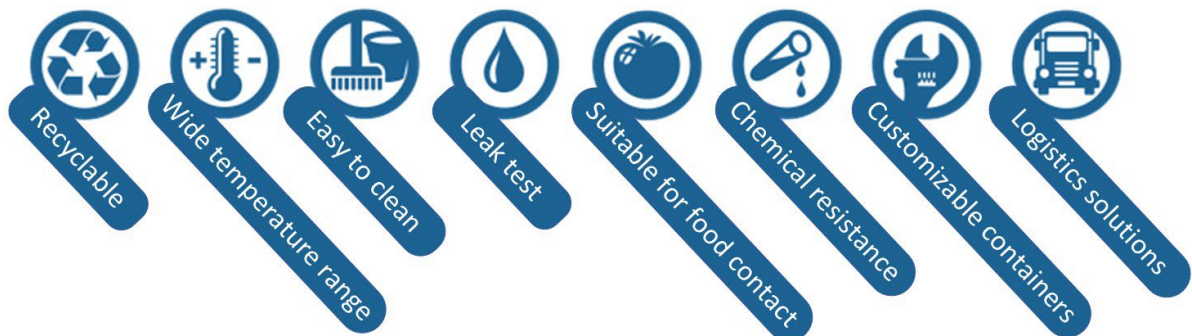


Guide for choosing containers or tanks in plastic (PE) for manufacturing / chemicals / plumbing or food





CPX containers and tanks intended for industrial use are mainly manufactured in high-quality PE, which is a thermoplastic. The products do not rust like metal, nor is there anything that contaminates the contents, but the containers and tanks can be used for drinking water or other foodstuffs, for example. We supply many different usage areas: drinking water, sewage treatment, fire fighting, pool/spa, medicine, plumbing, the chemical industry, surface treatments, etc.

The tanks and containers are moulded in one piece and therefore have no joints that weaken, and this makes them easy to clean. Only recyclable materials are used.

CPX underground tanks for individual sewage and domestic rainwater collection are not covered by this guide.

Type of container/tank

Container or tank?

We name our products containers or tanks depending on what is the most common term for the usage. Cylindrical closed tanks that are 1800L or larger are called storage tanks, while other shapes and sizes are containers. We recommend that you search for a suitable product under both containers and tanks as these have a similar function.

Rotational moulded standard type or welded special?

We have a wide range of rotational moulded containers and tanks in sizes from 14 to 15000L of different types and sizes. In cases where a standard type or a combination of several containers/tanks is not suitable, we offer welded tanks that can be completely adapted to your needs in terms of size and shape. Regardless of whether it's a standard tank or welded, we can adapt the connections and piping on the tank according to every requirement. A moulded tank is always slightly cheaper than a welded one.

Shape of the tank

As a basic rule, we recommend cylindrical containers or tanks simply because the round shape facilitates free flow and optimally distributes pressure from the contents. Reasons for choosing a rectangular container instead may be that the space for placement is limited or needs to be used optimally, or alternatively that passages for placement are cramped. If complete emptying is essential, you should choose a product with a conical bottom. The chosen shape of the tank does not normally affect the price, except for stands, which are added for conical containers and tanks.

Black or natural colour

The advantage of a natural colour is that it is transparent so that you can see the contents through the tank and keep track of the level, while a black tank should be chosen if sunlight/UV will affect the contents negatively or if you don't want the contents to be seen. There is no difference in price between the black and transparent versions.

Contents of the container/tank

Drinking water/foodstuffs

All CPX containers and tanks are manufactured in the approved food grade material FC-Food Contact, Normpack, which does not affect the contents or their smell or taste.

Chemicals

Check whether the substance to be stored is suitable according to our chemical resistance list. Contact us if in doubt.



Density

Depending on the design and thickness of our containers and tanks, the density of content we recommend differs. These are guidelines where certain deviations may occur. Check with us if in doubt.

Cylindrical closed containers: 1.5kg/l

Rectangular containers: 1.2 kg/l

Storage tanks: Density is indicated on each individual tank between 1.2-1.85 kg/l

Container tank with support/casing: Check with us regarding solutions for density.

At high densities there may be reasons to install supports around the tank with a casing for circular containers/tanks and a cage or edge supports for rectangular ones. Contact us for advice in case of uncertainty.

Temperature

The containers/tanks can handle temperatures from -30°C to +50°C. For temperatures above 40°C, please check with us for advice. We recommend that ice formation should be avoided in order to avoid risking frost explosion not only in the tank but in pipes and connections. Please note that our tanks/containers change dimensions with temperature and these movements need to be taken into consideration during construction.

At high temperatures there may be reasons to install supports around the tank with a casing for circular containers/tanks and a cage or edge supports for rectangular ones. Contact us for advice in case of uncertainty.

Flammable / harmful to health

Examine the regulations for your planned storage so that labelling requirements and protections for people and property are guaranteed. Ensure access for firefighting and safety containment and knowing the type of safety containment when required.

Pressurised system

CPX containers and tanks are intended to be used under normal atmospheric pressure without over-pressure. Exceptions to this recommendation are closed cylindrical containers up to volumes of 1400l where low pressure: max 0.5 bar is acceptable.

Vent/inflow

Ensure the inflow of liquid or air with the corresponding capacity: volume/time, as planned outflow to avoid negative pressure that can damage the tank and prevent the operation of the system.

Container/tank placement

Choose the location of the container/tank based on the following:

- Safety of people and property as well as legal compliance for the storage of chemicals.
- Proximity and access during operation for filling/emptying and monitoring.
- Minimisation of risk in case of leakage.



- Seclusion from unauthorised persons, external influences of temperature/weather, and also chemicals that are reactive with each other.
- Ease of installation, maintenance, and replacement.

Floor surface

The container/tank must be placed above ground (not underground) on a flat and firm surface where the entire bottom is supported and that can withstand the weight of a filled tank/container. No sharp edges or sharp objects may come into contact with the tank. Contact us for a suitable solution if there is a need for it to be underground.

Anchoring

A stationary tank indoors does not need to be anchored. When placed outdoors, you should anchor it to the ground or use support, shielding it to reduce the impact of wind. We can equip the tank/container with anchoring loops that make it easier. A mobile tank/container needs to be anchored with proper dimensions, not only according to the tank itself but also according to weight and above all any movement that may occur with the liquid.

Work area around tank/container

Plan the working area in order to facilitate the access required. Ensure that there is no risk of settling etc. due to transport and that there is impact protection to prevent accidents involving damage to the tank/container. Think about the consequences of an accident that could lead to leakage and if there are risks make the necessary preparations or have an action plan.

Safety bunds

A safety bund is an extra tank or surface around the container/tank that is used for collection in the event of a leak. This is a legal requirement for certain classified chemicals but can also be applied generally to avoid problems from leakage. During the planning phase, you need to list the chemicals to be used in order to confirm the need for permits, signage/labelling, and safety bunds.

A safety bund is normally dimensioned at +10% above the stored volume and connections through the safety bund should be avoided. Multiple containers/tanks can share safety bunds only if there is no risk of reaction between the chemicals. Please note that there are special rules for the safe containment of flammable substances that are not covered in this guide. Safety bunds must be protected against being filled with rainwater.

Connections and pipes

We recommend planning connections and piping on the container/tank so that these can be welded and checked for seal tightness directly from our factory. We're certified according to EN 13067- Qualification testing of welders.

If possible, we recommend connection with an internal thread or flanged connection as these provide both high security and flexibility. Internal and external piping should also be done according to your wishes, where only the risk of damage during transport or installation sets a limitation. On our website, there is a 'Build your tank' tool that facilitates the placement of accessories, or you can download a drawing and add connections yourself.



We advise against connections that are not welded but clamped against the tank for sealed tightness, wherever possible, because these do not provide the same quality of sealing and life span as a welded fusion weld.

Note that moving couplings should not be connected to the container/tank. Movements due to temperature changes, filling/emptying, and vibrations from the processing risk damaging the tank and the connection. This can be avoided with a flexible part such as a rubber hose or a compensator.

Level measurement/monitoring

The simplest form of monitoring can be achieved by choosing a natural container/tank that is transparent. Some containers have a moulded-in scale, while storage tanks can be purchased with a scale mounted on the tank upon delivery. We can also provide information on the approximate height of the surface for different volumes for a specific tank for custom grading. For more precise monitoring, there is a huge range of options with transparent tubes, floats, conductive sensors, radar, laser or ultrasound. Contact us for suggestions.

Responsibility

This guide is a general guide for choosing suitable storage and what you need to think about and plan for based on our over 60 years of experience as a producer of containers and tanks for industrial uses. Responsibility for correct chemical handling or design responsibility for systems is outside of our influence and is not Cipax's responsibility.