

Manual

# Drums

August 2016

# 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.

Washing at maximum temperature can only take up to 35 seconds and rinsing at maximum temperature only up to 20 seconds. It prevents the plastic from warming up and shrinking.

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 until it is tight.



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.

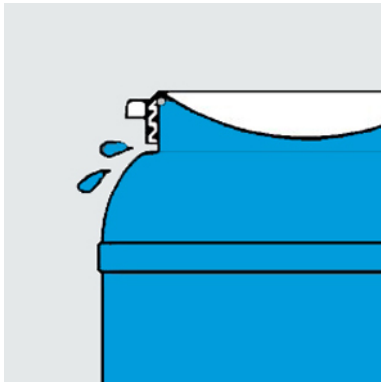


2. Turn the lid counter-clockwise to open.

### Unstacking

When you unstack the kegs the rubber gasket is compressed due to the total weight of the kegs 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.

## 03 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 1.

### 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

CurTec advises to ship packaging in pressurized cargo holds during air transport. We also recommend a minimum filling level of 95%. Following these instructions can reduce the risk of implosion and product loss considerably.

CurTec has no control over customer applications of its packaging. It is the responsibility of the end user to test whether a filled packaging complies with relevant transport regulations. CurTec refers to the regulations mentioned in the UN certificates.

## 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	0	0	15	15	15	25	25	25	35	35
Months	1	4	12	1	4	12	1	4	12	0,5	6
6940	320	270	235	205	165	145	145	125	110	130	90
6941	320	270	235	205	165	145	145	125	110	130	90
6942	320	270	235	205	165	145	145	125	110	130	90
6943	320	270	235	205	165	145	145	125	110	130	90
6944	320	270	235	205	165	145	145	125	110	130	90
6945	290	230	200	180	150	130	130	110	95	105	75
6947	290	230	200	180	150	130	130	110	95	105	75
6948	290	230	200	180	150	130	130	110	95	105	75
6949	290	230	200	180	150	130	130	110	95	105	75
6950	290	230	200	180	150	130	130	110	95	105	75
6990	440	380	325	285	240	210	210	185	155	175	125
6994	440	380	325	285	240	210	210	185	155	175	125
7003	110	92	80	72	60	52	52	44	38	42	30
7004	110	92	80	72	60	52	52	44	38	42	30
7006	110	92	80	72	60	52	52	44	38	42	30
7010	150	125	110	98	80	70	70	60	52	58	42
7011	150	125	110	98	80	70	70	60	52	58	42
7015	150	125	110	98	80	70	70	60	52	58	42
7019	300	250	220	210	180	160	150	125	110	120	90
7020	150	125	110	98	80	70	70	60	52	58	42
7026	180	150	130	115	95	85	85	72	62	68	50
7042	320	270	235	220	180	160	160	135	115	135	95
7055	320	270	235	220	180	160	160	135	115	135	95
7068	320	270	235	220	180	160	160	135	115	135	95

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 7015 drum with contents of 15 kg, at 15°C, during 1 month, be stacked on a pallet?  $98 / 15 = 6.5$ . The number of drums that can be stacked is  $6 + 1 = 7$  drums.

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.

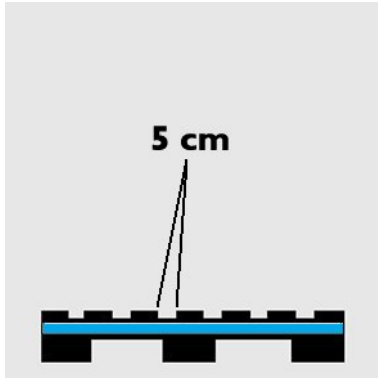


Max. temp °C	5	5	5	5	5	30	30	30	30	30	40	40	40	40	40
Weeks	0,5	1	2	3	5	0,5	1	2	3	5	0,5	1	2	3	5
6940	360	330	300	285	250	175	160	150	140	135	135	120	112	105	100
6941	360	330	300	285	250	175	160	150	140	135	135	120	112	105	100
6942	360	330	300	285	250	175	160	150	140	135	135	120	112	105	100
6943	360	330	300	285	250	175	160	150	140	135	135	120	112	105	100
6944	360	330	300	285	250	175	160	150	140	135	135	120	112	105	100
6945	320	290	265	250	240	155	140	130	122	117	117	104	96	92	87
6947	320	290	265	250	240	155	140	130	122	117	117	104	96	92	87
6948	320	290	265	250	240	155	140	130	122	117	117	104	96	92	87
6949	320	290	265	250	240	155	140	130	122	117	117	104	96	92	87
6950	320	290	265	250	240	155	140	130	122	117	117	104	96	92	87
6990	500	460	420	395	375	235	215	200	190	180	180	165	150	140	130
6994	500	460	420	395	375	235	215	200	190	180	180	165	150	140	130
7003	126	115	106	100	95	62	56	52	49	46	46	42	38	36	34
7004	126	115	106	100	95	62	56	52	49	46	46	42	38	36	34
7006	126	115	106	100	95	62	56	52	49	46	46	42	38	36	34
7010	170	155	145	138	130	84	77	70	67	64	64	57	54	50	47
7011	170	155	145	138	130	84	77	70	67	64	64	57	54	50	47
7015	170	155	145	138	130	84	77	70	67	64	64	57	54	50	47
7019	320	300	280	250	240	170	155	140	130	120	120	110	105	100	95
7020	170	155	145	138	130	84	77	70	67	64	64	57	54	50	47
7026	200	180	165	155	150	95	90	83	78	74	74	66	60	57	54
7042	380	350	320	300	290	180	165	155	145	140	140	125	115	110	105
7055	380	350	320	300	290	180	165	155	145	140	140	125	115	110	105
7068	380	350	320	300	290	180	165	155	145	140	140	125	115	110	105

- 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.
- •The containers must be stowed professionally and fixed in a way that makes shifting impossible.
- For the use of pallets check instruction 6 **Palletisation**.
- For stacking and storing in a warehouse check instruction 4 **Static load**.

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

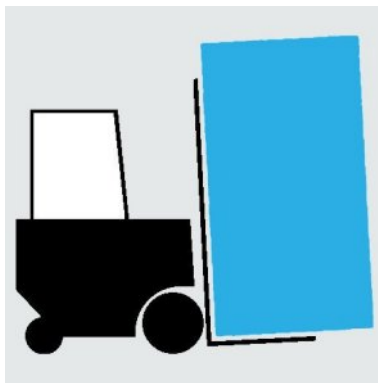
## 06 Palletisation



### 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.



### Pallet handling

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

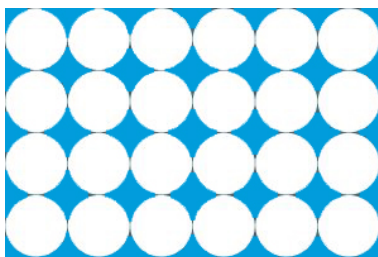
We recommend the use of a shrink wrap which needs to be shrunk around the pallet as well. In addition, the bottom of the pallet needs to be stretched with foil as well. The containers at the base of a stack will carry most of the load and to avoid a collapse they cannot be deformed by overstretching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

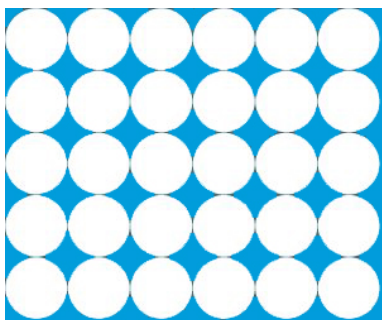
### Palletisation schemes

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

*Article numbers 7003-7004-7006*

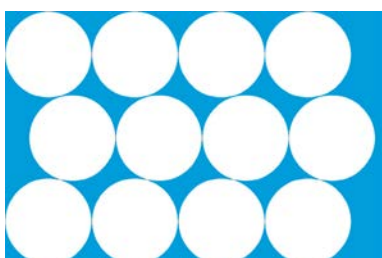


800 x 1200 mm  
24 pcs per layer

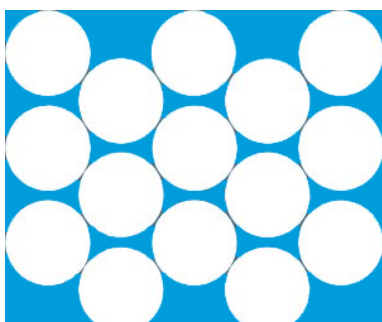


1000 x 1200 mm  
30 pcs per layer

*Article numbers 7010-7011-7015-7020*

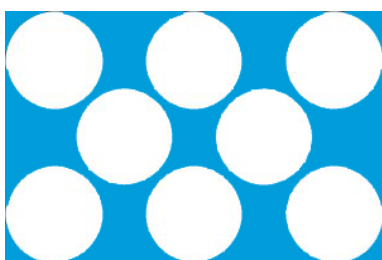


800 x 1200 mm  
12 pcs per layer

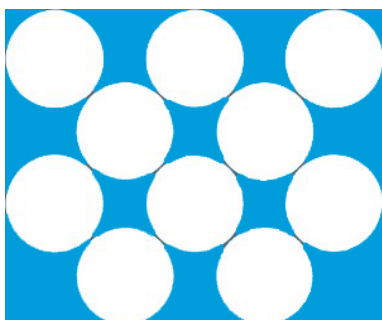


1000 x 1200 mm  
15 pcs per layer

*Article number 7026*

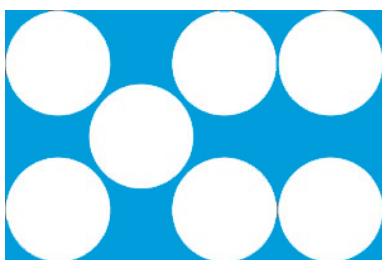


800 x 1200 mm  
8 pcs per layer

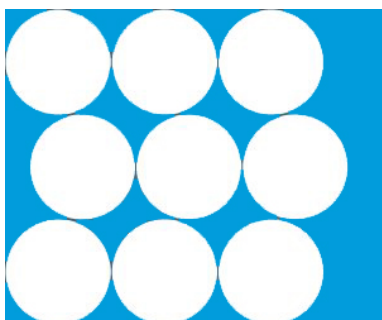


1000 x 1200 mm  
10 pcs per layer

*Article numbers 6945-6946-6947-6948-6949-6950*

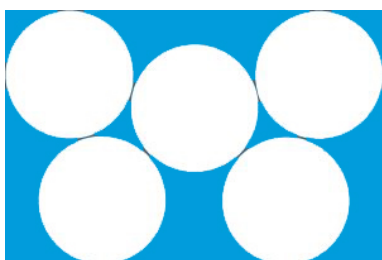


800 x 1200 mm  
7 pcs per layer

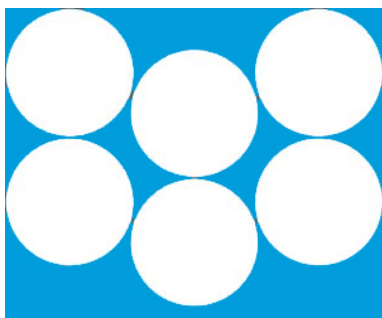


1000 x 1200 mm  
9 pcs per layer

*Article numbers 6940-6941-6942-6943-6944-7042-7055-7068*

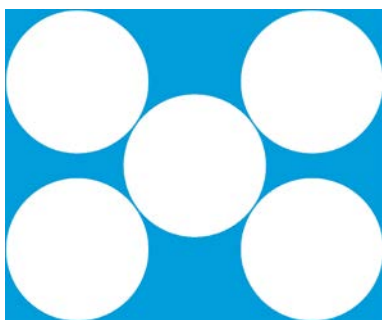


800 x 1200 mm  
5 pcs per layer



1000 x 1200 mm  
6 pcs per layer

*Article numbers 6990-6992-6994-6996*



1000 x 1200 mm  
5 pcs per layer

**Attention!**

Our ex-works palletisation is different. Please check our website for more info.

**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.

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