



Manual

Duo Pack

July 2020

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.

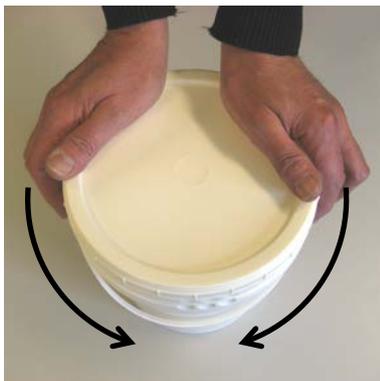
Attention! Check the thermostat and programmed times of your equipment regularly.

01 Closing

Duo Pack is suitable for the transport of hazardous goods if you apply the UN clamp (4706-00-000) following steps 3 - 5 after closing the container.



1. First fill the insert. Put the lid on the insert and press it on.



2. Secondly fill the container. Put the closed insert on the container and press it on from back to front. Duo Pack is now closed.



3. Position the clamp. Make sure that the notch for the handgrip is in the correct position.



4. Position the other clamp-half.



5. Close the clamp. Make sure that the two halves are buckled. Duo Pack is now suitable for the transport of hazardous goods.

02 Opening



1. Break the buckle on the clamp by using a screw-driver. Insert the screw-driver into the buckle from your right-hand side.



2. Insert your screw-driver from your left-hand side and lift the right clamp-end from the buckle.



3. Remove the clamp.



4. Always remove the closed insert first! Use a screw-driver to lift the insert from the container.



5. Gently lift the closed insert to avoid spillage of contents.



6. Again use a screw-driver to open the insert, Keep it at all times horizontal to avoid spillage.

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. The drum can be closed according to instruction 1.



Emptying

Open Duo Pack according to instruction 2. Use the handgrip and the bottom to tilt the container and pour the contents.



Lifting

Lift and move Duo Pack by using the handgrip

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

Freezing

Duo Pack is made of plastic which is resistant to a minimum temperature of -18°C. As of -5°C, shock load on the containers should be avoided.



Attention! The volume of containers filled with water-based contents can increase by 10%. The chance that containers will distort is real and it will reduce the stability of a container stack on a pallet. Please maintain a maximum filling level of 90% and test the stability of a pallet stacking.



Air transport

During air transport, the pressure drops inside a plane's cargo hold, which causes air inside a package wanting to escape. After landing, normal atmospheric pressure prevails again which, depending on the amount of escaped air*, can cause the drum wall to cave in.

CurTec packaging has not been designed to compensate pressure differences. The construction is such that a correctly closed packaging allows air to escape relatively fast, but does not allow it to return easily.

Since CurTec has no influence on the use of its packaging by end users, they advise to test each transport mode.

It remains the responsibility of end users to verify whether a package and content comply with relevant transport regulations. CurTec refers to the regulations mentioned in the UN certificates.

** The quantity depends on the content type (the shape and air between) and the filling degree/ level*

04 Static load

When stacking containers for storage in e.g. a warehouse or cold store, it is important to know what the maximum load on the lowest container in a stack can be.

The stacking load depends strongly on: the weight of a container, the number of containers to be stacked, the weight of interlayers and pallets, the ambient temperature, the duration of the load and the surface beneath the lowest container.

The following table shows the maximum stacking load (in kg) at a given ambient temperature, during a certain period of time, for a container placed on a flat, closed surface or pallet.

Temperature	Months	4705
≤ 0°C	0,5	115
	1	105
	3	90
	6	85
	12	75
15°C	0,5	75
	1	70
	3	60
	6	55
	12	50
25°C	0,5	55
	1	50
	3	45
35°C	0,5	40
	1	37
	3	32

Attention! The weights mentioned in the table have been established after simulation and can only serve as indications. CurTec recommends users to perform tests at all times.

The table allows you to calculate the number of containers that can be stacked: Reduce the stacking weight mentioned with the relevant share of the weight of intermediate layers and divide by the weight of the container with content. This number, with a figure after the decimal point lower than 8, rounded down is the total amount of containers that can be stacked on the lowest container of a stack.

Example

How many 5 liter Duo Packs (art. no. 4705) with a content weighing 7 kg can be stacked on a pallet at 15°C during 1 month?

The number of containers that can be stacked on the lowest container is $70/7 = 10$.

In case of a different duration or temperature, please choose the next appropriate column. For shorter stacking durations, the table of instruction 5 (Dynamic load) can be of service.

Attention points

Before stacking the containers, the temperature of the contents must be equal or lower than the ambient temperature.

The maximum stacking time is reduced considerably at temperatures above 35°C. The stacking load in the table is at 50°C only 75% of the last mentioned value and at 60°C only 50%.

When a stack is higher than 2.5 meters, the floor angle cannot exceed 0.5%.

When changing transport mode, from storage to shipping or vice versa, the lowest containers of a stack must always be placed highest in a new stack.

05 Dynamic load

When stacking containers for transport, it is important to know what the maximum load on the lowest container in a stack can be.

For 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 air transport

2 for road transport

1.8 for rail transport

1.3 for maritime transport

The stacking weights mentioned in the table below are indicative and depend on temperature and time: 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 a different duration or temperature below 40°C, please choose the next appropriate column. In case of even higher temperature, please consider that the dynamic load is at 50°C only 75% of the last mentioned value and at 60°C only 50%.

Temperature	Weeks	4705
5°C	0,5	125
	1	112
	2	105
	3	100
	5	94
30°C	0,5	59
	1	53
	2	49
	3	46
	5	44
40°C	0,5	44
	1	40
	3	35

Attention! *The weights mentioned in the table have been established after simulation and can only serve as indications. CurTec recommends users to perform tests at all times.*

The table allows you to calculate the number of containers that can be stacked: Reduce the stacking weight mentioned with the relevant share of the weight of intermediate layers and divide by the weight of the container with content. This number, with a figure after the decimal point lower than 8, rounded down is the

total amount of containers that can be stacked on the lowest container of a stack.

Example

How many 5 liter Duo Packs (art. no. 4705) with a content weighing 7 kg can be transported by rail at 3°C during 3 weeks?
 $100/(7 \times 1.8) = 7.9$. The number of containers that can be stacked on the lowest container is 8.

Attention points

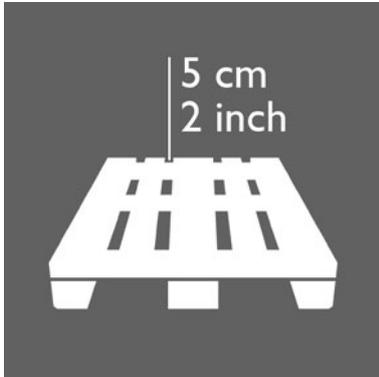
When changing transport mode, from storage to shipping or vice versa, the lowest containers of a stack must always be placed highest in a new stack.

The containers must be stowed professionally and fixed in such a way that makes moving impossible.

For the use of pallets, see instruction 6 (Palletization).

For stacking containers in a warehouse, see instruction 4 (Static load).

06 Palletization



Palletization

Each pallet should be fitted with a solid, flat intermediate layer prior to loading. A pallet should have an almost closed surface fitted with planks that are no more than 5 cm/ 2 inches apart. CurTec advises not to exceed a total stacking height of 2 meters.

In case a pallet is placed on top of another pallet, an intermediate layer is required to enable an equal spread of the pressure. This layer should also be solid and flat.

Filled containers are placed on a flat surface and stacked by placing the base of the container in the counter shape of the lid.

Packing

CurTec recommends the use of a heat shrink pallet cover, which needs to be shrunk around the pallet as well. In addition, the base 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 cover.

When positioning the containers on a pallet it is important to turn the handgrips away from the pallet corners to avoid damaging the heat shrink pallet cover or the stretch foil.

Attention! *The total load on the bottom container of a stack may never exceed the maximum loads as indicated in the tables of instructions 4 and 5.*



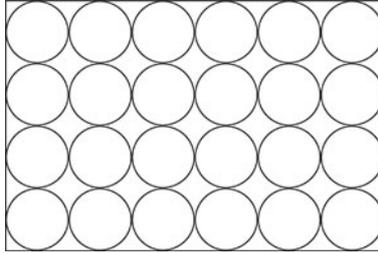
Pallet handling

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

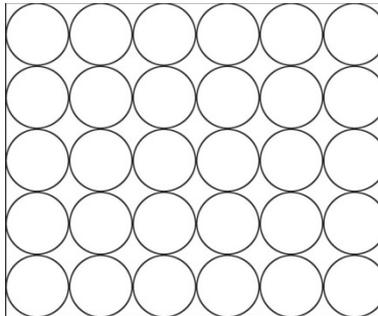
Pallet schemes

CurTec advises you to respect the following quantities per layer:

Art. No. 4705



1200 x 800 mm



1200 x 1000 mm

Disclaimer

CurTec manufactures packaging material for a wide range of purposes. This declaration is restricted to the packaging material as it leaves the production facility. CurTec has neither control over final end use of the product nor over processing conditions. It is therefore the responsibility of the end user to check compliance with the relevant regulations and to validate material performance in the end application through proper end use testing.

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