



Manual

KUSSO

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 Close



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

Kiuso has a unique closing concept: press down the lid to close, tear off the sealing strip and turn to open. After the sealing strips have been removed, the container can be re-closed by screwing on the lid.

Note: *Kiuso has been designed for mechanically assisted closure. CurTec does not recommend pressing down the lid manually.*



1. Put the lid on the container. Make sure the loops from the tear-off sealing strip are positioned above the handgrips



2. Slide the container into the closing machine until it reaches the rubber stops.



3. Press both red buttons at the same time. The rubber stamp will press down the lid until it snaps onto the container.



4. Remove the closed container from the machine.



5. The container is properly closed when the tamper evident tear-off strip touches the container rim.

Note: *Kiuso is also suitable for full automatic closure. CurTec can advise on the purchase of both semi and full automatic closure solutions. Contact us for more information.*

02 Open/ Re-close

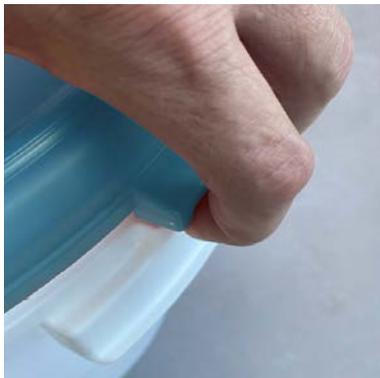


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Kiuso has a unique closing concept: press down the lid to close, tear off the sealing strip and turn to open. After the sealing strips have been removed, the container can be re-closed by screwing on the lid.



1. Remove the tamper evident strips one by one.



2. Release any pressure inside the container by briefly lifting the lid at the height of the studs.



3. Use your thumbs to turn the lid. Turn the lid at least 180°, and then lift the lid.



4. To re-close, put the lid on the container as shown and turn it at least 180° until the lid catches on the container rim.

Attention! *A leak tight closure can no longer be obtained after the sealing strips have been removed*

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.



Lifting

Kiuso can be easily lifted and moved both mechanically and manually by using the handgrips on the container.

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



Emptying

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

Freezing

Kiuso 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 chances 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	Time in months	4620
≤ 0° C	0,5	287
	2	260
	6	241
	12	230
15° C	0,5	225
	2	204
	6	189
	12	180
25° C	0,5	192
	2	174
	6	161
	12	153
35° C	0,5	163
	1	155
	6	137

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 total 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 20 liter Kiuso's (art. no. 4620) with a content weighing 20 kg can be stacked on a pallet at 15°C during 6 months? A layer contains 8 containers and the total weight of intermediate layers is 16 kg.

The relevant share of the total weight of intermediate layers is $16/8 = 2\text{kg}$, so $(189-2)/20 = 9.35$. The number of containers that can be stacked on the lowest container is 9.

In case of a different duration or temperature, please choose the next appropriate row. 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 row.

Temperature	Weeks	4620
5° C	0.5	293
	1	279
	2	266
	3	259
	5	250
30° C	0.5	196
	1	187
	2	178
	3	173
	5	167
40° C	0.5	167
	1	159
	3	147

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 total weight of intermediate layers, divide the result by the relevant safety factor and then 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 20 liter Kiuso's (art.no. 4620) with a content weighing 20 kg can be transported by road at 30°C during 3 weeks? A layer contains 8 containers and the total weight of intermediate layers is 16 kg.

The relevant share of the total weight of intermediate layers is $16/8 = 2\text{kg}$, so $(173-2/2)/20 = 4.275$. The number of containers that can be stacked on the lowest container is 4.

Attention points

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%.

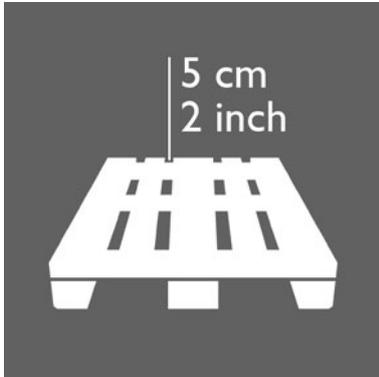
When changing transport mode, from storage to shipping or vice versa, the lowest containers of a stack must always be placed highest in a new stack.

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.*

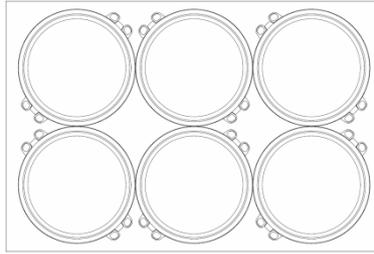


Pallet handling

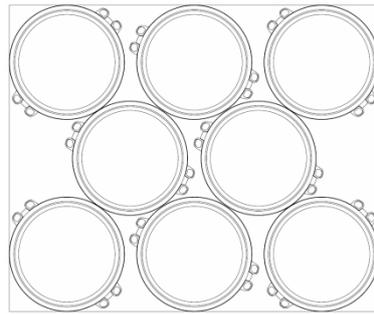
From a safety point of view, CurTec recommends to transport only one pallet at a time with a fork lift truck. In order not to disturb the stack, the forks of the truck need to be kept almost horizontal.

Pallet schemes

CurTec advises you to respect the following quantities per layer:



1200 x 800 mm



1200 x 1000 mm

48 x 40 inches

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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