

## General Provisions

### Tolerance levels

Unless specifically stated otherwise, the general tolerance levels below apply to the work performed by us. The table is based on the bending of round pipes. Equal or similar tolerance levels apply for other profiles.

Designation	Tolerance	Designation	Tolerance
Ovality R/D < 2,0	Max. 12 %* <sup>①</sup>	Radius < 500 mm	± 5 % (min. 1 mm)
Ovality R/D > 2,0	Max. 10 %* <sup>①</sup>	Radius > 500 < 20.000 mm	± 2,5 %
Ovality of straight pipe ends	Max. 1 %	Radius > 20.000 mm	± 2 mm * <sup>③</sup>
Unevenness (compared to largest product size)	Max. 0,5 %	W.T. reduction R/D > 1,5	Max. 17 % * <sup>④</sup> <sup>⑤</sup>
Angular deflection	± 1° * <sup>②</sup>	Saw length	± 5 mm
Bend angle	± 1°	Saw angle	± 2° * <sup>⑥</sup>
Rising angle	± 1°		

(R = bend radius in relation to the centre; D = outer pipe diameter; W.T.= wall thickness)

\*<sup>①</sup> After the bend, the ovality may continue over a short length onto the straight part as a result of the bending process.

\*<sup>②</sup> This is the tolerance to the twisting of bends in relation to one another within 1 product.

\*<sup>③</sup> 2 mm is the tolerance to the sagitta measurement when the chord is 3 metres (see Image A for clarification)

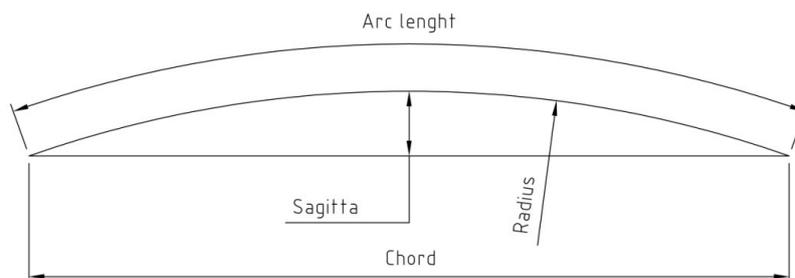
\*<sup>④</sup> If R/D < 1.5 to be further agreed.

\*<sup>⑤</sup> This check will only be performed at the client's request

\*<sup>⑥</sup> Applies to square sawing and mitring up to 45°. If a mitre angle exceeds 45°, the tolerance can be further agreed.

All abovementioned tolerance levels are on top of the manufacturing tolerance levels of the material.

**Image A**



### Requirements set for the supply of material and drawings

- The supply of material must be sufficient for testing material purposes, i.e. 2% extra, at least 2 lengths, at most 6 lengths.
- The material must be straight, free from rust, dents and burrs, and have a length tolerance of -0/+3 mm and a squareness tolerance of ± 0.5° given the supplied fix length.
- Any materials supplied must be suitable for bending. When in doubt about the bendability of the material, contact Van Rijsoort Bending (min. elasticity in % = 1/2 OD/R x 100 (OD/R= Outer diameter of pipe/Radius))
- Drawings must be clear in terms of dimensions and have centre-to-centre measurements and the desired tolerance levels.
- If indicated prior to the order, we will return all remaining material.

### Handling of material

We will handle the materials supplied by you with the utmost care. However, we can only guarantee the traceability of the material supplied and stamped or remarked by you if you clearly inform us about this in writing in advance. We are ISO 9001:2008 certified and according to NEN 1090 also authorised to provide pieces of work with a CE certificate appropriate for the specifications of use. We are authorised to do so up to and including the highest execution class EXC 4 (NEN-EN 1090). If you desire a CE approval mark for your product, you must indicate this during the offer stage yourself. In addition, we are authorised to recertify and can remark your material on request.

Van Rijsoort Bending does not have separate production facilities for various types of metal. Accordingly, the transfer of steel particles to, for example, stainless steel cannot be entirely prevented. We strive to minimise contamination as much as possible. Pickling / passivating is not included in the price, unless explicitly stated otherwise.

### Terms and conditions of delivery and payment

The terms and conditions of delivery and payment are stated on your offer and/or order confirmation. We work according to the Metaalunie terms and conditions and explicitly reject the terms and conditions stated in your application or order confirmation. A copy of the Metaalunie terms and conditions has been included in the enclosure with our offer or order confirmation.

### Deformation/damage

When bending pipes and profiles, major forces must be exerted on the material. Although it is our job to ensure that this does not result in any unnecessary deformation or damage, we cannot guarantee that the surface and the cross-section of the bent material will be equal to the unbent material.

If any processing proves to have been performed improperly, Van Rijsoort Bending will choose either to:

- perform the processing again. In that case the client must supply new material at its own expense.
- remedy the defect. In that case the client must return the material to the contractor carriage paid.
- credit the client for a proportionate part of the invoice amount.