

## Efficient Packing of Containers --- Corrugated Cartons, Wooden Cases/Boxes, and Bales

The basic information on how to efficiently pack (load) the containers is being discussed here. There are several container-loading software in the market in which the exporters and shippers may use to generate the efficient way of packing (loading) the containers.

The **cube relation**, that is, the dimension of export pack in relation to the [internal dimension of container](#), is used to efficiently pack (load) a container.

Referring to the [Diagram: Package Orientation](#) below, a regular-shaped export pack (e.g. carton) has six different possible orientations as follows:

### Export Pack Orientation

(1)	A    D	B    W	C    H
(2)	A    D	B    H	C    W
(3)	A    H	B    W	C    D
(4)	A    W	B    D	C    H
(5)	A    H	B    D	C    W
(6)	A    W	B    H	C    D

### LEGEND:

- "||" means **parallel to**
- "A" represents the external **length** of carton
- "B" represents the external **width** of carton
- "C" represents the external **height** of carton
- "D" represents the internal **length** (deep) of container
- "W" represents the internal **width** (wide) of container
- "H" represents the internal **height** of container

The orientation or a combination of orientations that allows the greatest number of packs or the highest multiple of packs is the most efficient method of packing.

Referring to the [Case Sample: Container Selection \(1\)](#), the method (A) of stowing the container is the export pack orientation (1) shown above, the method (B) is the orientation (4), and the method (C) is the combination of orientations (1) and (4). The product DX demands the stowage of cartons in an upright position. Other orientations cannot be used as the product could be damaged.

Further to the above case sample, assume that the product DX can be stowed in any orientation. The different multiples of carton (of the product DX) that can be packed into a **40' x 8.5'** standard dry cargo container, based on the **external dimension of carton**

A = 18"  
B = 12"  
C = 12"

and the **internal dimension of 40' container**

D = 473"

W = 92"

H = 94"

are as follows:

Export Pack Orientation	Multiple of Carton	Total No. of Cartons
<b>(1)</b>	D ÷ A = 26 W ÷ B = 7 H ÷ C = 7	26 x 7 x 7 = 1,274
<b>(2)</b>	D ÷ A = 26 H ÷ B = 7 W ÷ C = 7	26 x 7 x 7 = 1,274
<b>(3)</b>	H ÷ A = 5 W ÷ B = 7 D ÷ C = 39	5 x 7 x 39 = 1,365
<b>(4)</b>	W ÷ A = 5 D ÷ B = 39 H ÷ C = 7	5 x 39 x 7 = 1,365
<b>(5)</b>	H ÷ A = 5 D ÷ B = 39 W ÷ C = 7	5 x 39 x 7 = 1,365
<b>(6)</b>	W ÷ A = 5 H ÷ B = 7 D ÷ C = 39	5 x 7 x 39 = 1,365

Export pack orientations **(3)** to **(6)** have the highest number of cartons, thus are the most efficient way of packing. In practice, the orientations **(1)**, **(4)**, and a combination of **(1)** and **(4)** are often used.