

Manual

Nestable drums



October 2014

Washing

The washing instructions below apply to the cleaning of all CurTec packaging products that are made of polyethylene and polypropylene.

- Best results will be achieved with a washing installation that is equipped with spray nozzles or a so-called Ultra-Sonic installation.
- Best qualified detergent is a low-foaming alkaline substance with a PH-value of 10 to 12 (solvents.)
- The recommended temperature of the washing water lies between 40°C and 50°C.
- The temperature of the rinsing water can only be up to 65°C.
- To prevent the plastic from shrinking, you must make sure it does not warm up completely to the recommended temperatures of washing and rinsing. Therefore the time for washing cannot exceed 30 to 35 seconds and rinsing cannot take longer than 20 seconds.
- Increased drying of products can be effected by means of applying cold air. If warm air will be used the drying can only last up to 30 seconds at a maximum temperature of 65°C.
- The blowing and drying part of the installation needs to be adjusted to the product, so those difficult spots of the kegs can also be dried.
- For specific technical information CurTec would like to refer to the various suppliers of washing installations.

Attention! Check the thermostat and programmed times of your equipment regularly.

/ Close



The UN marking on a drum is only valid if the following closing instruction is applied.



1. Put the lid on the drum and turn it clockwise by hand until it is closed tightly.



2. Turn the lid 30° clockwise using a tool. Only now the drum is closed liquid tight and the UN marking is valid,



3. After closing the drum you can make the container tamper evident. For that purpose the lid and the container have sealing loops. CurTec advises you to use Unisto Compact seals.

2 Open



1. In case a drum is sealed, tear the seal and remove it from the loops.

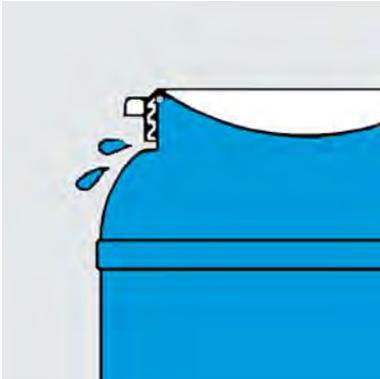


2. Turn the lid counter-clockwise to open.

Unstacking

When you unstack the drums, the rubber gasket is compressed due to the total weight of the drums on top. After unstacking, before handling the kegs we strongly advise you to leave them in an upright position for at least 15 minutes. This gives the gaskets the opportunity to restore themselves to their original form and guarantee a watertight closure.

3 Use



Filling

The temperature of the content cannot exceed 70°C. The content has to cool down to 30°C before the container can be closed. A container can be filled to the rim so that no air is left above the contents. The container can be closed according to instruction 2.

Emptying

The packaging can be opened according to instruction 2. Use the rim and the bottom to tilt the container and pour the contents.



Lifting

Depending on the type of drum, you can lift the container by using the large handgrips on the body or the handgrips on the lid.

Attention! Please consider the HSE regulations regarding weight and frequency restrictions for lifting.

Freezing

The plastic of which the packaging is made is resistant to temperatures of minimum -25°C. Shock load on the containers must be avoided at temperatures below -5°C.

Attention! A container filled with a water based content can only be filled up to 90% of its capacity when frozen. This prevents the contents from expanding and the container from distorting.



Air transport

We recommend shipment in pressurized cargo holds for air transport of all packaging products. We cannot guarantee optimal or correct performance of our packaging when shipped in cargo holds without pressure regulation.

4 Static load

When stacking the drums for storage in e.g. a warehouse or cold store it is important to know what the maximum stacking load can be on the bottom container. The stacking load depends strongly on: the container weight, the number of containers to be stacked, the weight of interlayers and pallets, surrounding temperature, the duration of the load and the surface beneath the bottom containers. The table below shows for each drum the maximum stacking load (in kg) at a given surrounding temperature during a certain period of time placed on a flat and closed surface or pallet.

| Max. temp °C | 0 | | | 15 | | | 25 | | | 35 | |
|--------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Months | 1 | 4 | 12 | 1 | 4 | 12 | 1 | 4 | 12 | 0,5 | 6 |
| 7230 | 250 | 200 | 180 | 160 | 130 | 110 | 110 | 90 | 80 | 85 | 65 |
| 7240 | 250 | 200 | 180 | 160 | 130 | 110 | 110 | 90 | 80 | 85 | 65 |
| 7250 | 250 | 200 | 180 | 160 | 130 | 110 | 110 | 90 | 80 | 85 | 65 |
| 7260 | 250 | 200 | 180 | 160 | 130 | 110 | 110 | 90 | 80 | 85 | 65 |
| 7276 | 370 | 310 | 270 | 240 | 200 | 175 | 180 | 150 | 130 | 145 | 105 |
| 7294 | 370 | 310 | 270 | 240 | 200 | 175 | 180 | 150 | 130 | 145 | 105 |

On the basis of the table the number of containers that may be stacked can be calculated. It is the stacking load mentioned reduced by the carrying part of the pallet's interlayers, divided by the container weight. This number, with figures behind the comma smaller than eight, rounded off + 1 = total number of drums.

Example

How high can a 7240 drum with contents of 45 kg, at 15°C, during 1 month, be stacked on a pallet? $160 / 45 = 3.5$. The number of drums that can be stacked is $3 + 1 = 4$.

In case of an unspecific time or temperature please look in the next appropriate column. If you want to know what the stacking load is with shorter periods of time, the table in instruction 5 **Dynamic load** can be of service.

- Before stacking the drums the temperature of the contents must be equal or lower than the surrounding temperature.

- The maximum stacking time is reduced considerably at a temperature higher than 35°C. The stacking load in the table amounts at 50°C to only 75% of the value last mentioned and at a temperature of 60°C to only 50%.
- In case a stack is higher than 2.5 metres the floor angle cannot be more than 0.5%.
- CurTec strongly advises against stacking the containers horizontally, lying on the side. Due to a heavy and long-term load and especially a high temperature the containers can distort. In case the drums are filled again the distortion must be restored before stacking.
- At the transit of one transport form to another, from storage to transport or from transport to storage, the bottom containers must be placed highest in the new stack.

***Attention!** The loads mentioned in the table can only serve as indications. CurTec always advises its customers to perform additional testing..*

5 Dynamic load

Before stacking drums for transport it is important to know what the maximum stacking load on the bottom container of the stack is.

With transport this stacking load is called dynamic load and can be found by dividing the admissible static load by a so-called safety factor. These factors are:

- 3 for transport by air
- 2 for transport by road
- 1.8 for transport by rail
- 1.3 transport by water

The static load mentioned in the table depends strongly on the temperature and time indicated: 5°C is the temperature for cooled transport, 30°C is the temperature for the average transport by road or inland waterways and 40°C is the temperature for transport in warmer surroundings. In case of an unspecific time or temperature, below 40°C, please look in the next appropriate column. In case the temperature rises even more, please be aware that at 50°C the load can only be 75% and at 60°C only 50% of the load at 40°C.

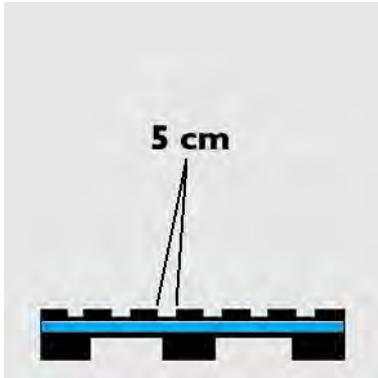
On the basis of the table the number of containers that may be stacked can be calculated. It is the stacking load mentioned divided by the product of the keg weight and the relevant safety factor. This number, with figures behind the comma smaller than 8, rounded off + 1 = total number of containers.

| Max. temp °C | 5 | | | | | 30 | | | | | 40 | | | | |
|--------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Weeks | 0,5 | 1 | 2 | 3 | 5 | 0,5 | 1 | 2 | 3 | 5 | 0,5 | 1 | 2 | 3 | 5 |
| 7230 | 275 | 245 | 225 | 215 | 205 | 135 | 125 | 115 | 105 | 100 | 100 | 87 | 82 | 78 | 73 |
| 7240 | 275 | 245 | 225 | 215 | 205 | 135 | 125 | 115 | 105 | 100 | 100 | 87 | 82 | 78 | 73 |
| 7250 | 275 | 245 | 225 | 215 | 205 | 135 | 125 | 115 | 105 | 100 | 100 | 87 | 82 | 78 | 73 |
| 7260 | 275 | 245 | 225 | 215 | 205 | 135 | 125 | 115 | 105 | 100 | 100 | 87 | 82 | 78 | 73 |
| 7276 | 418 | 384 | 352 | 335 | 314 | 204 | 187 | 171 | 163 | 153 | 153 | 140 | 129 | 122 | 115 |
| 7294 | 418 | 384 | 352 | 335 | 314 | 204 | 187 | 171 | 163 | 153 | 153 | 140 | 129 | 122 | 115 |

- The containers must be stowed professionally and fixed in a way that makes shifting impossible.
- The maximum stacking time will be reduced considerably at temperatures higher than 35° C. The stacking load in the table amounts at 50°C to only 75% of the value last mentioned and at a temperature of 60°C to only 50%.
- See 6 **Palletisation** for the choice of pallets.
- See 4 **Static load** for storage in a warehouse.

Attention! The loads mentioned in the table can only serve as indications. CurTec always advises its customers to perform additional testing.

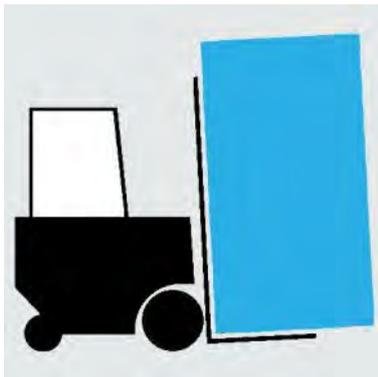
6 Palletisation



Palletisation

It is important that the first layer is supported by a straight surface and that the pallet itself has an almost closed surface fitted with planks no more than 5 cm apart, which will not distort under a heavy load. Interlayers are necessary to create a solid stack. You could use e.g. a foil with a minimum thickness of 0.02 mm. We advise you not to stack any higher than 2 metres.

In case a pallet is placed on top of another pallet, the surface needs to be flat and solid to avoid pressure points on the top layer. The top (layer) needs to be flat and rigid so it can equally spread the load.



Handling of pallets

From a safety point of view CurTec recommends the transport of one pallet at a time. In order not to disturb the stack the fork of the lift truck needs to be kept almost horizontal.

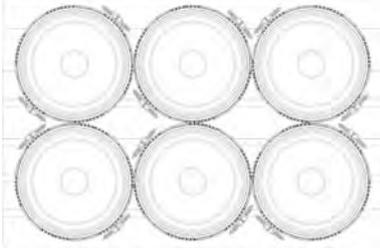
Packing

We recommend the use of a shrink wrap which needs to be shrunk around the pallet as well. In addition, the bottom of the pallet needs to be stretched with foil as well. The containers at the base of a stack will carry most of the load and to avoid a collapse they cannot be deformed by overstretching the foil or over-heating the wrap.

Alternatively you can use stretch foil to cover the entire pallet. Please pay attention that you use enough foil to create a stable stack and do not pull the foil too tight in order to avoid deformation of the containers.

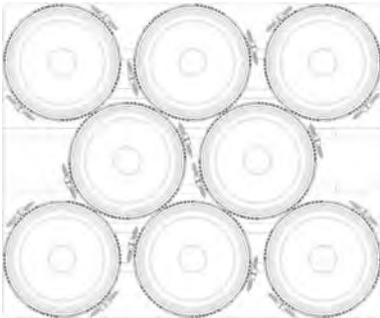
CurTec advises to follow the instructions below for the palletisation of filled drums:

7230 – 7240 – 7250 - 7260



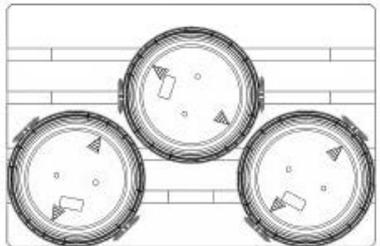
800 x 1200 mm

6 pcs per layer



1000 x 1200 mm

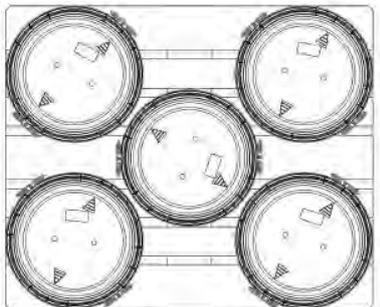
8 pcs per layer



7276 - 7294

800 x 1200 mm

3 pcs per layer



1000 x 1200 mm

1140 x 1140 mm

5 pcs per layer

Attention! When positioning the drums on a pallet it is important to turn the handgrips away from the pallet corners to avoid damaging the shrink wrap or the stretch foil.

CurTec International

Spoorlaan Noord 92
5121 WX Rijen
The Netherlands

UK & Ireland: +44 20 3514 4624
North America: +1 908 450 98 16
All other countries: +31 88 808 2000

curtec.en@curtec.com

www.curtec.com



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