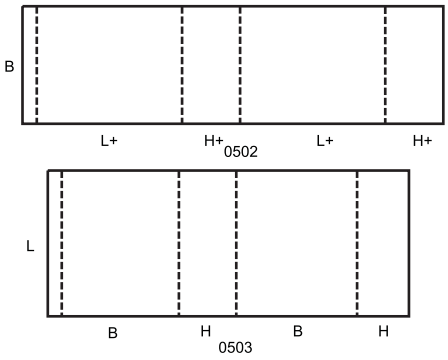

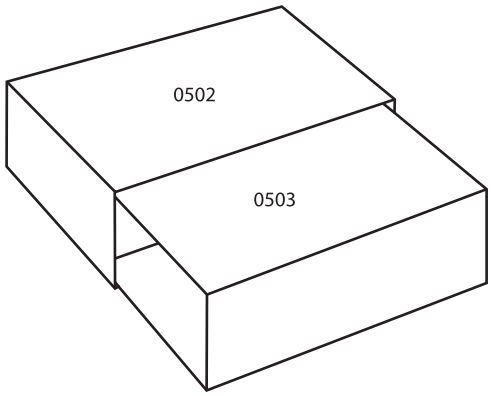

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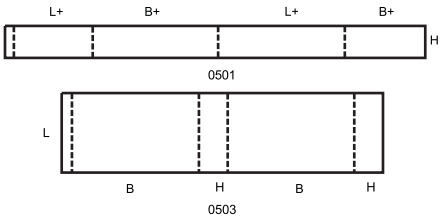

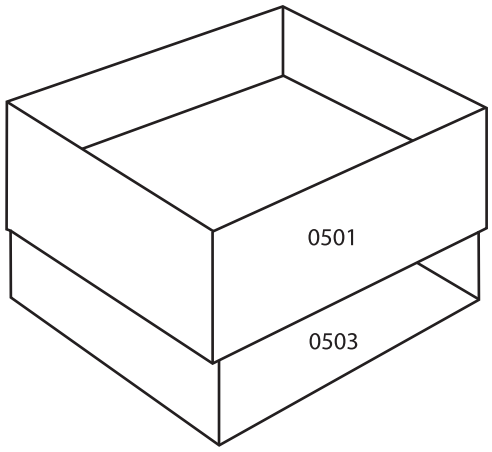

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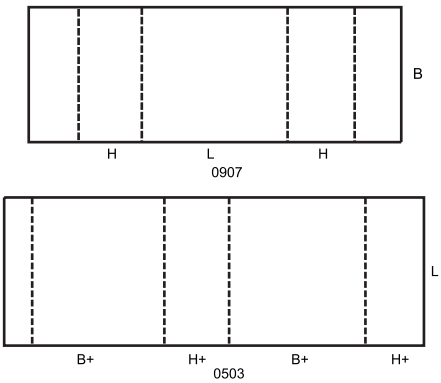

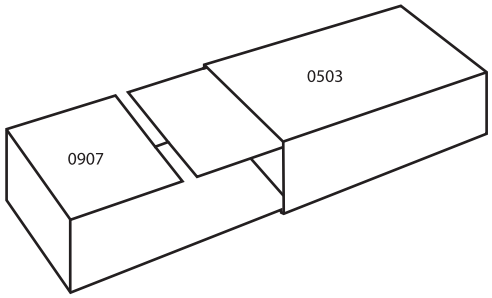

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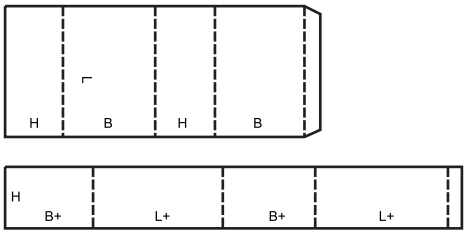

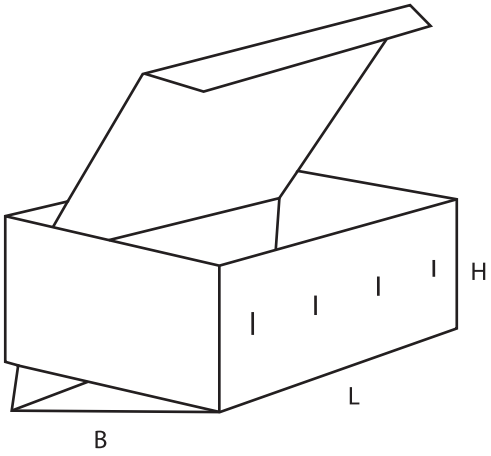

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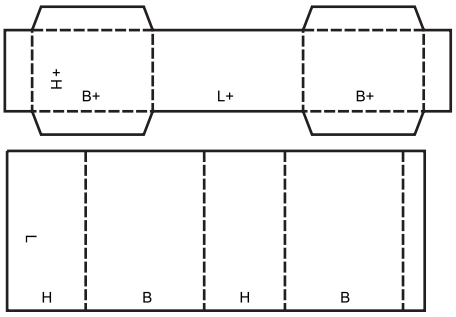

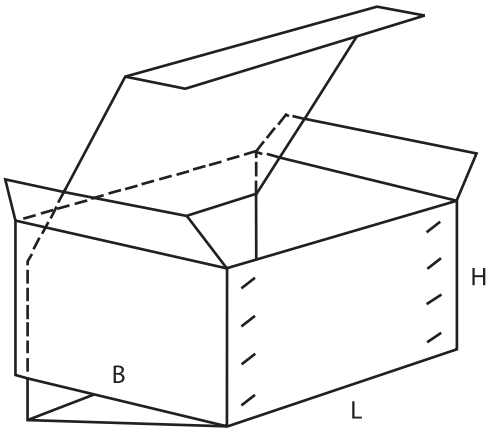

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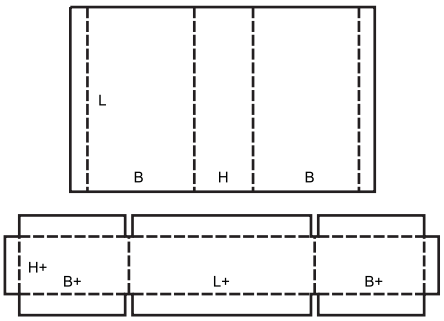
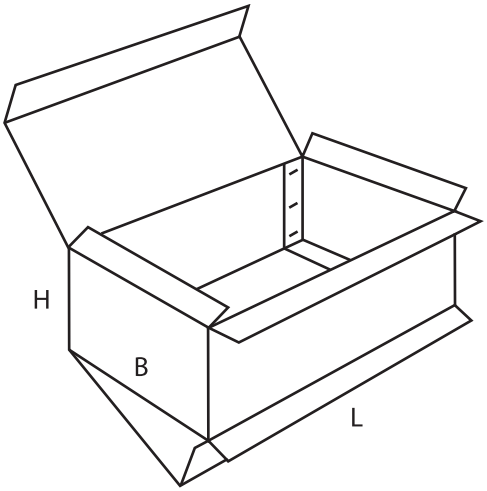
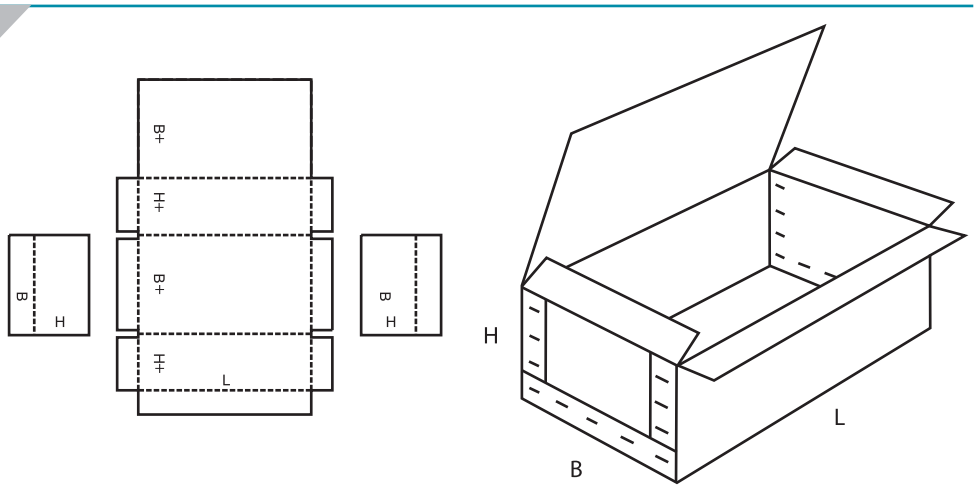




0600

- **Rigid-type boxes** consist of two separate end pieces and a body and require stitching or a similar operation before they can be used.
- **Caisses rigides** constituées de plusieurs pièces nécesssitant un assemblage avant emploi.
- **Formfeste Schachteln** bestehen in der Regel aus zwei Seitenteilen und einem Mittelteil, das Boden und Dekkel bildet. Diese Schachteln können als vorbereitete Zuschnitte geliefert werden und sind dann vom Verbraucher durch Drahtheftung zu verbinden.
- **Casse rigide:** Imballaggi rigidi composti da due pezzi laterali separati e un corpo, e richiedono una fase di cucitura o altro prima di essere utilizzati.
- **Cajas de tipo rígidas**: formadas por dos piezas separadas, para los extremos y un cuerpo; requieren un grapado u otra operación similar antes de que puedan utilizarse.

0601 A



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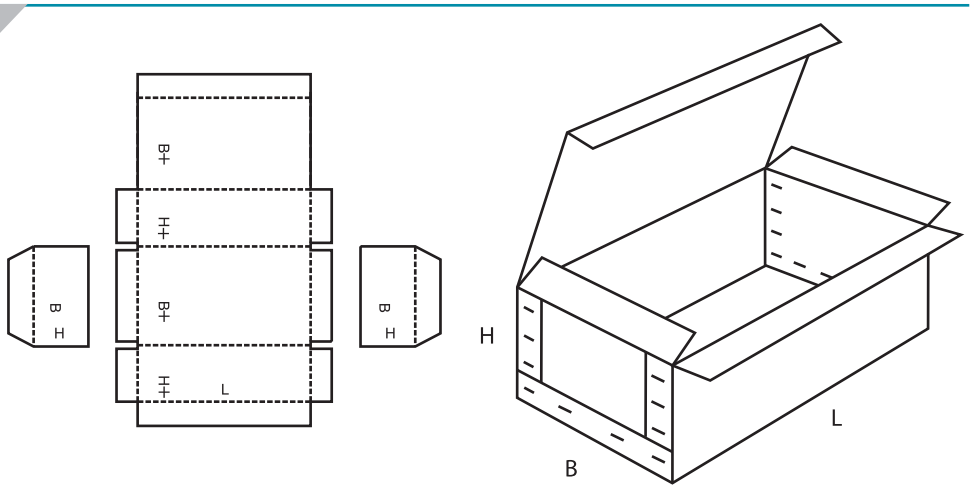

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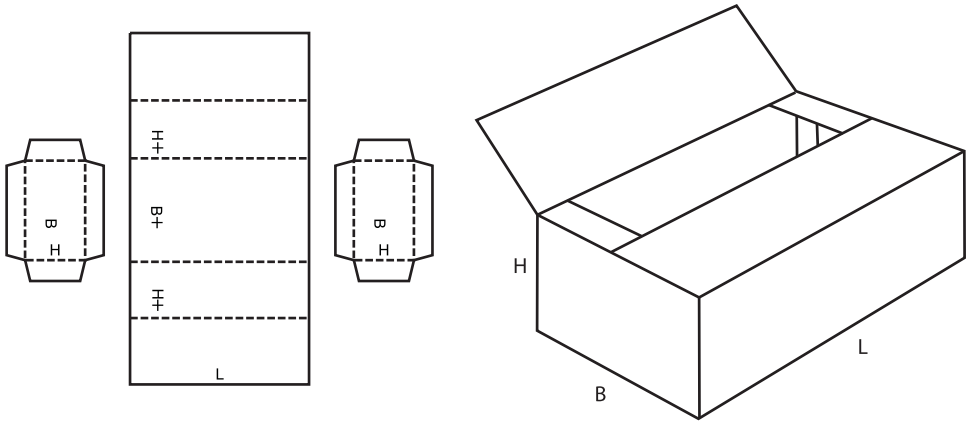

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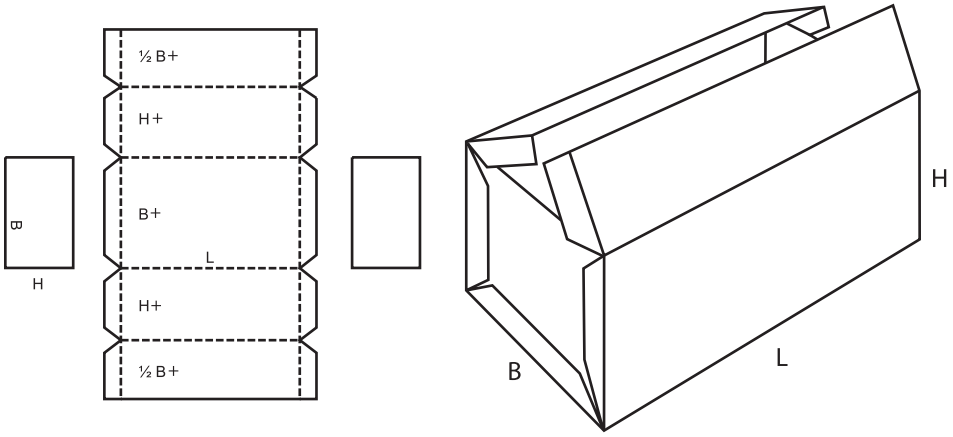

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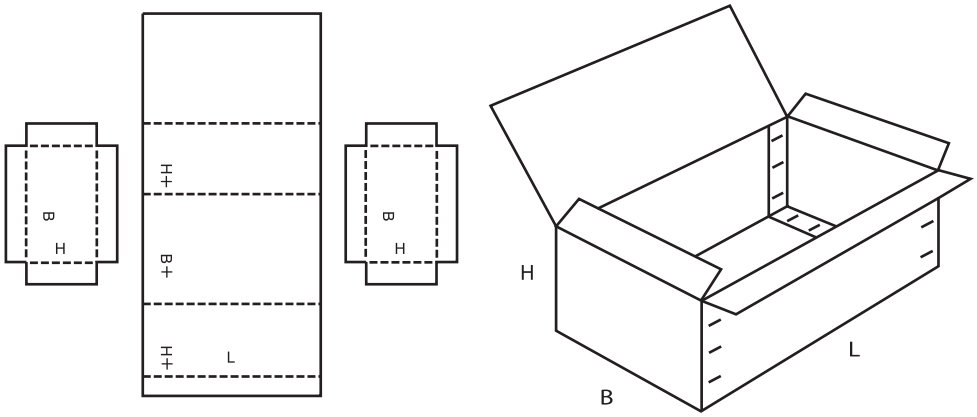

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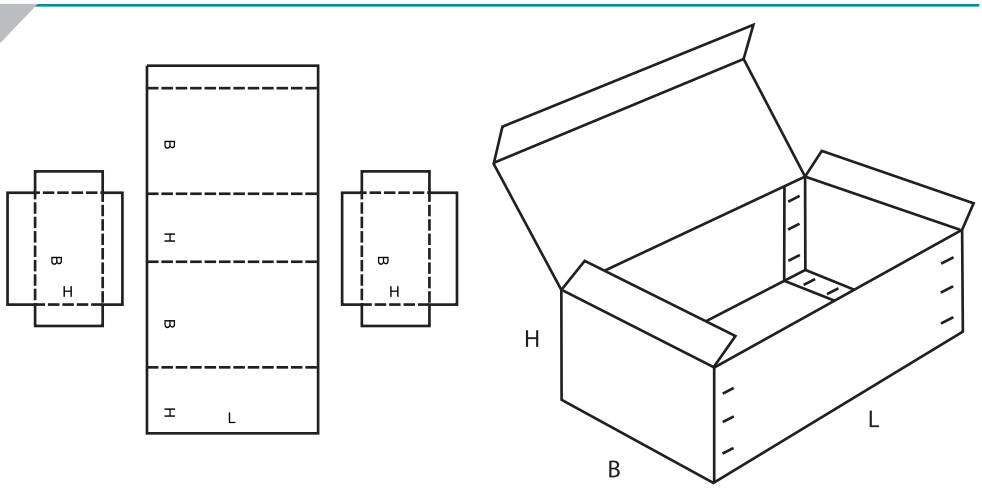

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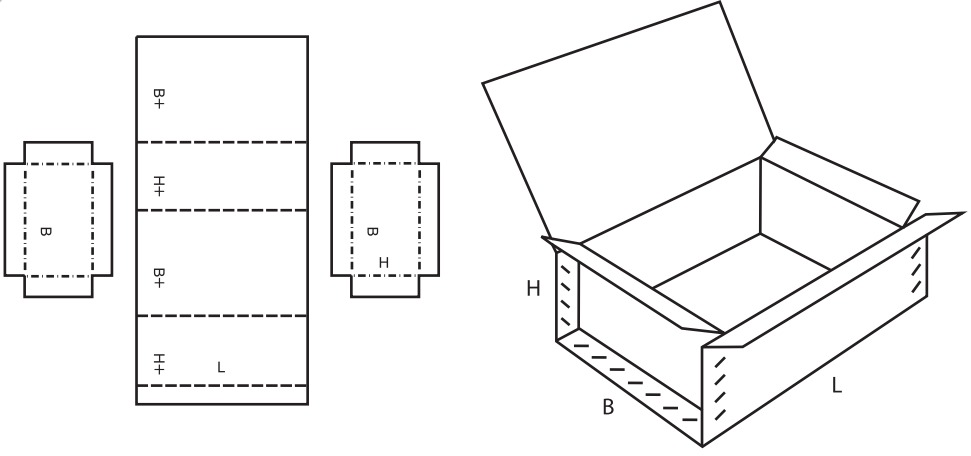

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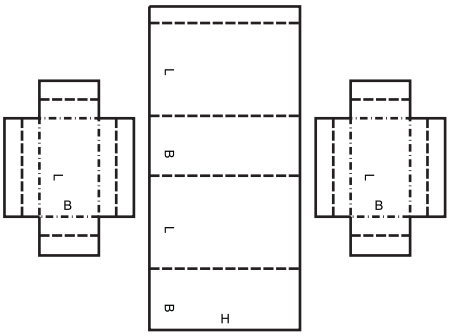

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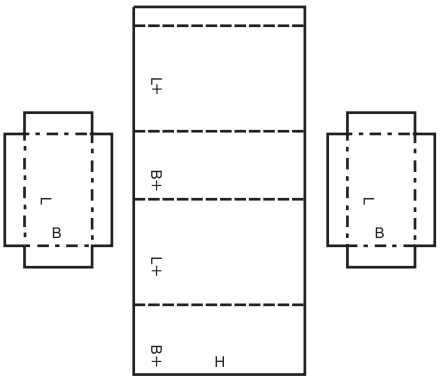

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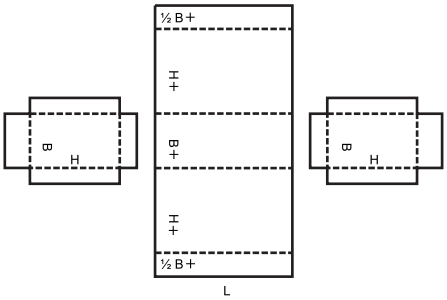

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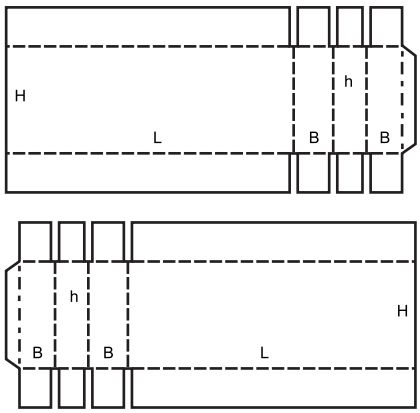
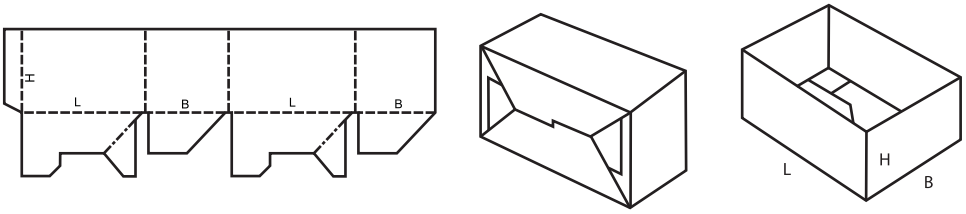


0700

- **Ready-glued** cases consist of basically one piece, are shipped flat and ready to use by simple setting up.
- **Caisses collées** prêtes à l'emploi, constituées en principe par une seule pièce, livrées à plat et prêtes à l'emploi après un simple montage.
- **Fertig geklebte** Schachteln sind einteilige, faltbare Schachteln, die zusammengelegt geliefert und durch einfaches Aufrichten gebrauchsfertig aufgestellt werden. Die Schachteln können mit einem Faltboden (Faltbodenschachtel) oder mit Diagonalbiegung (Aufrichteschachtel) ausgerüstet sein.
- **Casse incollate e pronte all'uso:** Imballaggi incollati già pronti composti in genere da un pezzo, sono consegnati piegati e sono pronti per l'uso tramite una semplice fase di montaggio apertura.
- **Cajas de encolado rápido**: están hechas generalmente de una sola pieza, se entregan extendidas en un plano o plegadas y listas para su utilización por medio de un sencillo montaje.

0700 M



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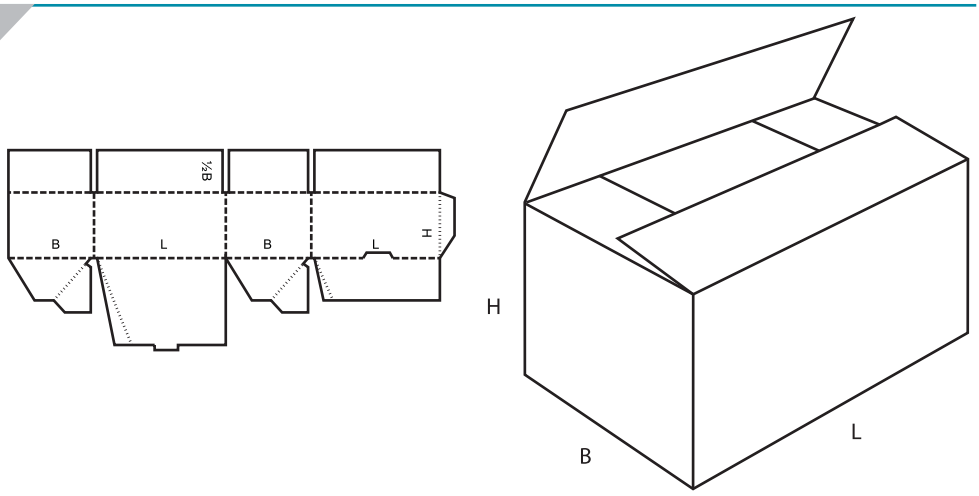

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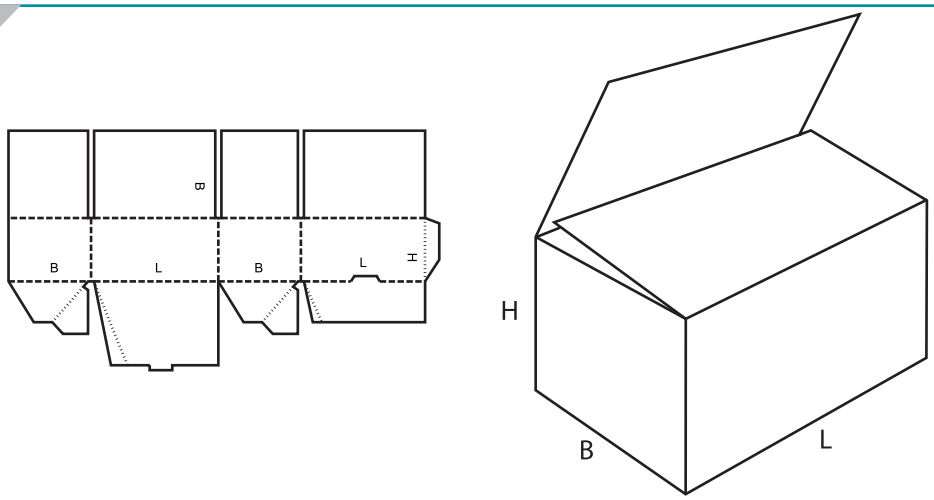

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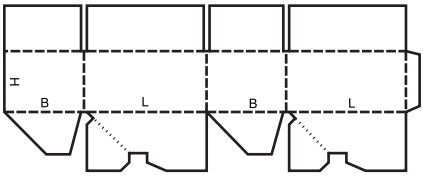

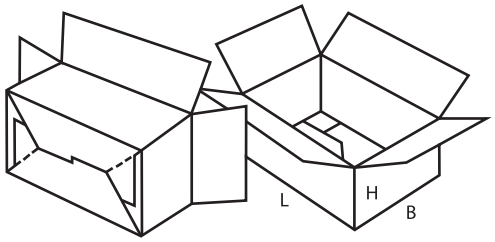

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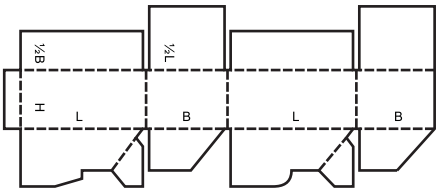

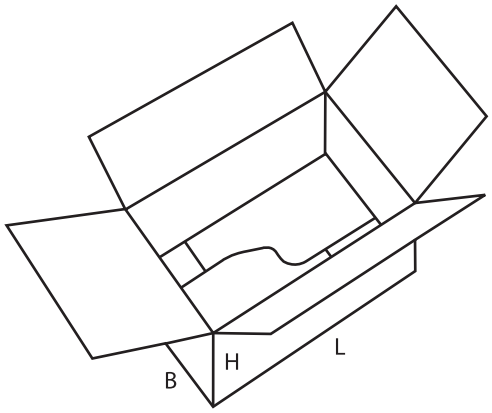

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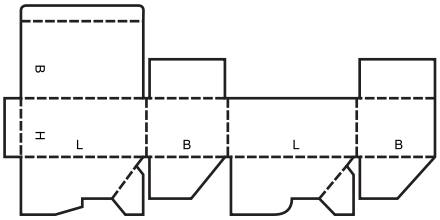

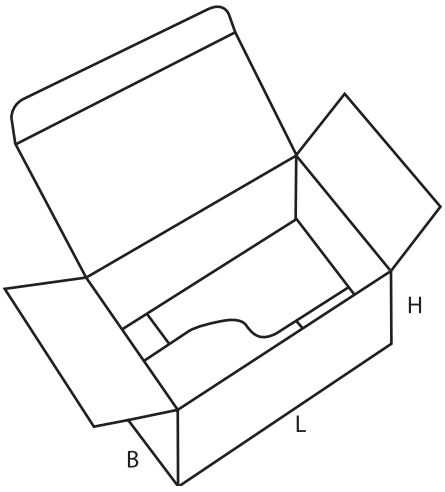

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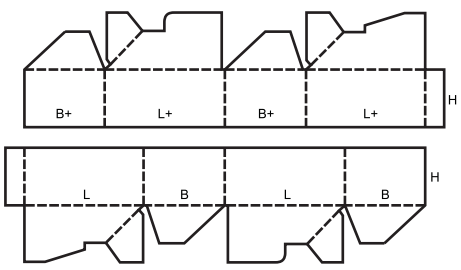

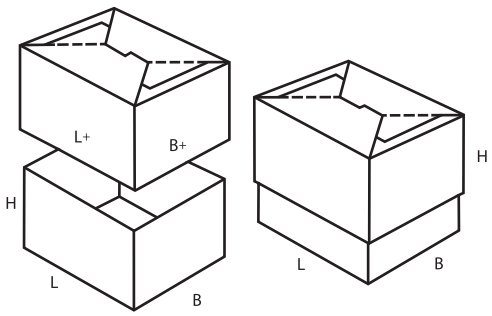

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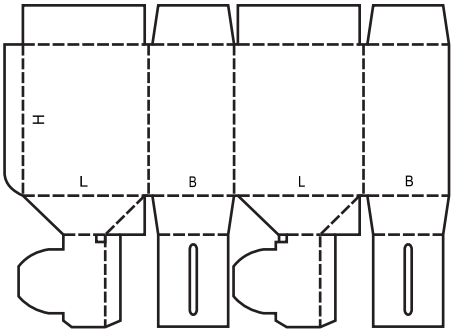

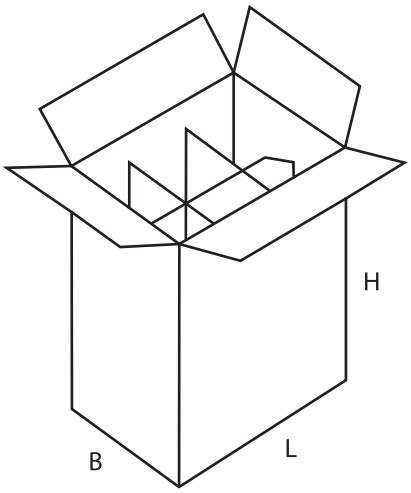

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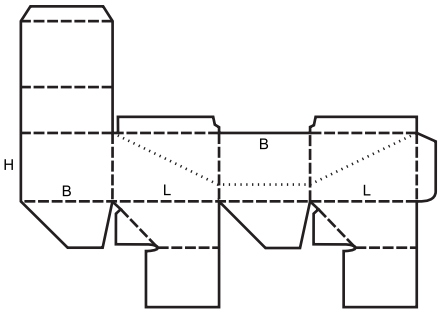

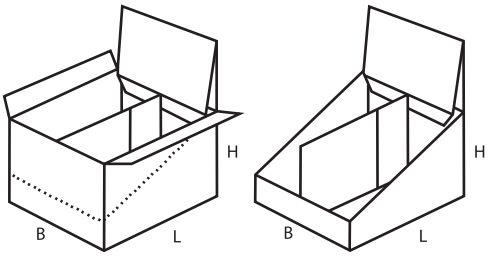

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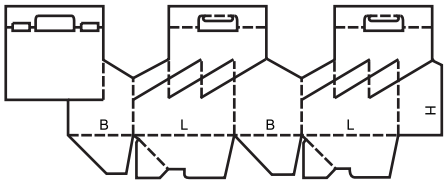

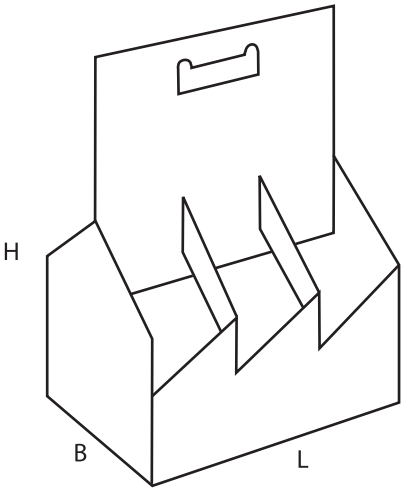

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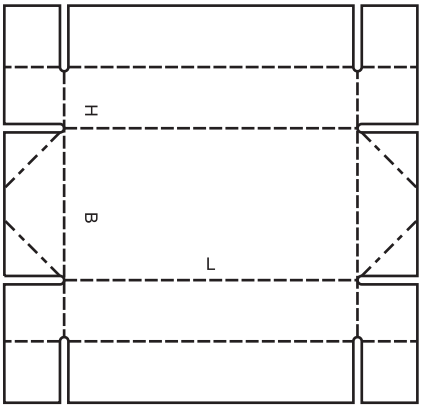

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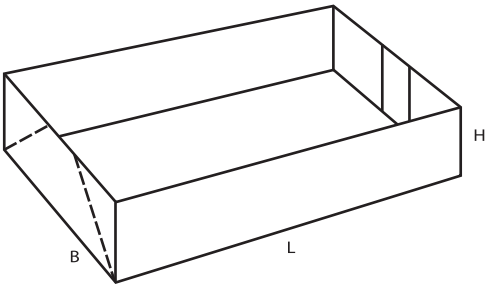

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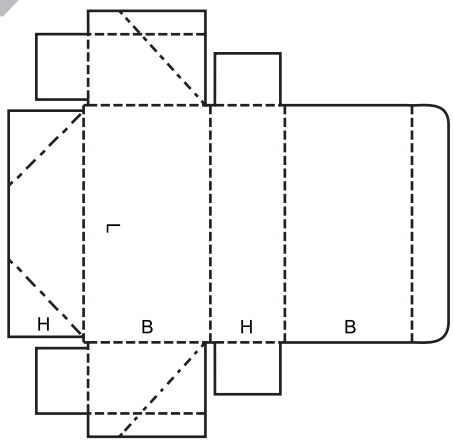

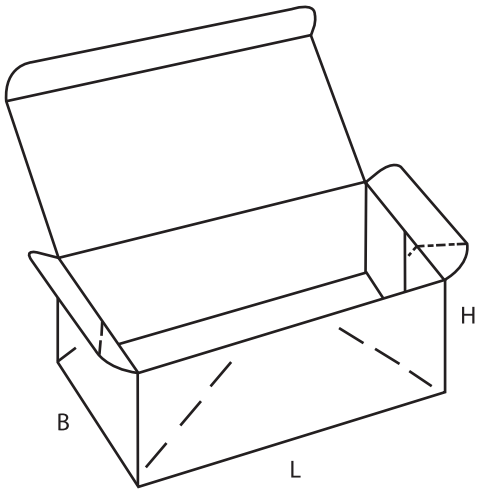

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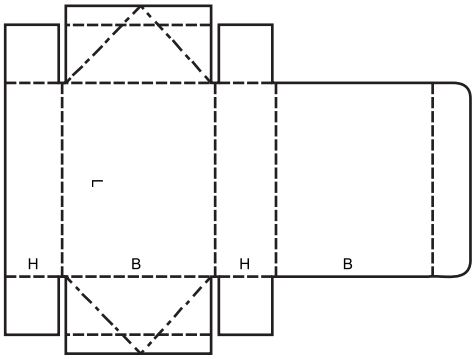

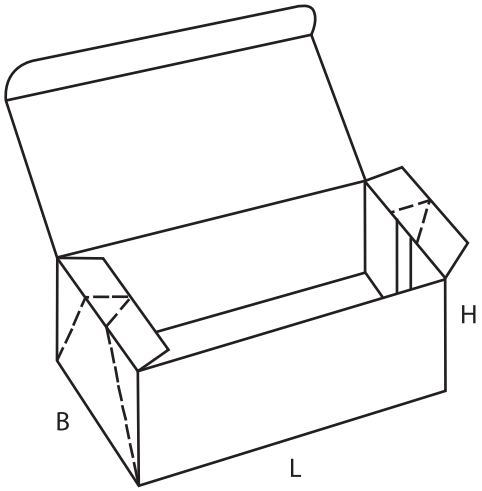

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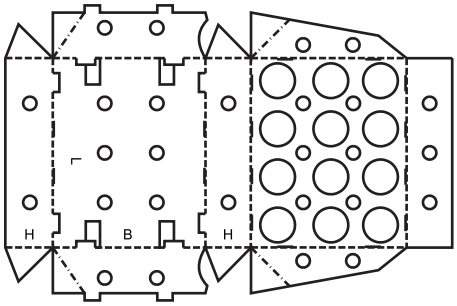

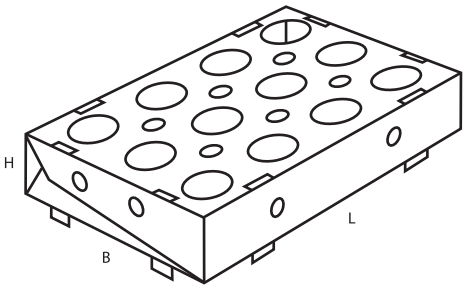

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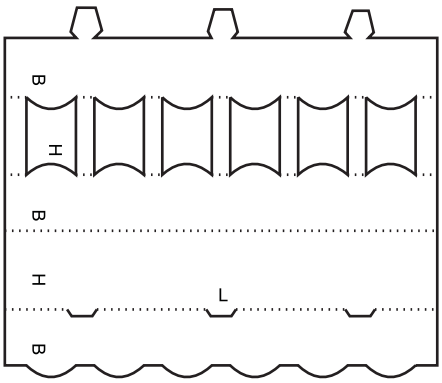

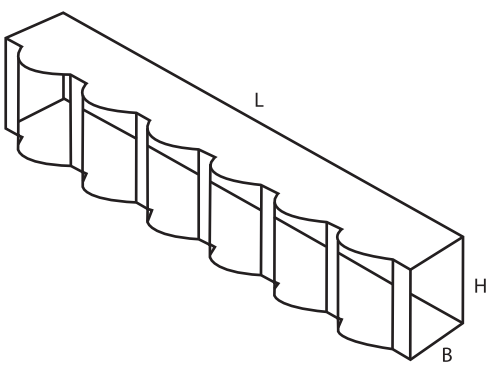

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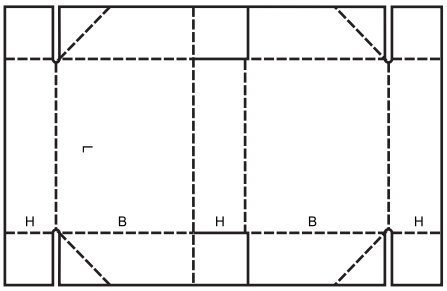

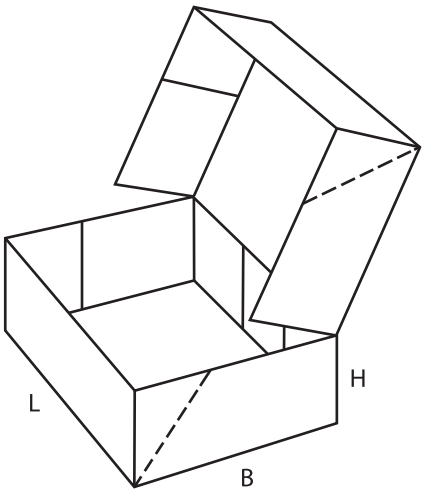

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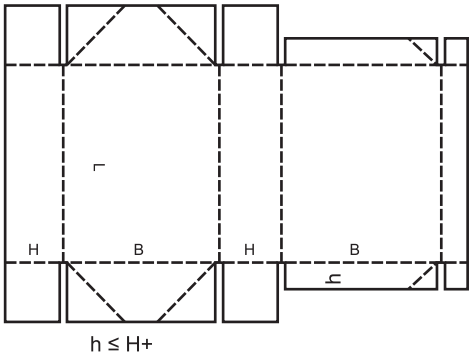

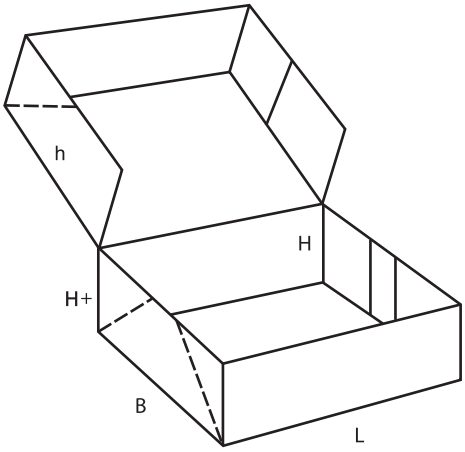

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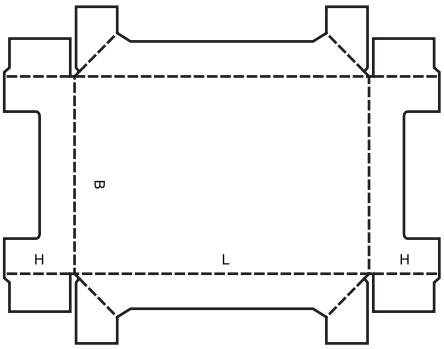

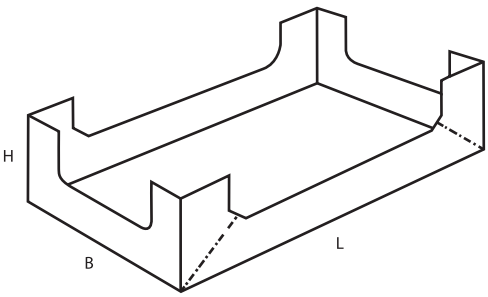

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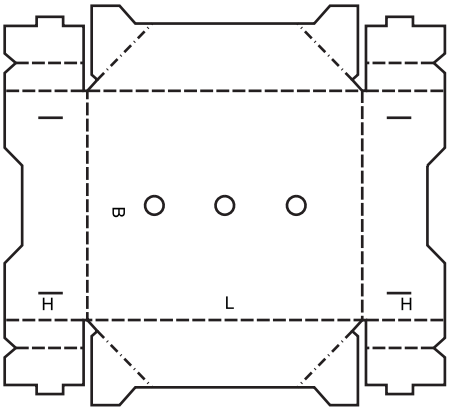

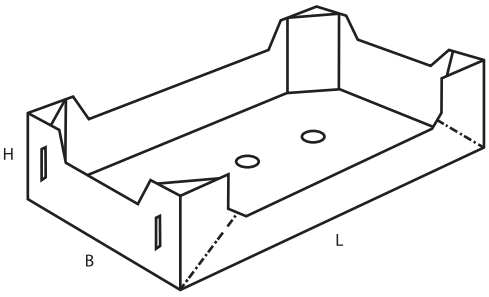

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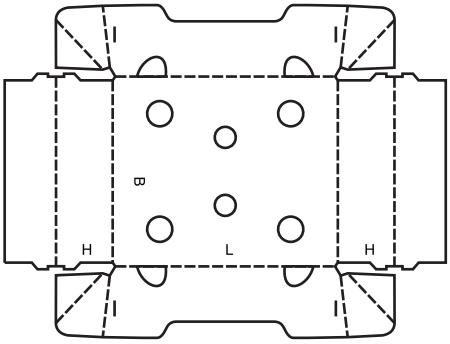

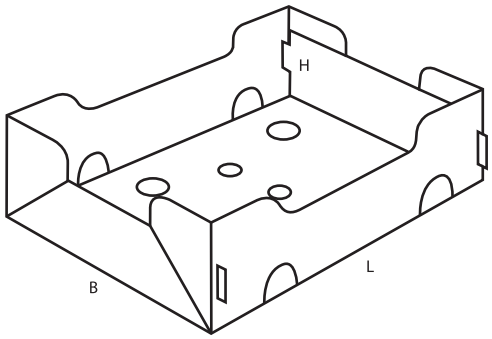

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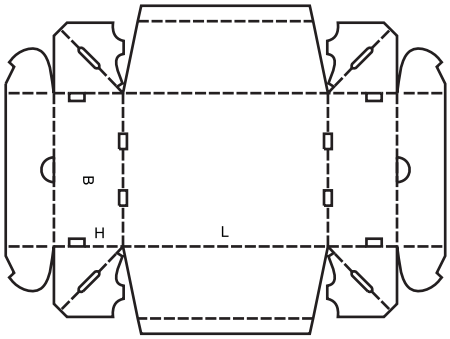

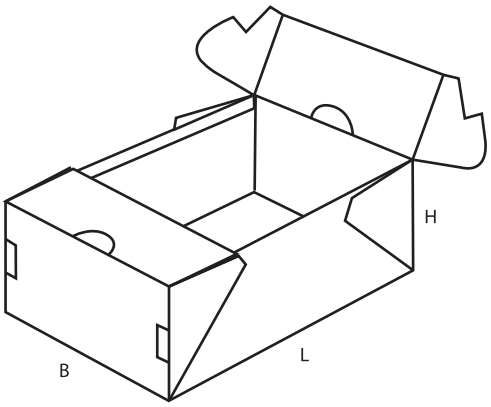

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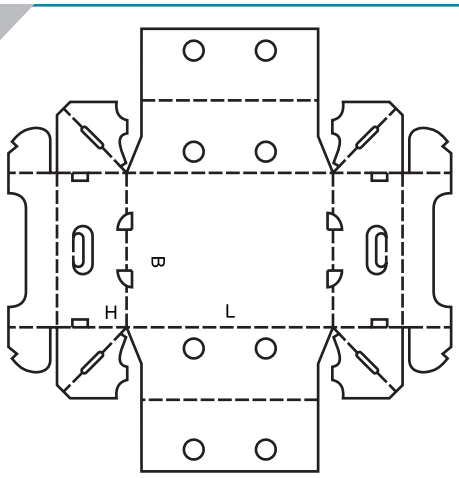
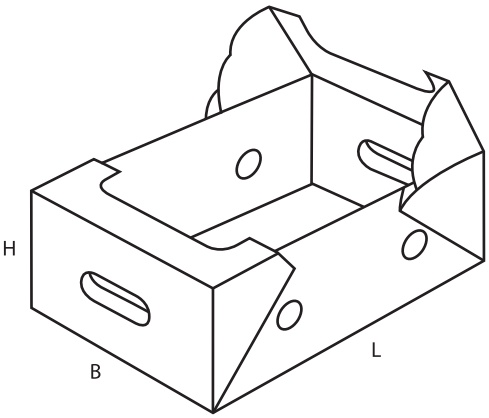
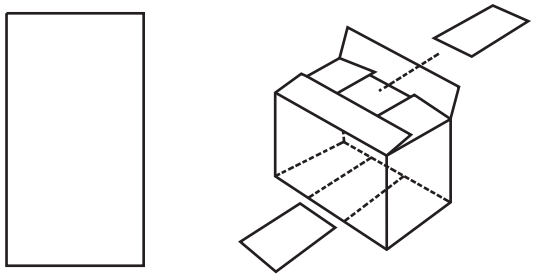




0900

- **Interior fitments** such as inside liners, pads, partitions, dividers etc., whether tied to Case Design or as singular items. Any shown number of panels is arbitrary and may be increased or decreased as required.
- **Conditionnement intérieur**, tel que doublures intérieures, rembourrages, casiers, cloisons, etc ... , faisant partie du modèle de caisse ou utilisés comme éléments indépendants. Tout nombre de panneaux indiqué est arbitraire et pourra être augmenté ou diminué selon les besoins.
- **Inneneinrichtungen** wie Einlagen, Einsätze, Stege, Trennwände, Gefache, Polster und dgl., ob mit der Kiste fest verbunden oder als getrennte Elemente. Zahlenangaben für Wände sind beliebig und können ggf. höher oder niedriger ausfallen.
- **Protezioni interne:** Pezzi interni come fodere interne, imbottiture, separatori, divisori ecc., sia come accessori ad un imballaggio, sia come articoli a se stanti. I numeri di pannelli che compaiono nei disegni sono arbitrari e possono essere diminuiti o aumentati secondo le esigenze.
- **Acondicionadores interiores**: como forros, refuerzos, casilleros, divisiones interiores, tanto si se ajustan a un modelo de caja o como piezas sueltas. El número de piezas de los acondicionadores interiores mostrados es arbitrario y puede aumentarse o disminuirse de acuerdo con las necesidades.

0900 M



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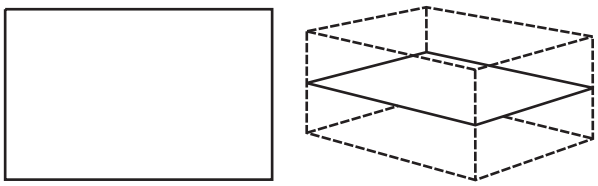

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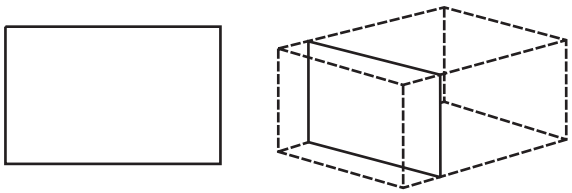

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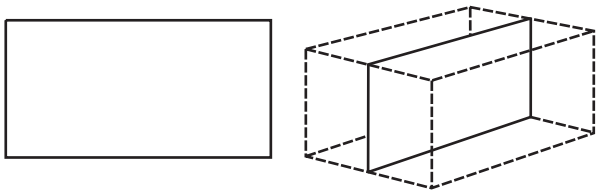

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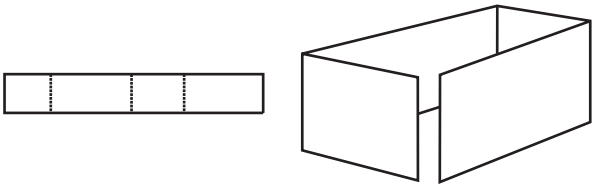

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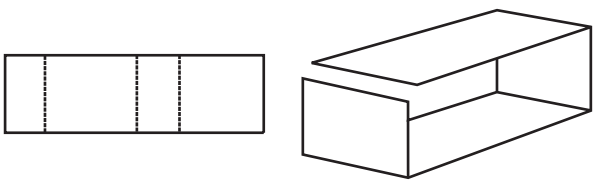

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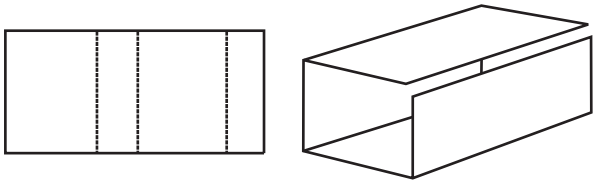

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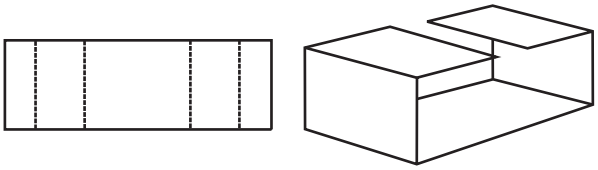

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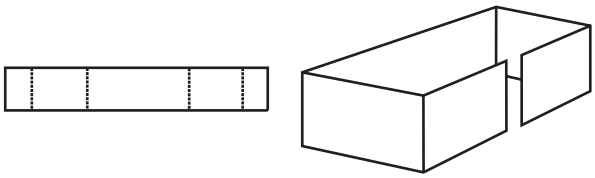

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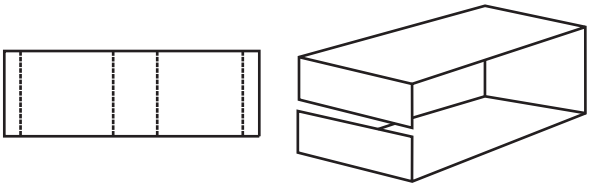

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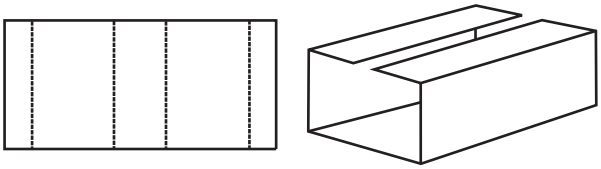

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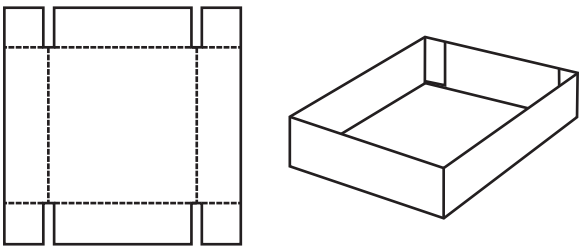

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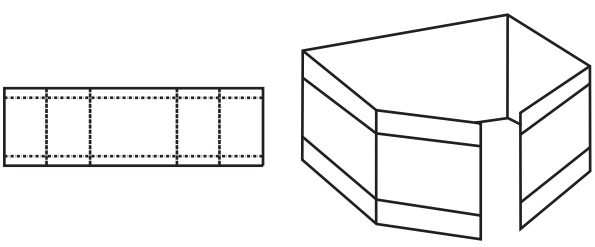

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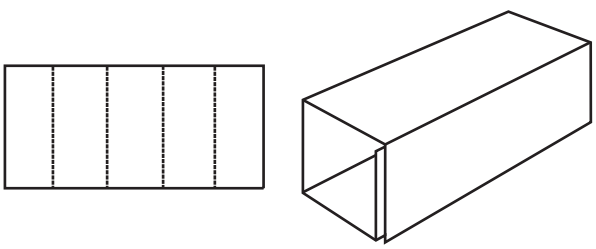

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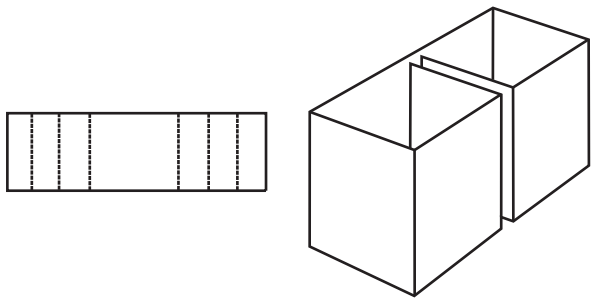

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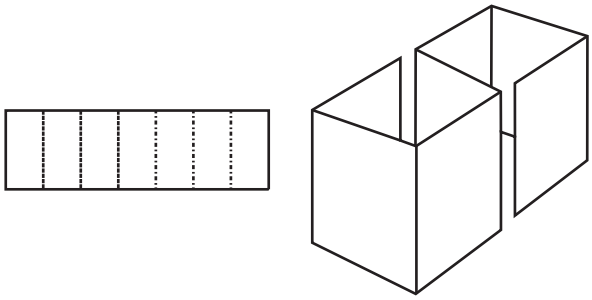

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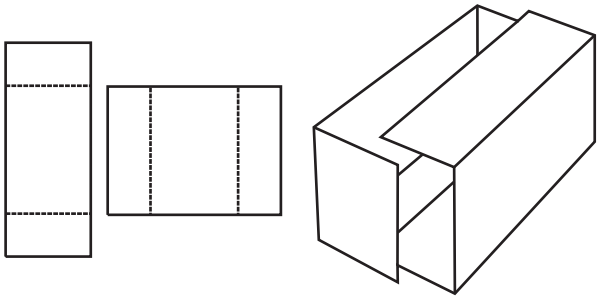

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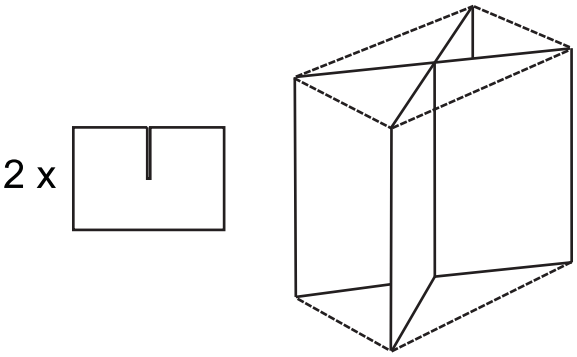

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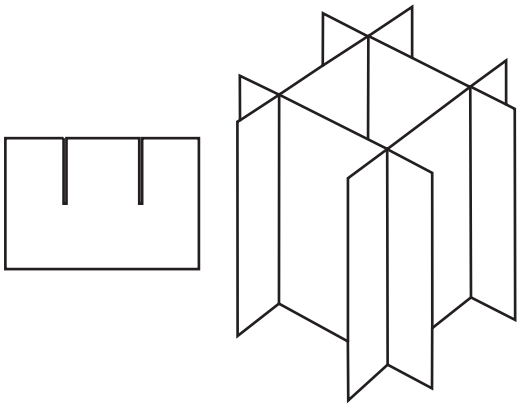

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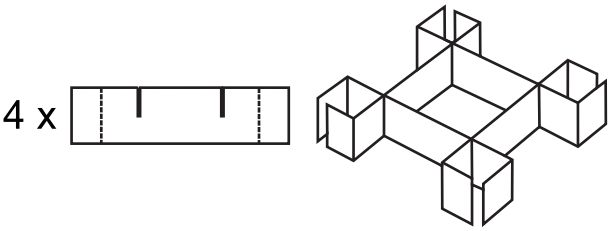

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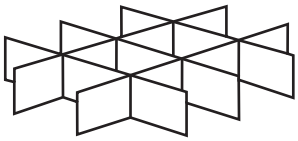

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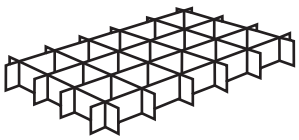

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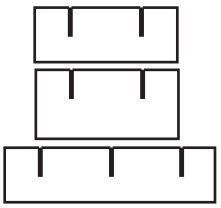
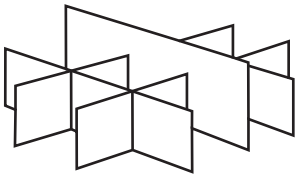
1 x
2 x





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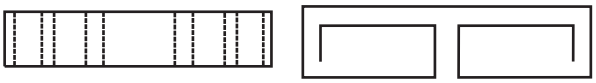

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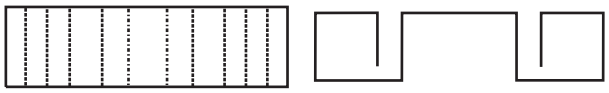

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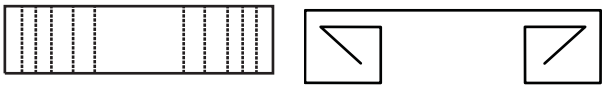

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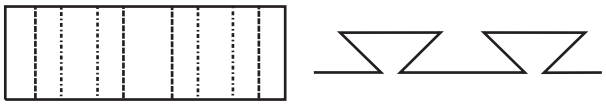

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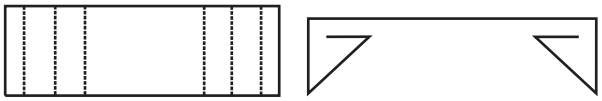

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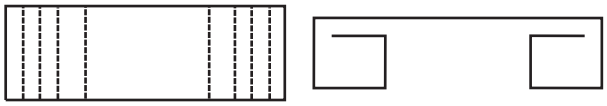

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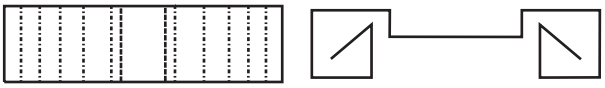

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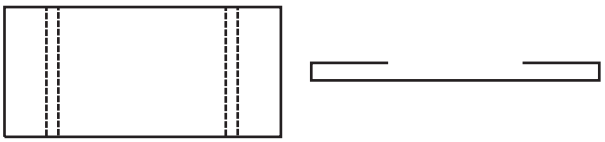

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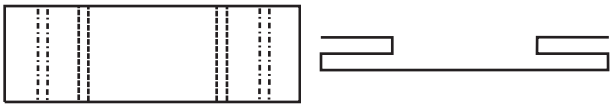

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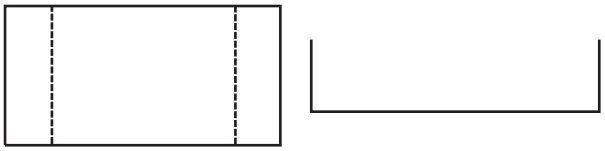

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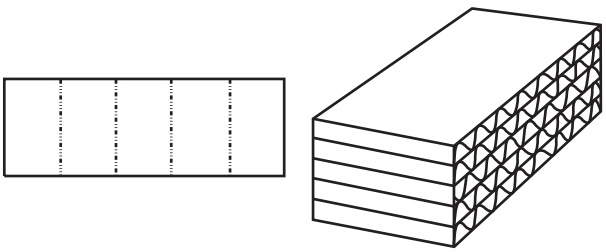

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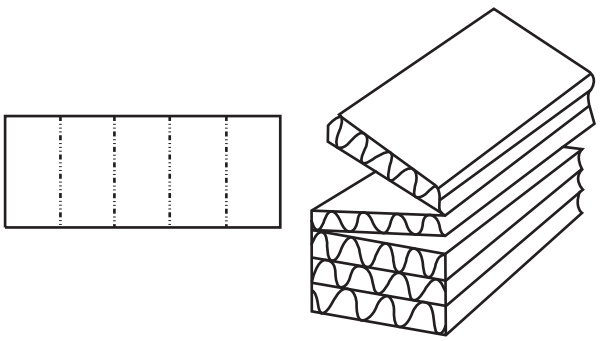

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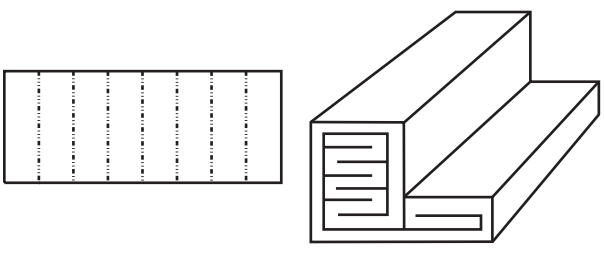

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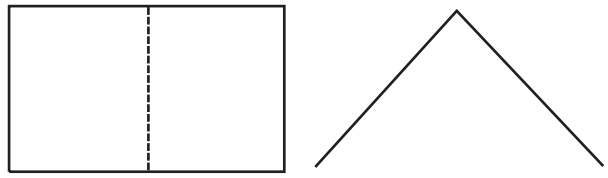

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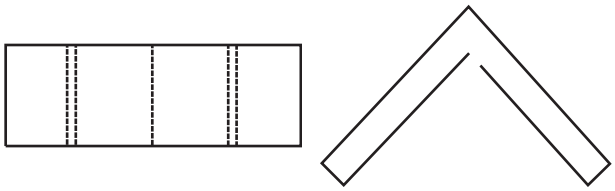

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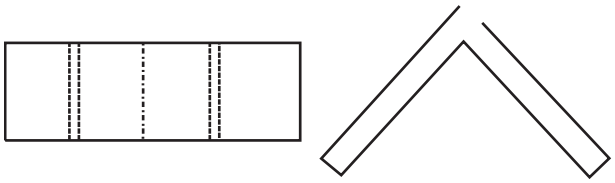

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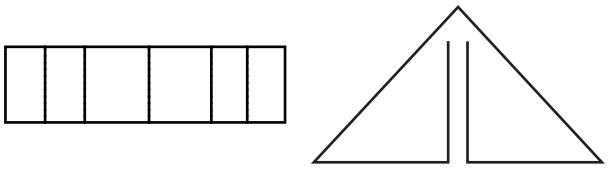

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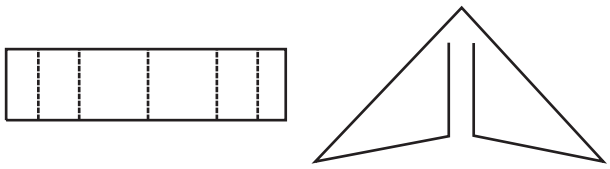

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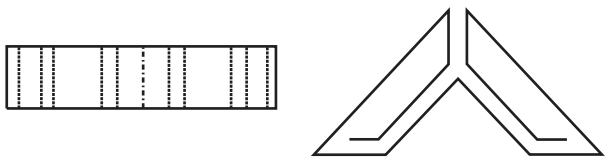

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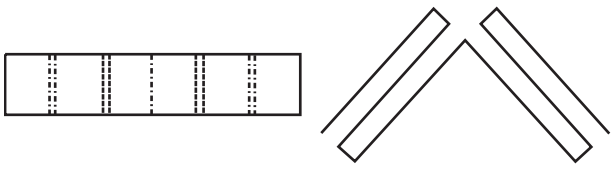

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