



# Guidelines for Suppliers of Mechanical Parts

Concerns all relevant types of  
production materials

Version 11

All documentation relating to the manufacturing of mechanical parts is the property of the SANOVO TECHNOLOGY GROUP and may not be copied, shown or handed over to third party without our prior written consent.

Follow this guideline, especially where no dimensions or tolerances are on the drawing.

All documentation made in the SANOVO TECHNOLOGY GROUP follows these standards:

Tolerance principle:	ISO 8015:2011
Dimension in mm without tolerances:	ISO 2768-1:1993
Geometrical tolerance:	ISO 22081:2021 (+ISO 1101:2017)
Surface roughness and texture:	ISO 21920-1:2022
Welding:	ISO 2553:2013

Every discipline carried out to supply SANOVO TECHNOLOGY GROUP is expected to be done by skilled/educated people and that everyone is inspecting his/her own work, with focus on delivering the best quality.

## Choosing Material

If nothing else is mentioned, these are the materials we expect:

- Shafts (especially with h9 tolerance) must be centerless grinded
- For dairy pipes, polished surface (minimum 180 grit) must be chosen
- Sheet metal must be 2B finish from 0 - 8 mm thickness

## Bending

If nothing else is mentioned on the drawing, below rules are applicable for bending tools for stainless steel sheet metal:

- The width of the rail on the lower matrices is 8 x the thickness of the plate
- The nose radius of the top bend tool is 1 mm

## Welding

- Welding must be carried out using welding rod. **Just fusing is not accepted.**
- If no surface treatment is specified, still the discolouration from welding must be removed with wire-brush or acid solution/pickling.  
If an acid solution/pickling is used make sure to rinse thoroughly afterwards.
- Everything must be fully welded both outside and inside, unless otherwise is stated on the drawing.  
Exception from this is shields and covers (if in doubt ask)
- Sanitary pipes are not allowed to have burrs and protection-/backgas must be used.

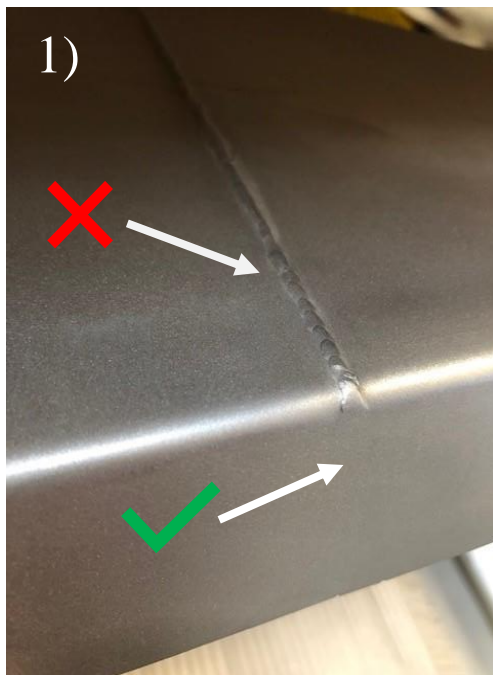
## Laser cutting

- Micro joint must be removed
- Surface must be protected from scratches
- Burrs and sharp edges must be removed, i.e. by use of fladder

## Grinding & surface roughness

- Burrs and sharp edges **must be removed on all items.**
- No scratches on surfaces
- Plastic parts are not allowed to be rougher than Ra 3,2µm on machined surfaces.
- Items in contact with food (FCM/marked with \* on order) must be grinded to a roughness Ra <= 0,8µm (K180)
- Welding seams must be grinded down prior to surface treatment to make the joint “invisible” (see picture 1). Exceptions from this is: Sanitary pipes and “hidden” welds (ask, when in doubt). Also accepted is square tube joints ground as seen on picture 2.

*For bigger (machine-)frames further instructions and initial supervising from one of Sanovo's Field Service Engineers is required.*

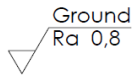


- Welds on product chutes must be grinded inside and outside (ask, when in doubt).
- Welds on covers and shields must be grinded outside (ask, when in doubt).

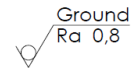
## Roughness symbols

- MRR – material to be removed (welding must be removed by grinding)
- NMR – no material to be removed (welding not to be grinded).

MRR Ground;  
Ra0,8 ⇔



NMR Ground;



## Thread recovery

- Nuts, muffs, etc. that is welded on or near welds must be checked for functionality and recut if necessary.
- All outside pipe threads must be checked for functionality (use nut).
- When glass bead blasting bottom holes all threads must be either plugged or recut afterwards.
- FCM (Food Contact Material) approved anti-seize compound must be used for assemblies where parts are fitted with screws, nuts, anything with thread.

## Surface treatment

- Surface treatment must always be done according to the purchase order. The purchase order overrules the drawing text for surface treatment.
- Glass blasted frames must be treated with Innoxol or ProLube White Oil because of risk of contamination from a different metal and air pollution. Glass- and metal dust of all kinds must be cleaned off before oil is applied, and make sure to wipe away surplus oil before shipment.
- When glass blasting legs (square pipe constructions) and nozzles pipes, do plug holes to keep glass out and protect threads. Alternatively, clean pipes, square pipes, etc. out and recut threads.
- 'Wire-brushed' meaning brushed with a cup-shaped wire-brush, using an oil/carborundum powder-mix, to a uniform full surface on both sides of the item. Work at random to avoid making a pattern. See picture on page 9. For sanitary pipe items wire-brushing means brushing the weldings.
- 'Fladder' meaning fladdered on both sides of the item.
- Printed text on sanitary pipes and plates must be removed.

## Packing and shipment

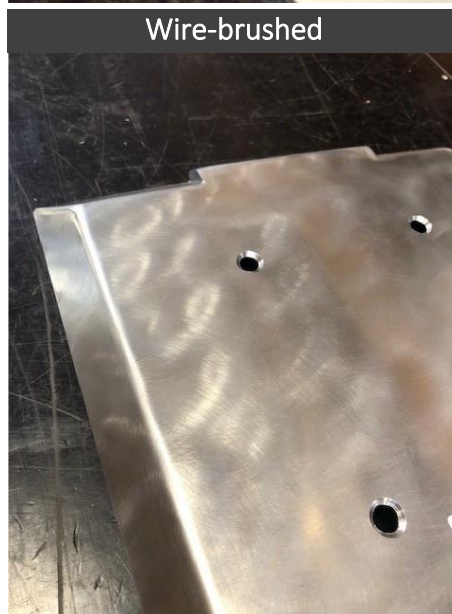
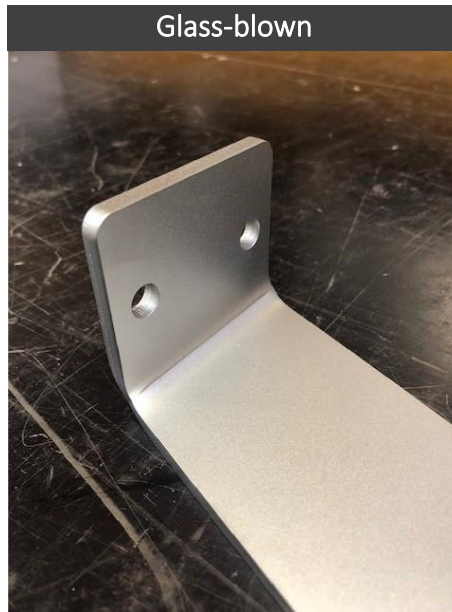
- Avoid contact in between glass blasted parts when packing for shipment. If necessary, separate them with a layer of corrugated paper.
- Protect shafts from getting scratches at handling and transportation.

Any questions?

Feel free to contact the local purchase department,  
where the order was placed.

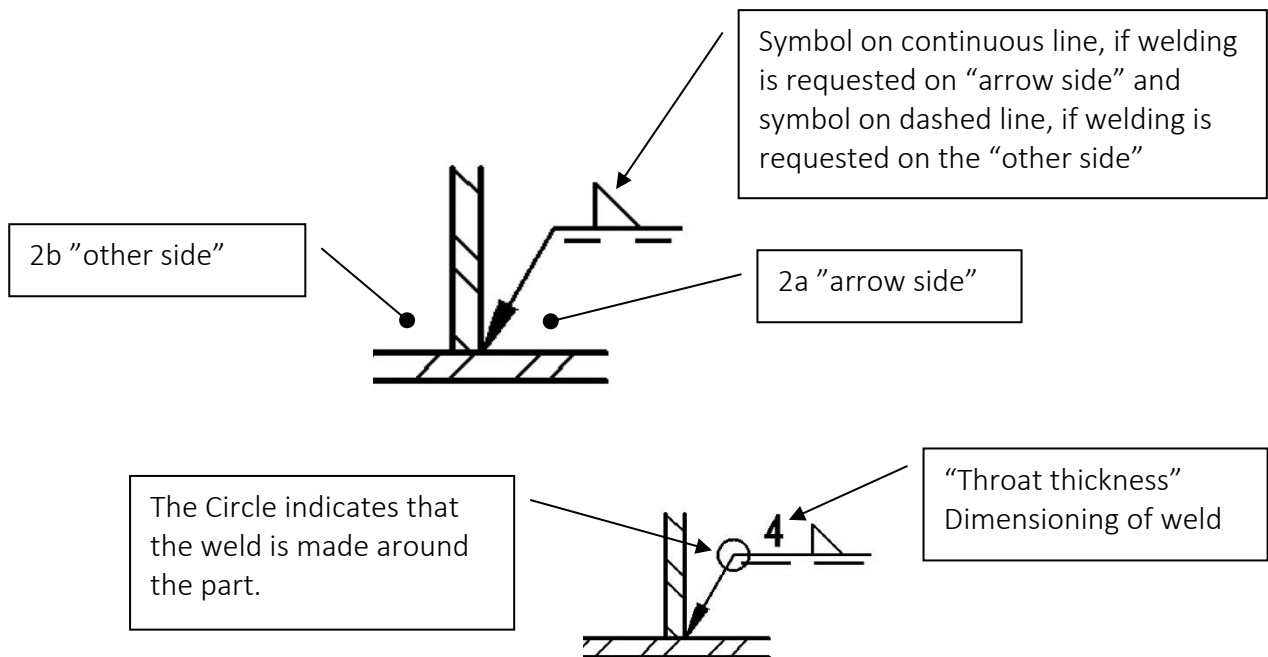


## Examples of surface treatments

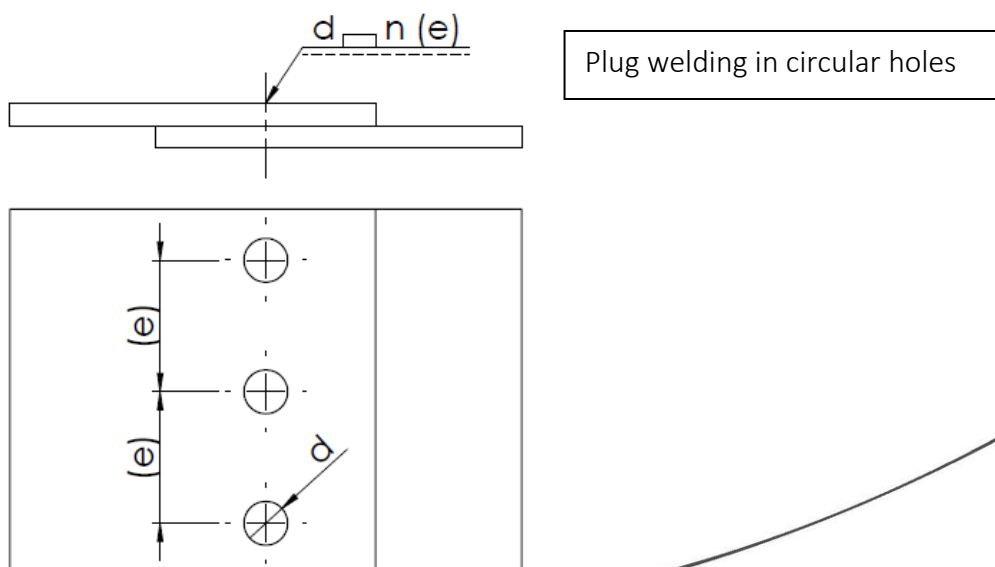


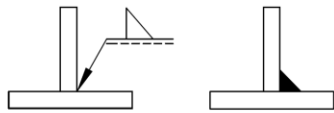
## Welding symbols based on the standard

- Method of representation:
  - 1 arrow line
  - 2a reference line (continuous line)
  - 2b identification line (dashed line)
  - 3 welding symbols

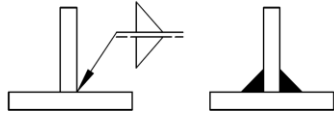


## Different welding examples

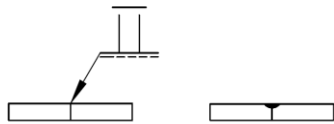




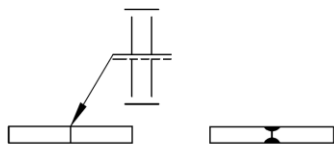
Fillet weld only on the "arrow side" with welding



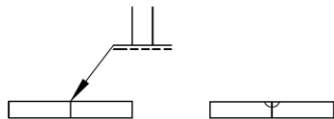
Fillet welded on both sides with welding rod



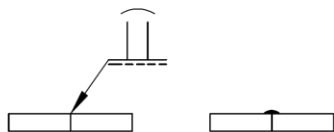
Square butt welding, welded with welding rod and grinded



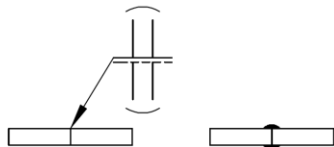
Square butt welding, welded with welding rod and grinded on both sides



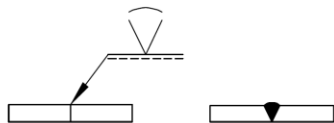
Square butt welding, **welded without welding rod (converged)**



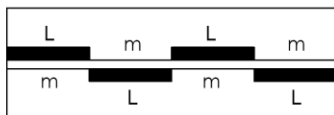
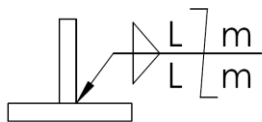
Square butt welding, **welded with welding rod**



Square butt welding, **welded with welding rod**



Singel- V butt weld, **welded with welding rod**



Staggered intermittent fillet weld