



Technical conditions of work execution (TCWE): pickling of stainless steels - in pickling plant

FK system – povrchové úpravy, s.r.o.

valid from 15. 04. 2021

These TCWE do not replace the Company's General Terms and Conditions FK system – povrchové úpravy, s.r.o.

1. Acceptance of the part for surface treatment

- 1.1. Order sent in advance to mail fkssystem@fkssystem.cz and in a copy to morirna@fkssystem.cz.
The order must state:
 - identification of the customer
 - the number of our offer, if already processed
 - identification of the part (s) or order
 - required surface treatment
 - quality of material (if there are more types, all of them)
 - any special requirements for packaging, handling, etc.
- 1.2. The parts must be delivered with a delivery note referring to the relevant order.
- 1.3. The pickling plant is equipped primarily for pickling and passivation of alloyed anti-corrosion AUSTENITIC STEEL. In case of a requirement for pickling a non-austenitic material, it is necessary to state this significantly in the order so that it cannot be confused and at the same time inform the pickling technician or the pickling master by phone or in person.
- 1.4. If the pickled stainless steel part also includes a carbon steel part, please note this in the order. Carbon steel parts must be primed, even at the point of contact with the stainless steel surface. This coating can be damaged by pickling. If an aluminium flange part is a part of the part, they must be delivered thoroughly wrapped in PE foil. Parts combined with carbon steel or aluminium can only be pickled by spraying.
- 1.5. Pickling parts must be delivered:
 - dry
 - without grease
 - without descriptions by paint, marker, etc.
 - without mechanical impurities incl. stickers, baked foils, etc.

Improper delivery of the part (based on the conditions above) may result in poorer visual quality of the pickled surface.

- 1.6. Upon prior agreement with the technician, parts can be delivered, eg. greasy for degreasing; scaled after annealing for descaling; with a protective foil, if there is a reason for this, etc.
- 1.7. During the period of chemical treatment of roads (salting), it is necessary to transport parts only on the tarpaulin cargo area, both parts for pickling and parts already pickled. The salt has a very aggressive effect on the stainless steel surface and even packaging in PE foil will not sufficiently protect the parts. We recommend transporting parts after pickling with tarpaulin vehicles all year round.
- 1.8. Upon receiving the parts, a random check is performed. Possible damage can only be detected after work has begun on the parts. On request, it is possible to order 100% acceptance of parts.

2. Quality standards:

- 2.1. Pickling and passivation are technical operations ensuring the corrosion resistance of the material. They cannot achieve a uniform or repeatable surface appearance.
- 2.2. After pickling, surface is metallurgically clean without corrosion, heat tint and scale after welding, air raids and abrasion of carbon material and residues of pickling and passivation agents.
- 2.3. Pickling cannot remove slag, burnt grease in welds, deep inclusions of carbon material, impurities ground to the surface, baked residues of protective foils, marking etc.



- 2.4. Pickling often dims the surface and increases the surface roughness.
- 2.5. Defects on hard to access or inaccessible surfaces cannot be complained about.
- 2.6. In the pickling process, small contact of individual parts with the pickling device or with each other may occur. The formation of any minor abrasions and shadows on material is not considered a defect. During the pickling process, formation of deep scratches, dents and mechanical damage to parts unacceptable.
- 2.7. Processing of visible parts and surfaces for which there is a requirement to minimize mechanical markings and rinse maps can be ordered in special mode for an extra charge. For delivery of these parts, it is always necessary to notify technician or master of pickling plant in advance, to schedule 100% visual control and acceptance of the surface of the parts upon delivery to the pickling plant, to state everything in the order and to respect recommendations as stated. Section 2.1 of TCWE applies to work in special modes as well.

3. Problematic spots in terms of pickling.

- 3.1. There cannot be small enclosed spaces (pipes, tubes, etc.) on immersion pickled parts that are not watertight and into which pickling agents could flow without the possibility of rinsing. Possibility of rinsing is ensured by, eg. drilling of cavity at both ends through the steel with holes with diameter of min. 6 mm, bevel walls of steel at its ends, etc. and this is due to making sure that entire volume of pickling agent may flow out of holes and cavities. Suitable places for drilling such holes can be consulted with our technicians, otherwise these parts will be pickled by spraying with charge according to the price list. Only accessible surfaces can be spray-pickled.
- 3.2. If there are gaps on the parts (seam welds, sheet metal overlaying, screw joints, etc.), the porosity (eg for castings), or other surface inhomogeneity, residues of pickling agent or rinse water may remain in these. These can then flow out or rise and form a map on surface. Possible defects caused by constructional details mentioned in points 1.4, 3.1 and 3.2 or others, non-compliance with the delivery conditions in 1.5 and 1.7 or others are not considered defects of pickling and we do not accept them as a complaint.

4. Packaging

- 4.1. After pickling, the parts are packed and shipped the same way as they were delivered. In case of a request for another method of packaging, it is necessary to settle this with the technician and state it in the order. Packaging other than the basic one (in point 4.3) is charged additionally.
- 4.2. The basic method of packaging is included in the price of work.
- 4.3. Basic packaging includes the use of clean packaging material as a base for a pallet, a box etc. Next, placing the parts on a pallet or in a box, strapping them to the pallet and possibly covering whole pallets or boxes with clean PE foil.
- 4.4. EXTRA packaging can be ordered at an additional cost. EXTRA packaging means that each part is packed separately, or the individual layers of parts are separated horizontally by cardboard and also the parts in each layer are separated by cardboard or foil.