

# Rustfix & Tankfix

## tank sealing kit instructions

### Rust inside the tank ... no more a problem!

The WAGNER tank sealing set includes everything you need for long-term coating of sheet metal, GRP (glassfibre reinforced plastic) and aluminum tanks.

### Processing

Please keep in mind that the success of any tank sealing process heavily depends on the quality of the preliminary work.

### Please read these instructions on the tank sealing process carefully before starting the actual work.

Have required equipment and materials ready:

- ✓ safety goggles
- ✓ gloves
- ✓ suitable screws/plugs to seal the tank openings
- ✓ some sheet of paper
- ✓ sturdy foil
- ✓ adhesive tape
- ✓ some additional foil, e.g. big trash bag
- ✓ suction tool, such as a syringe with a suitable extension hose
- ✓ concrete mixer (if available)
- ✓ sharp material, such as pointed screws or broken glass
- ✓ rod magnet
- ✓ water
- ✓ blankets
- ✓ acetone
- ✓ old cloth or other dripping protection
- ✓ small mirrors
- ✓ light (e.g. flashlight)
- ✓ wispy sieve or similar filtering device
- ✓ hair dryer
- ✓ cotton buds or small brushes
- ✓ empty containers such as cans

### Never work without safety goggles and gloves.

Galvanic treatments (chrome plating), coatings and other necessary tasks should be carried out prior to sealing, since the finished coating could be damaged at temperatures above 130° Celsius.

A warm work environment is better than a cold one. Low temperatures extend the exposure time and the drying phase. **The times stated in these instructions refer to a continuous ambient temperature of at least 15° Celsius.** At lower working temperatures you should expect to double the times in order to be on the safe side. At temperatures around the freezing point or even below, you should not attempt to seal a tank. However, preliminary work such as cleaning and derusting can also be carried out at low temperatures with no negative effects.

## 1. Preparation

Preparatory all removable parts of the tank must be removed. The function of filters, fuel valves, tank level sensors, fuel caps, etc. could be harmed by the sealing - they should therefore be put aside for the duration of the process.

All openings in the tank must be opened and closed several times during the cleaning and sealing process. Therefore, **suitable screws and plugs** should be manufactured/prepared in advance. Ideally, an **old fuel cap** should be used, which afterwards can be disposed. If not at hand, a **sturdy foil** will do the protection of the original fuel cap's tank lock, cap seal or ventilation hole against cleaning chemicals or **Tankfix**.

### Important! Wrap painted tanks carefully in protective foil!

This is especially important, since **Rustfix** can damage the paint. To protect the tank, first wrap it in foil, such as a **trash bag (120 l)**, cut a hole corresponding to the tank opening and tape it with **duct tape** to the opening of the tank. Even when taped carefully, there's a chance that the **Rustfix** mixture seeps through. Therefore our

recommendation: place a **sheet of paper** with a cut out hole corresponding the tank opening over the foil / trash bag, so that it can soak up any **Rustfix** mixture. Then wrap the tank in a second layer of foil and duct tape.

## 2. Water test

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Every tank is different. Many constructions have their own peculiarities. It is therefore a good idea to check the tank using water before pouring in the coating material in order to see how the surplus **Tankfix** resin can later be removed optimally. Depending on the construction, this will usually be done through the filling or draining aperture (on motorcycles the hole for the fuel valve). Some tanks cannot be emptied completely. In this case, **suction tools** must be used to extract the surplus mixture. A large **syringe with a matching extension hose** could be such a tool.

Please observe how the liquid is distributed on the bottom of the tank during the water test and check whether larger puddles form. In such problem areas there's a chance that during the coating process too much **Tankfix** resin accumulates, drying up too thickly. During inspection it's also worthwhile to examine the construction of the inside of the tank, e.g. the position of the splash plates, openings in the splash plates, recessed tank lids, tank drains that are too high, brazed pipes and other construction peculiarities.

This knowledge comes in handy during the actual sealing process, since it requires the optimal distribution of the **Tankfix** resin without being able to look inside the tank.

If the tank has any leaks, they should be sealed temporarily to facilitate preliminary cleaning, derusting, degreasing and phosphatizing.

Later on, these leaks can be sealed with **Tankfix** before actually sealing the tank.

**Important:** during preliminary cleaning and derusting additional leaks can emerge. Keep in mind and have an eye on it when derusting the tank.

## 3. Preliminary cleaning (if necessary)

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Heavily rusted or dirty tanks must be cleaned mechanically before starting the rust conversion. In addition to scales and flaking rust, old tanks likewise frequently show rubber-like or resinous deposits from old oils, greases or fuels. All this plaque should be removed during preliminary cleaning. For new, like-new, clean or only slightly rusty tanks no preliminary cleaning is required.

The good old **concrete mixer** turns out to be the ideal tool for the job. Fill the tank with a few handful of **sharp material**, such as **pointed screws or broken glass** (e.g. from an old Sekurit windscreen). When choosing the material, remember how the inside of the tank looked like. Keep in mind that you will have to remove all of this material from inside the tank after derusting. E.g. you can use a rod magnet to catch screws.

However, this may turn difficult if the screws are caught behind the splash plates. Glass splinters can be removed by sloshing water around inside the tank and shaking vigorously. But it's a tedious process to get them all out, since it requires the tank to be completely dried out first.

Regardless of the chosen material, **water** must be added. The amount of mixture should match the directive: enough to clean the inner surface, not too much in order to ensure a sufficient movement of the sharp material. Next, place the tank wrapped in **blankets** into the concrete mixer's drum and fasten securely. Larger tanks can be attached to the outside of the drum. The machine should turn and roll the tank in every direction at slow speed for about two hours. Alternatively, you can shake and rattle the tank manually. Large tanks may require several helpers.

The tank does not have to get rust-free, therefore we use **Rustfix**. Instead, all loose paint, rust splinters and especially all coarse, greasy residue must be vanished at the end of the cleaning process. Otherwise, repeat the process as often or as long as necessary to achieve satisfactory results. Afterwards – as already mentioned – the tank must be flushed and cleaned in a suitable manner. All material brought into the tank must be removed completely.

## 4. Degreasing

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Before derusting comes always degreasing. **Degreasing is vital, even for new tanks!** At WAGNER we have tried all degreasing agents available for purchase. Eventually acetone turned out to be the easiest, least expensive and also the most effective one. It can be purchased in paint stores and DIY markets.

Please observe the usual safety regulations: acetone can generate explosive gases – do not smoke while working and do not work in the periphery of flying sparks.

Especially in two-stroke and diesel vehicles the tank may be saturated with greasy or oily residue, which must be completely removed, since neither **Rustfix** nor **Tankfix** can operate/adhere effectively on greasy surfaces.

The tank does not have to be filled to the brim with acetone. However, the acetone must be in contact with all surfaces for several hours. This can be achieved by changing the position of the tank accordingly. Tanks with splash plates must be filled with enough acetone to ensure that the splash plates are degreased.

Finally rinse the tank with water. The acetone should be washed out completely.

## 5. Derusting

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Mix **Rustfix** with enough water to match the capacity of the tank to be derusted – the maximum possible dilution is 1:60 (1 part rust converter per 60 parts water). Fill up the tank with the obtained mixture. Check for air bubbles caused by the tank construction - they may occur in tanks with a filler neck recessed in the top of the tank. Remove air using a syringe with extension hose so that the hollow space fills with water. If not possible, the tank must be moved after half the application time in order to completely flood the hollow spaces.

Caution: temperature fluctuations can bring the water / **Rustfix** mixture in the tank to expansion. In this case the mixture will emerge to the filler hole, which should be protected with an **old rag or similar**.

During derusting, don't close the tank completely; depending on the position, always leave the filler hole or outlet open!

Leave the mixture-filled tank for **approx. two days**, then drain the **Rustfix** mixture completely. **Heavily rusted tanks need longer** - a suitable time can be as much as 4 to 6 days, depending on the amount of rust. Low temperatures do not extend the process - the **Rustfix** mixture works effectively at temperatures of 0° Celsius and above.

Use **small mirrors** and **sufficient light** when checking the derusted surfaces. If you determine a not yet satisfactory result, the entire process has to be repeated. The used mixture can be filtered through a **wispy sieve** and used to refill the tank. Or - for faster results - you may prepare a new mixture.

Before attempting a second run, the tank has to be degreased again. Tests have shown that the cause for non-satisfactory results is ALWAYS greasy or oily residue. **Rustfix** does not work effectively on greasy surfaces, nor will **Tankfix** adhere later on during the sealing process.

Depending on the dilution ratio / concentration of the **Rustfix**/water mixture, flash rust may arise in the tank after drying. **In the event of an extended period between derusting and sealing, we recommend carrying out a final phosphatisation process with the remaining Rustfix.**

The outside of painted tanks requires special protection, since **Rustfix** mixture that seeps out can leave streaks on the paint. Please observe the instructions in the „preparation“ section.

## 6. Final phosphatisation (optional)

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**Final phosphatisation should be carried out in the event of an extended period between derusting and sealing!**

To intensify the effect of the phosphatisation, mix the remaining **Rustfix** at a ratio of 1:5 and fill it in while the tank

is still wet; then disperse the mixture by shaking the tank and wait for 2 to 4 hours. Turn and move the tank several times during this time so that all surfaces are phosphatized. The phosphate layer will seldom be completely even - spots and runs are difficult to avoid. The evenness depends on the condition of the underlying surface. Fortunately this doesn't affect the quality of the tank coating.

In most tanks **Rustfix** leaves a clean metallic, grey phosphatized surface. Depending on the thickness of this phosphate layer, you may observe powdery dust on the surface. In some tanks a very thick phosphate layer forms. A slimy layer can form especially if the mixture is left in the tank for too long.

## 7. Cleaning after derusting

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Neither dust, nor residue, nor liquid **Rustfix** may remain in the tank. Therefore, immediately after dumping the mixture out of the tank a **thorough final cleaning with acetone** is required to ensure the surface is clean, dry and firm. Fill the tank with fresh acetone and slosh vigorously, repeating the process as often as necessary, depending on how dirty the tank is. This will prevent any loosened residue from drying.

**After cleaning, do not pour any more water into the tank** – rinse only with pure acetone. Also check to ensure that the surface is bare and suitable for the final coating. Surfaces cleaned in this manner can be directly treated with **Tankfix**. Dispose of any leftover acetone in accordance with regulations for hazardous substances.

## 8. Drying

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Afterwards, immediately uncover all tank openings and ensure air circulation. A **hair dryer** can be used to speed up the drying process. Completely dry out the tank as quickly as possible in order to prevent flash rust formation.

**Please do not use a hot air blower.** The explosive vapours from the acetone can ignite at high temperatures.

## 9. Sealing leaks (if necessary)

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Any leaks revealed by the water test can now be sealed with **Tankfix**. Where possible, the leak can be pre-treated with **Tankfix** from the outside. Apply two or three layers of **Tankfix** to the outside of the leaks and then carry out the internal sealing process.

Larger holes must be stripped off paint by sanding and then treated with **Rustfix**. Then cut a patch of glass fibre cloth and glue it over the hole with **Tankfix**. Afterwards, use a brush to apply a thin coat of **Tankfix** over the patch. After a few hours, when dried firmly, apply a second layer of **Tankfix**. Repeat inspection after a few hours, then apply a third layer of **Tankfix**.

To prevent **Tankfix** from being visible from the outside, one can attempt to tape the porous area with duct tape and then carry out the inner sealing process. In this case, at least three layers of inner sealing should be applied to the damaged area. Do not remove the tape until **Tankfix** has dried completely, at least for 10 days after the sealing process.

## 10. Coating

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**Tankfix** hardens when exposed to air humidity. It is therefore advisable to carry out the coating process on the completely dry tank in order to prevent the remaining amount from contacting with moisture. Surplus amounts of **Tankfix** should be stored in a carefully air- and moisture-sealed can in order to remain usable for additional coatings later on.

Before sealing the tank, all tank openings have to be closed carefully. After pouring **Tankfix** into the tank, also the filling opening must be closed – ideally with a **suitable tank cap**. If the tank cap is to be used later as such, a **tearproof plastic foil** should be placed over the opening before screwing on the cap, so that the tank ventilation hole does not accidentally get sealed.

Check the previously applied protective covering of the tank. **If, despite all precautionary measures, resin**

**emerges into undesired locations, it can be removed with acetone or PU thinner. When removing resin from dry surfaces, damages on this surfaces cannot be ruled out!**

## **11. First layer**

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Pour the required quantity of **Tankfix** into the tank and shake vigorously; then carefully slosh it around. The resin should completely saturate all inner walls, especially watch out for any compartments or splash plates. After about 5 to 10 minutes of sloshing, pour out the remaining **Tankfix**. **The removal of all surplus Tankfix left free in the tank is vital. If necessary, use a syringe with a suitable extension (e.g. silicone hose) to extract the leftovers.**

Do not pour leftover quantities removed from the tank back into the original container - **use a separate can**, carefully sealed to keep out air and moisture. Thus it's possible to use leftover quantities for additional coatings later on.

If the tank has ventilation pipes, blow them out with compressed air to keep them free and prevent accidental sealing.

Depending on the ambient temperature it can take up to 4 hours for the liquid to reach the pour point. During this time the tank should be turned repeatedly to change the flow direction.

Finally you cannot avoid a certain amount of liquid accumulating at the lowest point. At the end of the process the tank should therefore be positioned in such a way, that the thickened remaining liquid does not disturb the function.

Due to some rarely found tank constructions, sometimes there is no way to avoid a larger accumulation of **Tankfix** in a puddle at the lowest point of the tank. **Such a puddle must be extracted before it becomes too viscous.** Once the liquid has thickened, extraction is no longer possible!

## **12. Second layer**

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After the inner coating has dried to the point of no longer being sticky (after 12–24 hours, depending on the processing temperature), pour in the rest of your **Tankfix** and slosh around as described above. Again, completely drain the tank until there's no remaining liquid.

**A second coating layer is no longer possible after more than 36 hours of drying time**, since there will be no more adhesion between old and new layer. If for any reason this happens and the first coating has already hardened, there's no way but to forego the second coating layer.

## **13. Touch-up (if necessary)**

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The edges of the openings for fuel sensors, pumps, tank filling necks, etc. and the metal areas of these openings can be touched up with **Tankfix** by using **cotton buds or small brushes**.

## **14. Hardening**

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For hardening, store the tank open in a dry, well-ventilated room. The hardening time of the inner sealing is about 7 to 8 days at temperatures above 15°C. Below 15°C ambient temperature allow the sealed tank to harden twice as long before using it.

## **15. Cleaning**

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All tools and objects used in the process can be cleaned with acetone, as long as the resin has not dried out.

## 16. Important notes

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This instructions only apply for tanks made of metals - (stainless) steel, aluminum, iron, copper etc.

For informations on sealing plastic/GRP tanks, please consult our website [www.tanksealing.com](http://www.tanksealing.com).

Please note: **Tankfix** tank sealing is **not suitable for tanks intended for use with coolant liquid!**

### Any Questions?

**Don't hesitate to contact us!  
We will help you anywhere we can!**

**You can contact us directly or via our distributors.**

**Visit [www.tanksealing.com](http://www.tanksealing.com) for more information.**

**To get an overview over the sealing process,  
you can also check out our YouTube Video:**



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