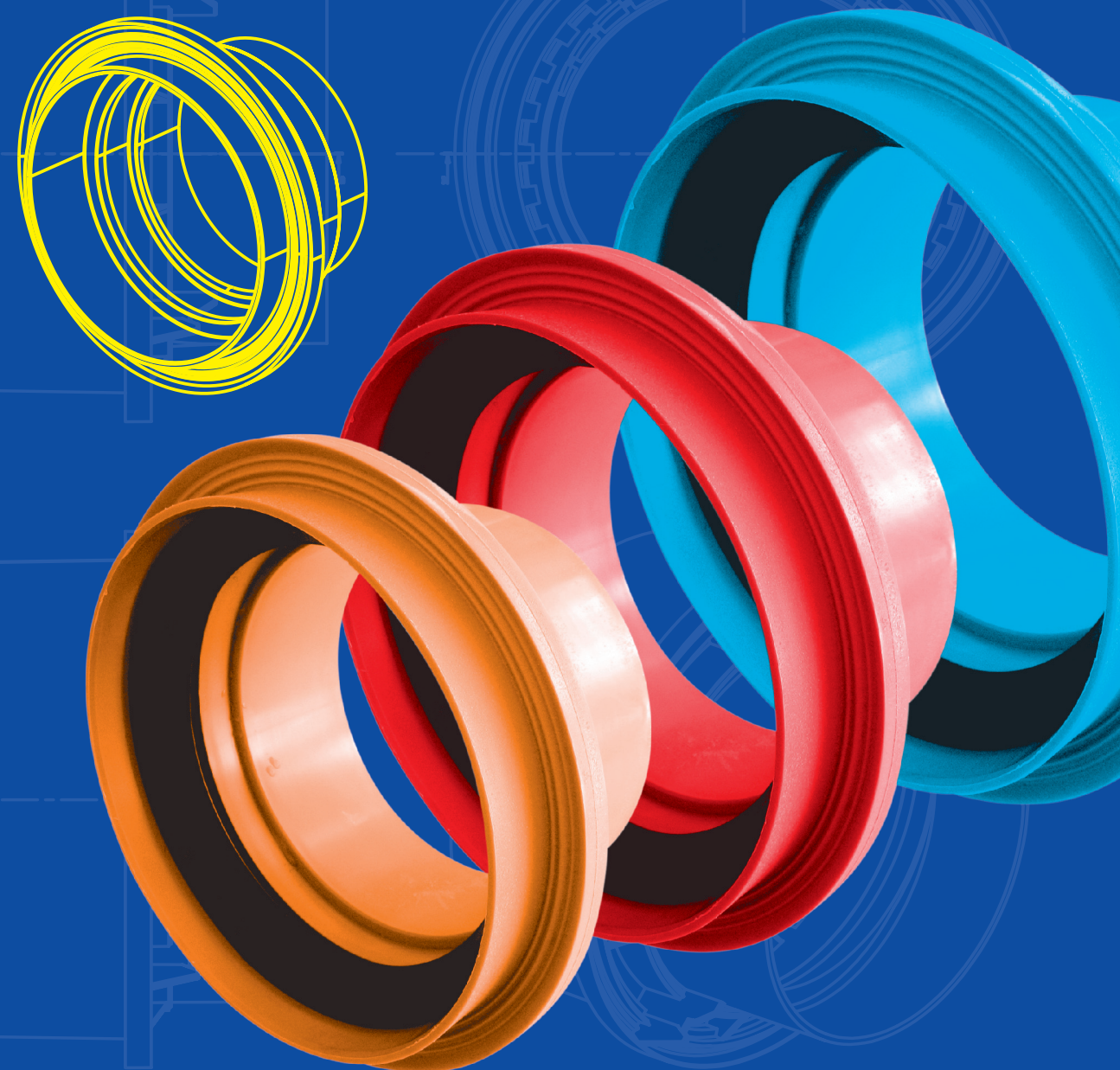


Clay Pipe (L) DN 100/125/150	Plastic pipe (PVC) old DN 150 – DN 400 SN 4, SN 8	Plastic pipe (PVC) new DN 150 – DN 400 SN 4, SN 8	Clay pipe (N/H) DN 200/DN 250/DN 300
Clay Pipe (N/H) DN 200/ 250/300 DN 150/200	Plastic pipe (PVC) new long, DN 150/200 SN 4	Plastic pipe (PVC) new short, *Nitra SN 4	Ultra Rib KU II DN 150 – DN 400 * Rauvia Wavin Skandinavia
Clay pipe (N/H) DN 400 – DN 800	Ductile iron pipe (GGG/SML) DN 150 – DN 400	GRP pipe (GRP) DN 150 – DN 400	

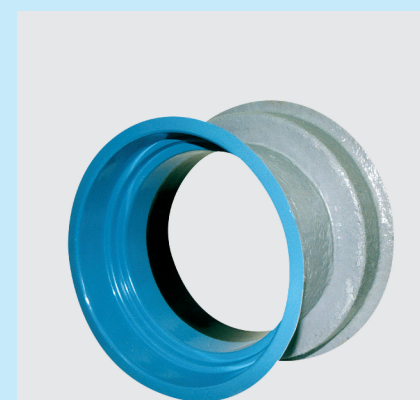
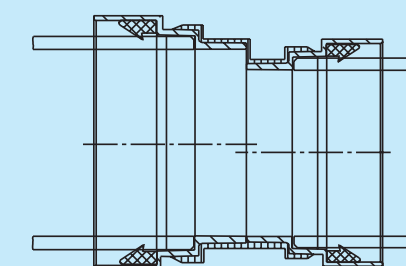
Manhole bells

CONNECTION BELLS FOR PRECAST MANHOLE BASES BELL DESIGNS STANDARD AND SPECIAL DESIGNS



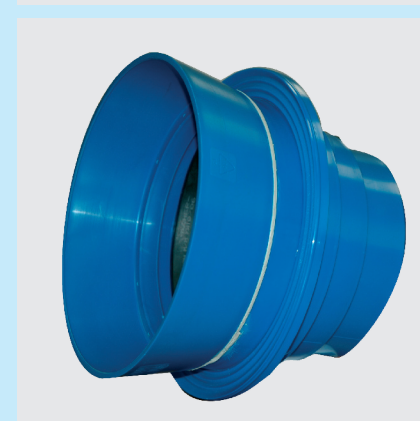
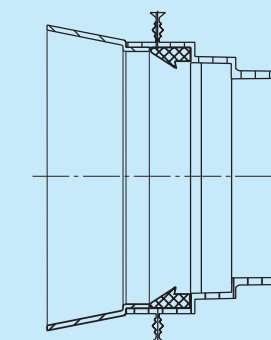
Special version double bell

- Transition piece for different pipe types and diameters.
- Available in custom built version, adjusted to the flow line, to the invert or to the soffit level.

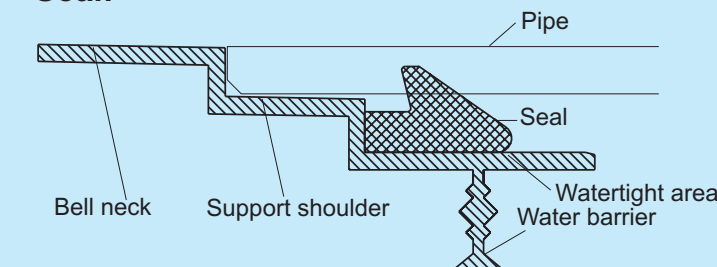


Special version bell extension (funnel)

- Extension of the bell for greater wall thickness
- Keeps the seal centred in the bell
- Available up to DN 300 mm for PVC, Twin Wall, GRP, ductile iron and clay bells.



Seal:

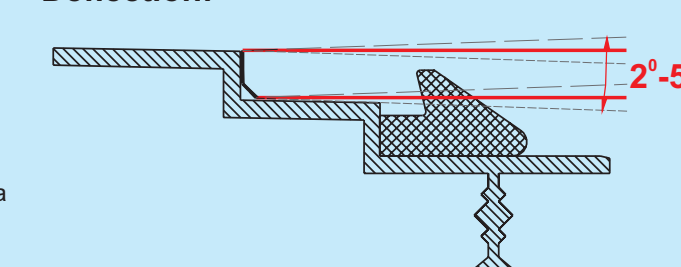


• Insert the seal in the bell accordingly to the above drawing (clean the watertight area if necessary)

• The serrated side of the seal must be in contact with the inside of the bell (Attention ! the seal might need to be turned)

• Insert pipe and join together (Use the lubricant recommended by the pipe manufacturer. Lubricate spigot only)

Deflection:



The geometry of the PREDL® bell and wedge shaped seal offer a wide spectrum of pipe deflection angles in the manhole base.

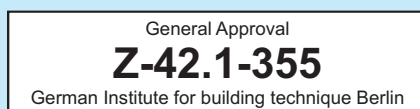
Deflection tolerances for pipes

ø Pipe (mm)	Max tolerance	ø Pipe (mm)	Max tolerance
150	5	600	2
200	5	700	2
250	5	800	2
300	4	900	2
400	3	1000	2
500	3		

(When using bell with plug-in systems, only the tolerances of the concerned pipe manufacturer are to be taken in account.)

Available in the given dimensions for the following pipe types

- Clay L
- Clay N
- Clay H
- Synthetic plastic PVC (KG, PP)
- Ultra rib (KU II) (Nitra, Scan, Wavin, Rauvia)
- PE-HD
- Glass fiber reinforced polyester (GRP)
- PE bonded pipe for example Robukan
- Ductile Iron (GGG)
- Ductile iron (SML)
- Concrete



- Available in multiple lengths and versions
- Due to the company's own mould manufacturing department, the selection of bells is constantly expanding (special orders also available)
- Waste water and abrasion resistant
- Stringent quality control

PREDL® bells made to size for every type of pipe

With PREDL® bells, the pipe rests on an integrated socket unlike Universal bells.

Advantages:

- ✓ Pipe central positioning through the pipe socket and not through seal
- ✓ The deflection is absorbed by the pipe socket – this distributes pressure on the seal evenly ensuring a durable watertight connection is achieved.
- ✓ The wide deflection angle of the pipe, due to the bell shape, allows jointed pipe connection.

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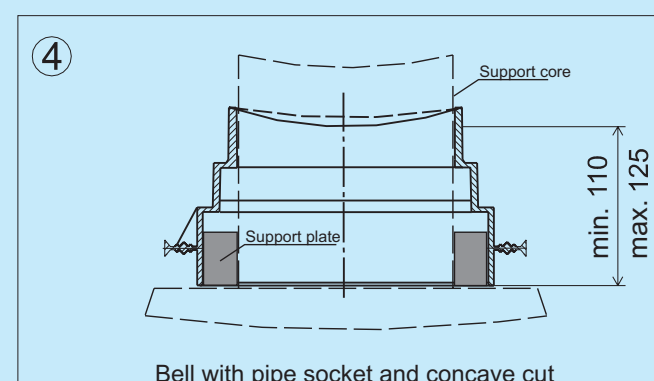
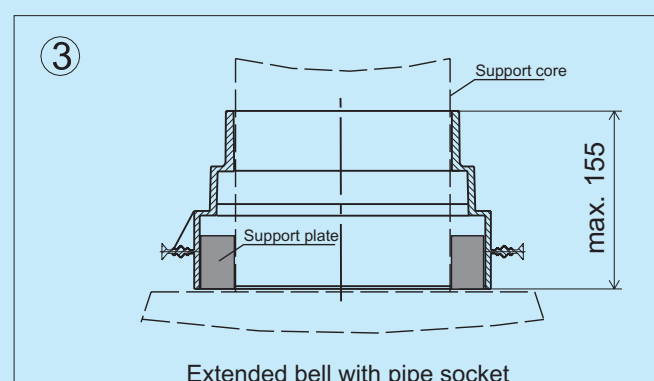
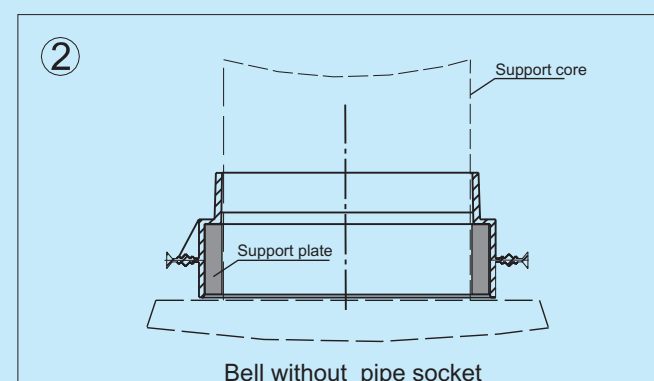
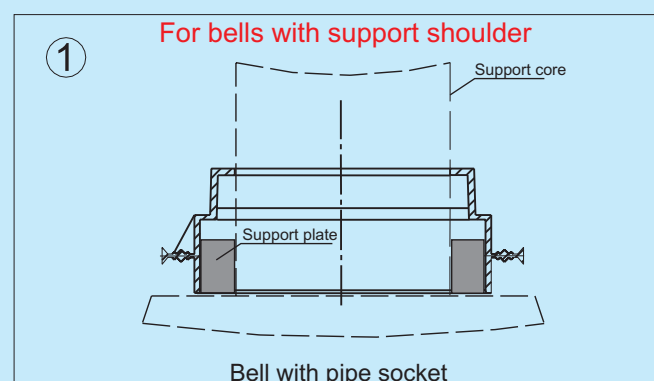
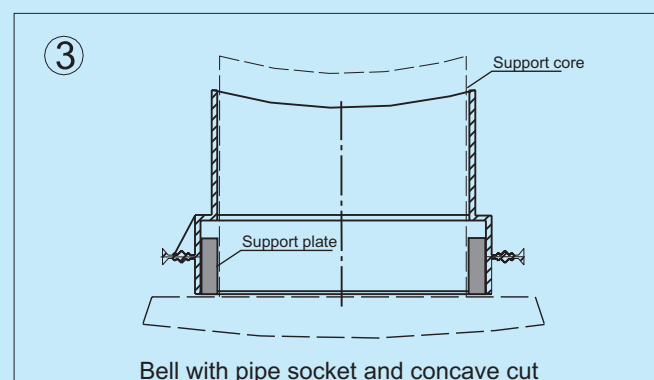
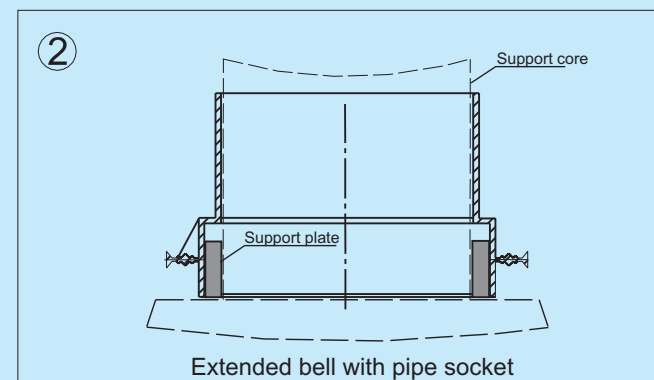
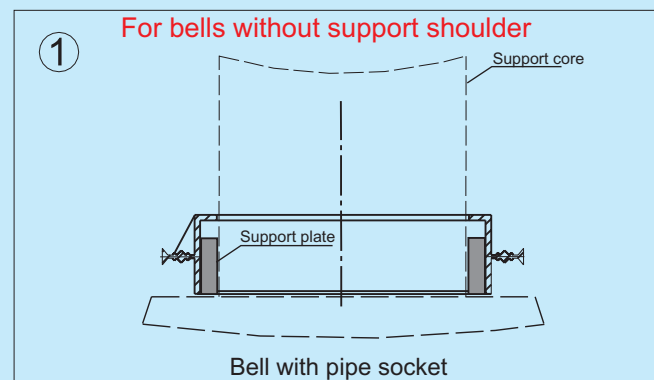
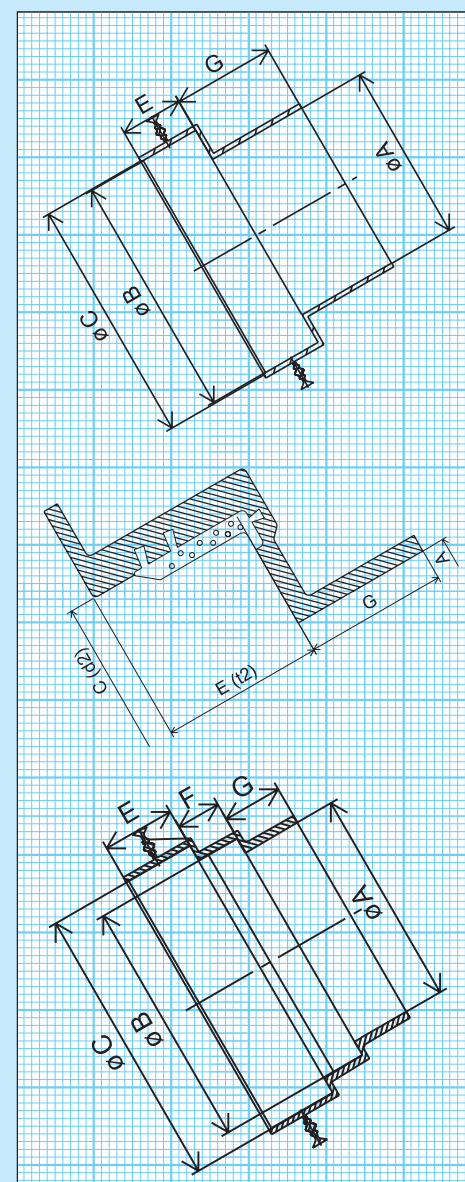
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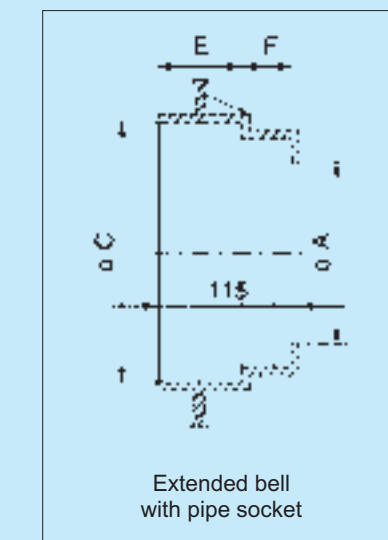
Material Legend :
PP – polypropylene
PS – polystyrene
GRP - Glass fiber reinforced polyester



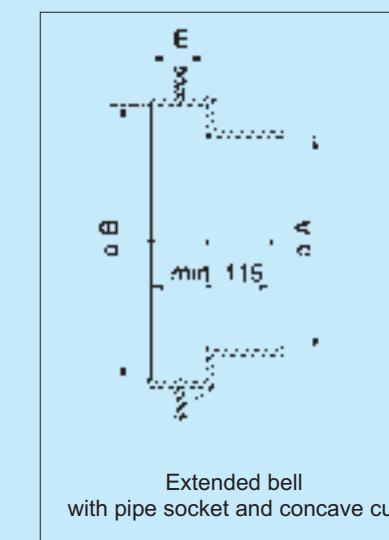
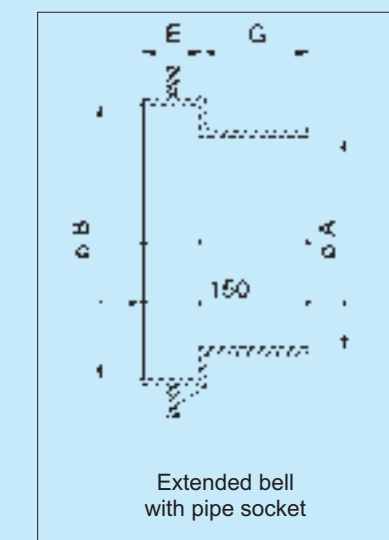
In order to guarantee a perfect shape stability, certain processing instructions must be observed:

Before casting the PREDL®-bells, they have to be positioned on support cores and used with accurate size support plates! (A spreadsheet with dimensions is available in our Bönitz plant.)

Bells with support shoulder



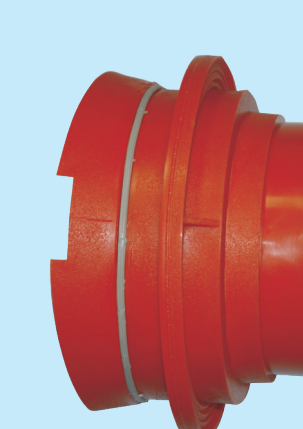
Bells without support shoulder



Bells from DN 400 onwards are not provided with a water barrier and have sanding on the outside



Concave cut in order to match the radius of the inner core of the mould



Bell adjusted to match the inner and outer radius of the mould (concave / convex)

Additional bells (i.e. concrete) on demand