

Triflex

Delivering solutions together.

Handling IBCs correctly

Handbook for containers





Introduction

Dear customer,

For major construction projects, Triflex base resins are supplied in intermediate bulk containers (IBC). This generates less container waste, and the use of materials is more sustainable. This handbook serves as a guide for safe handling of containers and the Triflex base resins they contain. From delivery to storage and mixing and filling, the most important steps are shown.

You will find further technical documents for our products and systems, such as product information, planning documents and application instructions in the download area of our website at <https://www.triflex.com/de/downloadcenter>.

All the information is based on our current knowledge and experience.

Triflex application engineers and specialist consultants in your region and technical consultants at our locations are there to provide you with professional support. Speak to us. We will find a solution together!



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Container overview

The Triflex container system comprises three different types of IBC. Which type of Triflex base resin is supplied in which container depends on the respective material properties. The conical tapered container 031 is used primarily for Triflex waterproofing resins with a low viscosity, whilst highly viscous primers and finishes are supplied in the flat container 024. In the field of marking materials, container 015 is most commonly used.

Each container can be identified by the number on its adhesive label. The following table contains more exact information on the respective types of container. Due to the different densities of the Triflex base resins, the filling volume does not always match the nominal volume.

Container	Outlet	Dimensions (L x W x H)	Nominal volume	Unladen weight
015	80 mm	1200 x 1000 x 1160 mm	1000 l	approx. 54.50 kg
024	50 mm	1200 x 1000 x 1160 mm	1000 l	approx. 54.50 kg
031	80 mm, conical	1200 x 1000 x 1160 mm	1000 l	approx. 80.00 kg



Container type 015



Container type 024



Container type 031



Scope of delivery

- Container with Triflex base resin
- Triflex Catalyst (liquid or powder)
- Schütz service ticket
- Container mixing machine, including mounted drive (if required)

Important:

Do not pour the Triflex Catalyst into the container!



Triflex Catalyst



Container with Triflex base resin



Container mixing machine



Mounted drive



Schütz service ticket



Handbook for containers

Required accessories

- **Binder for dressing in the event of material leak**
- **Earthing cable**
- **IBC protection set**
- **Personal protective equipment**
(see Triflex occupational safety when handling PMMA liquid applied waterproofing)
- **Rubber blade**
- **Tools** (e.g. IBC lid opener, cleaning cloth, shovel)
- **Triflex Cleaner**



IBC lid opener



IBC protection set



Triflex Cleaner



Cleaning cloth



Safety instructions

When working with products containing construction chemicals, the following protective measures must be adhered to:

- Do not smoke, eat or drink while working.
- Prevent the materials from coming into contact with the eyes or skin.
- Prevent the materials from coming into contact with food and drink.
- Use personal protective equipment as per the safety data sheet.
- Adhere to the further instructions on the safety data sheets for the specific products, product information and the application instructions.
- Make sure there is sufficient ventilation in the workplace.





Storing containers

- Store containers on a firm, sound substrate.
- Store containers dry, frost-free and tightly sealed in a cool, well ventilated place.
- Protect containers from heat and direct sunlight.
- In winter, store containers at room temperature before application.
- Containers can be stacked. Adhere to the specifications on the max. load.
- Storage space suitable for hazardous goods and only accessible for authorised persons.
- If necessary, attach a guard/IBC protection set to prevent unauthorised removal.
- For further specifications on storage of PMMA products, see Triflex occupational safety when handling PMMA liquid applied waterproofing.





Unloading and transporting containers

1. The material is delivered by truck.
2. The IBCs can be unloaded with the following devices:
 - a. Lift truck
 - b. Lifting platform
 - c. Pallet truck
 - d. Suitable wheel loader

Tip:

To transport the container at the construction site, we recommend a pallet dolly with stacking frame, e.g. from fetra.



Preparing the workplace

1. Preparing the mixing and filling station

Cover mixing and filling stations with suitable sheeting, e.g. PE sheet. The space must be suitable for the dimensions of the container, including a sufficient height for removing the mixing machine.

2. Setting up the container

Place the container on a suitable device, e.g. safety collection basin, before mixing and removing the material so that it can be removed into mixing vessels.

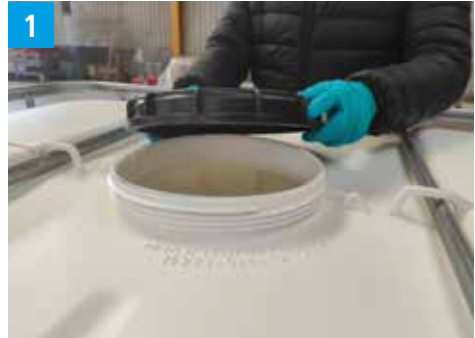




Mixing material

The material must be mixed at least 30 minutes before removing it so that it has a homogeneous consistency. In order to be able to mix the material, the stirrer shaft of the traverse must be covered with sufficient material.

Unscrew the cover from the filling hole.



Insert the stirrer shaft into the traverse and screw it in place. Position the splash guard ring on the stirrer directly below the traverse as applicable.



Insert the stirrer shaft into the material through the filling hole. Fasten the traverse to the side of the container with screws and the clamping device. If applicable, position the splash guard ring between the traverse and the container.





Important:

- Adhere to the operating instructions of the mixing machine, starting on page 16. Information on troubleshooting can be found on page 22.
- If the direction of rotation of the mixing machine does not match the direction of the arrow, there are noticeable vibrations or unusual noises, switch off the mixing machine immediately! Check the assembly, fastening and direction of rotation.
- During the mixing process, the folding blades of the stirrer shaft must be covered completely with material.



4

Place the mixing machine on the bearing lantern with the bayonet coupling clockwise so that the cams engage firmly in place. The drive must be firmly in place!

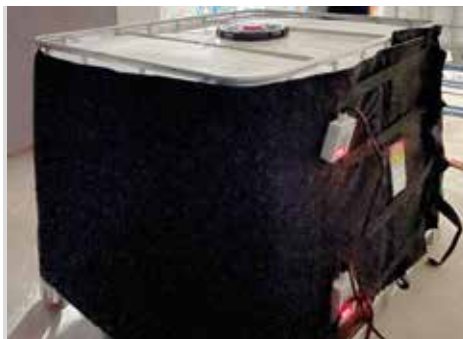


5

Connect the motor to the high voltage connection (400 V). Switch on the mixing machine. The direction of rotation of the mixing machine must match the direction of the arrow.

Important:

Make sure that the container and mixing machine are permanently earthed.



Tip:

At temperatures below 10 °C or if the material is too cool for application, we recommend the use of an IBC heating blanket, e.g. the 2-zone heating blanket 11-9860 from Weser Industrieverpackungen GmbH. This guarantees that the material has the right viscosity for application. When using the heating blanket, it is imperative for the material to be mixed.



Removing material

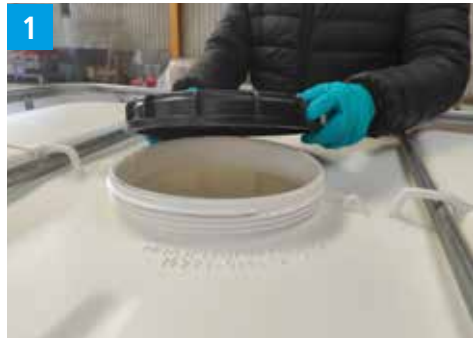
The container must be earthed during the entire process!

The material must be mixed before removal (see previous chapter). Switch off the mixing machine before removing the material and disconnect it from the power supply. After switching off the mixing machine, the material can be applied within a maximum of 4 hours.

Unscrew the cover from the filling hole in order to prevent negative pressure. If applicable, remove the IBC protection set from in front of the outlet valve.

Important:

If the material has been mixed directly before removal, the mixing machine, including traverse, can remain in the container during removal.



Remove the screw cap from the outlet valve.



When removing for the first time, remove the sealed aluminium plate from the outlet valve.

Tip:

If the aluminium plate cannot be removed by hand, a knife, for example, can be used as an aid.

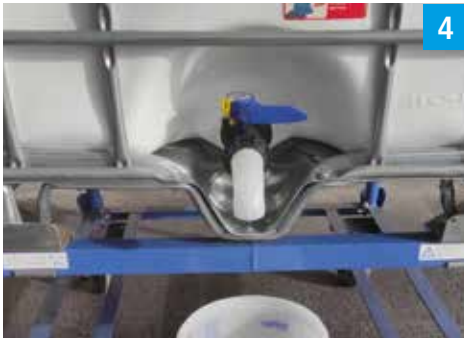




Tip:

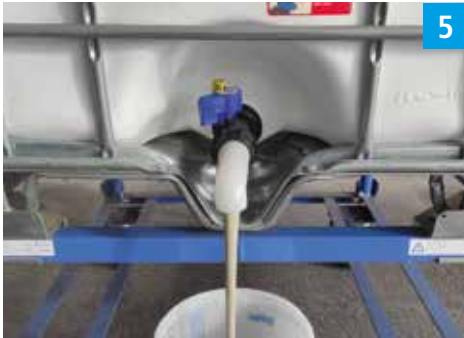
For large-scale construction projects or bridging heights, we recommend mechanical material removal using the Triflex SAM spray application machine. For more information, visit:

www.triflex.com/de/triflex-sam-abdichten-in-neuen-dimensionen.



4

Unscrew the outlet nozzle on the outlet valve.



5

Place a bucket underneath the outlet nozzle. Release the tap on the outlet valve by pushing the yellow controller upwards. Open the tap carefully. Observe the filling level whilst removing.

Important:

On the container 031, the tap is secured by a screw. Unfasten it in order to be able to open the tap.



6

After removing, close and secure the tap on the outlet valve. If applicable, fit the IBC protection set to prevent unauthorised removal.

After removing the material, the base resin is mixed with the catalyst and applied as per the mixing instructions on the label or in the product information.

Important:

Do not pour the Triflex Catalyst into the container!



Emptying containers

In order to use the material in the container in the best possible way, there are various recommendations for complete emptying.

The lower the viscosity of the Triflex base resin, the more residual material remains in the container. Thanks to the conical outlet of the container 031, in general less residual material remains in it than in the containers with the other two designs.

Shim the side of the container to the rear of the outlet valve, e.g. with a timber beam or timber wedge, height approx. 15 cm.

Tip:

We recommend the pallet dolly, including stacking frame from fetra, together with two shim pads.

Use a suitable rubber blade to push the residual material to the outlet valve.





Disposal and recycling

The fully emptied containers are collected by Schütz GmbH & Co. KG and taken for environmentally friendly reconditioning.

The process is simple:

1. Scan the QR code on the Schütz service ticket which is attached to the container, or fill out the online collection form at <https://www.schuetz-packaging.net/schuetz-germany-hq/de/ticket-service/online-beauftragung/>.
2. Registration is required before first use.
3. After being requested, collection of the containers by Schütz GmbH & Co. KG will be organised within a few working days.

The Schütz service ticket is valid almost everywhere in the world, and guarantees free collection of emptied containers*. Please adhere to the conditions of use in accordance with the information provided by Schütz GmbH & Co. KG at <https://www.schuetz-packaging.net/schuetz-germany-hq/de/ticket-service/ruecknahmebedingungen/>.

Tip:

The SCHÜTZ TICKET SERVICE app which can be downloaded free of charge for IOS and Android devices from the respective app store, makes for straightforward handling of the entire process.



The screenshot shows a web form titled 'ABHOLUNG BEAUFTRAGEN' (Collection Order). It contains the following fields and options:

- Ihr Standort ***: A dropdown menu with the text 'bitte auswählen' and a link to 'Mit Browser automatisch bestimmen'.
- Ihre Kundennummer ***: A text input field with a link to 'Kundennummer vergessen?' and a link to 'Konto für registrieren'.
- Anrede ***: A dropdown menu with the text 'bitte auswählen'.
- Vorname ***: A text input field.
- Nachname ***: A text input field.
- E-Mail ***: A text input field.

At the bottom right of the form is a 'senden' button.

* A list of global service stations can be found at: www.schuetz-packaging.net/schuetz-germany-hq/de/ticket-service/servicestationen-weltweit



Mixing machine operating instructions

Important:

The operating instructions listed here relate to the Geppert Rührtechnik GmbH mixing machine with drive as leased by Triflex. If other mixing machines or drives are used, please adhere to the respective operating instructions.

1. Device versions and technical data

Mounted drive LRK-A-Ex *

Identification marking according to ATEX 94/9/EG: Ex II 2 Gc T3

Weight: approx. 15 kg
 Motor speed: 1,500 rpm
 Stirrer speed: 300 rpm
 Electric connection: Three-phase current 400 V, fixed connection

Drive: By electric motor in accordance with the motor's rating plate.

Adhere to the instructions of the motor manufacturer! (They can be requested from Triflex).

Design: Spur gear motor
 Bayonet coupling

Container mixing machine type LRK-C-Ex0 *

Identification marking according to ATEX 94/9/EG: Ex II 1/2 Gc T3

Weight: approx. 15 kg

2. Intended use

The mixing machine is designed for stirring liquid media. If the product data differs from the specifications, you must consult with the manufacturer Geppert Rührtechnik GmbH* before commissioning the mixing machine! The LRK-C container mixing machine must only be used in conjunction with the original LRK-A drive. Pass-through operation is not permitted (for exceptions, see the special conditions for the Ex mixing machine).

The drive must only be connected for stationary operation. External transportation with the drive mounted is not permitted. Internally, transportation is permitted using a pallet truck or lift truck at a speed of less than 6 km/h.

* Manufacturer: Geppert Rührtechnik GmbH · Am Ohlenberg 35-39 · 64390 Erzhäusen · Tel. 06150 9674-0 · Fax 06150 9674-20 · www.geppertmix.de



Mixing machine operating instructions

3. Safety instructions

The following safety instructions must be observed:

Attention!

Please read this documentation before installation, before commissioning, before maintenance work and before repair work.

This documentation should be within reach at all times.

Warning!

In addition to the documentation, adhere to the generally valid, legal and other binding regulations on accident prevention and environmental protection, and instruct them to be adhered to.

Warning!

Only employ qualified, trained and informed staff to carry out installation, operation, maintenance and repair on the mixing machine.

Warning!

Wear the appropriate personal protective equipment when handling hazardous mixing goods (hot, corrosive, toxic). Adhere to Directive 89/686/EEC.

Caution!

Before carrying out any work on the mixing machine, disconnect the energy supply (voltage, compressed air) and secure it with a lockable mechanism to prevent it from being switched on without authorisation. Equalise the pressure.

Warning!

The warranty for the gear unit will be rendered null and void if it is opened during the warranty period.

Warning!

The mixing machine must be prevented from starting up again with a suitable circuit after disconnecting the energy supply, in particular if the mixing goods have a tendency to solidify or harden.

Attention!

Repairs on Ex motors must be approved by an expert.

Attention!

In order to guarantee the operational reliability and safety of the mixing machine, the stipulated maintenance intervals must be adhered to and the maintenance work must be carried out with care.

Only use original spare parts.

Attention!

If tightening torque values are specified for fastening screws, they must be adhered to. For stirrer shaft connections which use flange couplings, the tightening torque values according to DIN 28155 must be adhered to.

Attention!

When processing paints and lacquers, do not use any lubricants with silicone content.



Mixing machine operating instructions

4. Transportation

Each mixing machine has been inspected scrupulously in the factory and the mixer shaft carefully balanced. Therefore, when unloading and unpacking, and when transporting internally, it is particularly important to prevent the mixer shaft and the stirrer from impacts, shocks and tilting. Inspect the delivery immediately after receipt to make sure it is complete and for any externally visible transport damage. Have the forwarding agent making the delivery confirm any externally visible defects immediately.

If defects which are not visible externally are identified, immediately consult the freight carrier. The reporting deadline for defects which are not visible externally for truck or rail transport is 7 days after receipt of the delivery.

5. Information on the mixing machine

The type LRK-C container mixing machine is a mixing machine for plastic single-use containers. The mixing machine is screwed to the container traverse. The LRK-A electric drive is mounted on the bearing lantern of the mixing machine installed in the container using a bayonet coupling. The drive can thus be used for multiple containers. Force is transmitted by four bolts which mesh with the coupling of the bearing lantern. The actual mixing machine remains in the container at all times.

A double bearing in the bearing lantern ensures that the stirrer shaft runs smoothly. The mixing machine can be equipped with different stirring elements to suit the stirring task. The parts of the mixing machine which come into contact with the product are made of stainless steel. The Garlock shaft seal on the product side is made of Gylon material.



Mixing machine operating instructions

6. Commissioning

The mixing machine is attached clockwise so that the cams engage in place. Before commissioning, make sure that the drive is firmly in place. Switch on the mixing machine. If there are vibrations or unusual noises, switch off and check the mixing machine immediately. For more information see also "Troubleshooting" in the appendix. If the fault cannot be eliminated, contact the manufacturer immediately. Check the power consumption of the motor in operating conditions.

7. Maintenance

Mounted drive LRK-A-Ex

Drive motor:

The bearings of the motor are maintenance-free with a grease filling. Adhere to the instructions of the motor manufacturer. Remove any dust from the motor at regular intervals in accordance with the amount of dust in the environment. It is particularly important to keep the ventilation slats clean so that heat dissipation is guaranteed.

After approximately 40,000 operating hours, remove, clean and check the ball bearings. Replace any damaged bearings and re-install them with a new grease filling.

Gear unit:

The motor is flange-mounted on the gear unit. Refer to the enclosed instructions from the gear unit manufacturer for information on maintenance.

Check the oil filling in the gear unit, and top up the oil as necessary; to do so, adhere to the operating instructions of the gear unit manufacturer. Make sure that no foreign bodies enter into the gear unit as a result of opening the gear unit.

If there are vent screws on the gear unit, they must be unscrewed, removed or their covers must be removed.

Container mixing machine LRK-C-Ex0

The service life of the ball bearings is 20,000 operating hours. They must be replaced after 18,000 operating hours.

The Garlock seal must be replaced after 4,000 operating hours.



Mixing machine operating instructions

8. Electrical connection

Warning!

The connection of the mixing machine must only be established by a qualified electrician. Produce a supply line with sufficient dimensions. The mixing machine must be provided with external fuse protection in accordance with its power. Adhere to the instructions of the motor manufacturer. Connect an appropriate motor protection switch upstream of the motor (if not in place) and set it to the motor's current.

Connect the mixing machine and earth it in accordance with VDE specifications.

Make sure that the motor rotates in the correct direction. See directional arrow!

Caution!

Only switch on the device for a test run or to determine the direction of rotation if the stirrer has been lowered into the container (if necessary empty).

The following points must be adhered to when using mixing machines in potentially explosive areas:

The device category of the mixing machine must be suitable for the designated application.

Ex zones according to Directive 94/9/EG (ATEX)

Zone 0: An area in which an explosive atmosphere is present continuously or for long periods or frequently.

Zone 1: Areas in which an explosive atmosphere is likely to occur occasionally.

Zone 2: Areas in which an explosive atmosphere is not likely to occur and, if it occurs, will only exist for a short time.

Zone 0 inside the container and zone 1 outside the container > device category 1/2

Mixing machine marking EX II 1/2 G c T ...

An EC type examination certificate is available for these mixing machines.

Zone 1 inside the container and zone 1 outside the container > device category 2

Mixing machine marking EX II 2 G c T ...

A declaration of conformity is issued for these mixing machines.



Mixing machine operating instructions

Temperature classes

The temperature class (T1 - T6) must be sufficient for the application, the temperature classes having the following meanings:

Temperature class	Max. surface temperature °C
T 1	450
T 2	300
T 3	200
T 4	135
T 5	100
T 6	85

The Geppert Rührtechnik GmbH mixing machines have temperature class T3 or T4. Refer to the acceptance report or the Ex type plate on the mixing machine for the relevant temperature class for your mixing machine.

The following points must be adhered to by the user of the mixing machines on the system or container:

Pass-through operation of the mixing machines is not permitted in the event of zone 0 or zone 1 in the container. You must ensure at all times that direct equipotential bonding is guaranteed between the mixing machine and the medium being mixed. In zone 0, the filling level of the container must be monitored and ensured using a category 3 or SIL 2 controller which switches off the mixing machine as soon as the liquid level reaches a level which is 1.0 x the stirrer diameter above the lowest stirrer. Liquids with a conductance of > 1000 pS/m are the exception here. In this case, pass-through operation is generally permitted.

The container must be electrically conductive and earthed accordingly in order to guarantee equipotential bonding.

The mixing machine must also be earthed. The distance between the stirrer and the container wall or any fittings in the container must not be smaller than the minimum distance as specified in the acceptance report.

The electrical connections of the mixing machines in the explosive atmosphere must comply with the relevant valid standards, and must only be established by authorised persons.

If the mixing machine has its own monitoring sensors which monitor the filling level in the container, if applicable in the barrier fluid container, the bearing temperature or the temperature in the motor winding, you must make sure that these sensors are connected and the mixing machine is switched off when the sensors are triggered. In the case of category 1/2 mixing machines, you must make sure that both sensors are connected in parallel so that a redundancy is guaranteed.

The specifications in the operating instructions of the manufacturers of the drives, seals and other attachment parts for operation in an explosive atmosphere must be adhered to.



Mixing machine operating instructions

Fault:	Cause:	Remedy:
Mixing machine vibrates, noise emission	Mixing machine has come loose.	Check the mount, re-tighten the fastening screws or clamp.
	The filling level in the container is not as designated.	Check the filling level, provide the container with filling level monitoring as necessary.
	Stirrers have come loose and/or their positions have changed, i.e. they run too close to the base of the container or to fittings.	Compare the position of the stirrers with the installation drawing, re-adjust as necessary and screw on firmly.
	A different product to the designated product is being mixed. See "Intended use".	Consult with the manufacturer. It might be possible to make an adjustment with minor changes. However, only the manufacturer can make a decision.
	Mixing machine runs at natural frequency, this can destroy the stirrer.	If possible, change the speed; otherwise, the stirrer must be changed. Only the manufacturer can carry this out. With a variable speed drive, the range of natural frequency must be passed through quickly. (Beware of the restricted range).
Notable noise emission	The fan blade of the motor is grinding on the fan hood or foreign bodies have entered.	Replace the fan hood, remove and beat out as necessary. Remove foreign bodies.
	Motor runs with two phases, one phase is missing.	Have the fault eliminated by a qualified electrician.
	The damping elements of the coupling are worn.	Repair the coupling.
Noises and heat generation	Bearing damage on the stirrer shaft or on the drive due to insufficient maintenance or wear.	Remove the bearings and replace with new ones. See operating instructions for information on lubrication.
	Stuffing box too firmly tightened or seized.	See "Stirrer shaft seal is leaky".



Mixing machine operating instructions

Fault	Cause	Remedy
Excessive liquid movement or lump formation	Occurs particularly with high-speed clamp-on or standing stirrers.	Change the position of the stirrer in the container. Above all, make sure that there is sufficient clearance to the container floor.
Drive does not rotate stirrer shaft or motor protection switch is triggered	Foreign bodies in the material being mixed blocking the stirrer.	Eliminate foreign bodies.
	Stuffing box too firmly tightened or seized.	See "Stirrer shaft seal is leaky".
	If available: V-belts are too loose or worn.	Retension or replace V-belts.
	If available: Control mechanism of the variable speed gear unit is worn.	Repair the variable speed gear unit.
Stirrer shaft seal is leaky	The material being mixed has a tendency to harden or settle.	Eliminate sediment from container and stirrer.
	Packing rings are worn or stuffing box needs to be tightened.	Tighten stuffing box gland or repack stuffing box.
	Stuffing box becomes too warm.	Material being mixed is too warm or, if available, the stuffing box cooling is insufficient or has failed.
Slide rings and/or sliding surfaces have been destroyed	Slide rings and/or sliding surfaces have been destroyed.	Replace wear parts.
	Solids may have entered into the seal. Temperature is too high. Barrier fluid circuit has been destroyed. Operating error which has caused the mixing machine to vibrate strongly.	Eliminate faults. Replace worn parts.
Mechanical seal losing barrier fluid	Causes as above	Remedy as above
	Barrier fluid lines are leaky.	Seal lines.

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