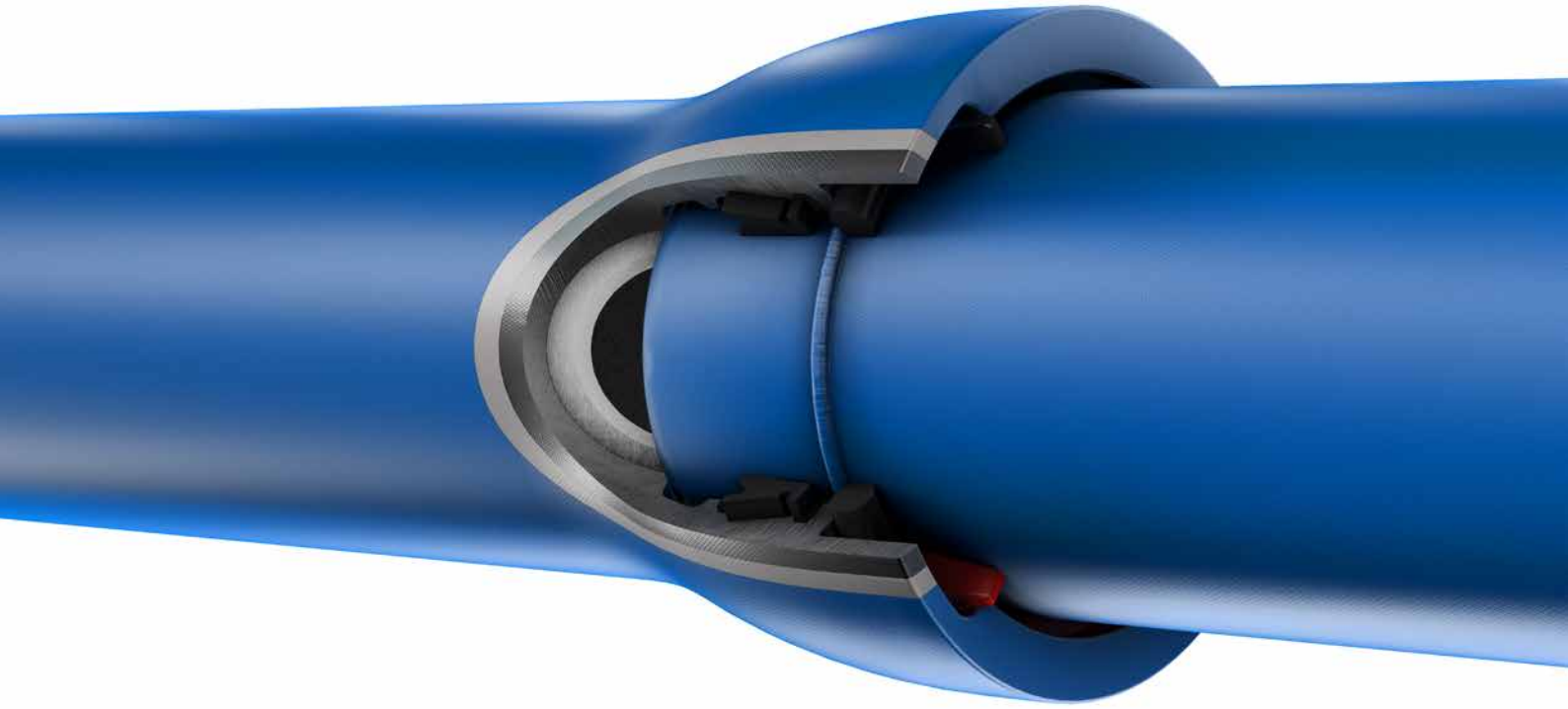
PIPE SYSTEMS



# Restrained Locking Systems

## DN 80 to DN 600

**ductile iron solutions**
www.trm.at

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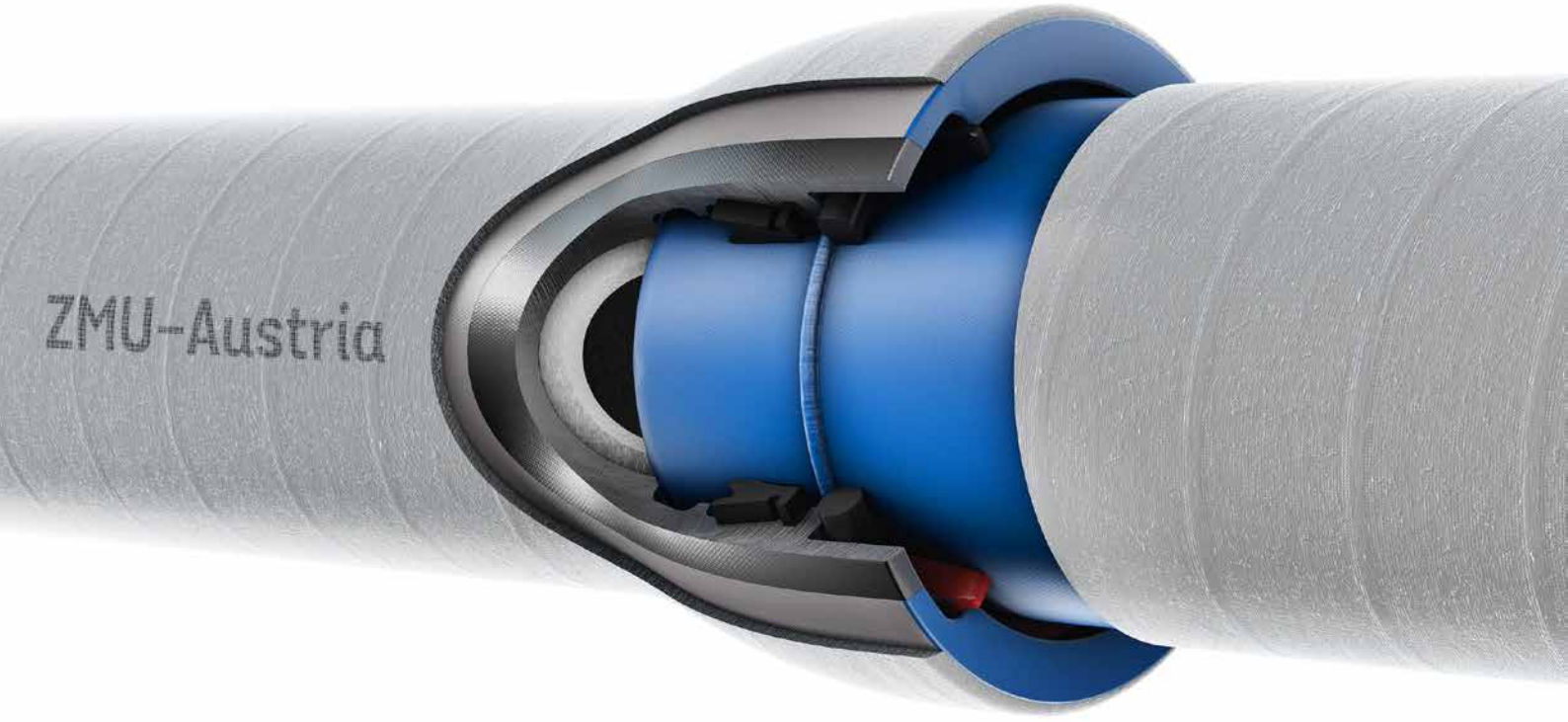



# Restrained Locking Systems

## VRS®-T joint

Different forces act on the pipe and the joint. The decisive factors here are the earth pressure, static and dynamic loads from the soil above, traffic and, of course, the internal pressure. Tensile forces at the joint and friction forces play a particularly important role in trenchless installation, and restrained locking systems absorb all these forces.

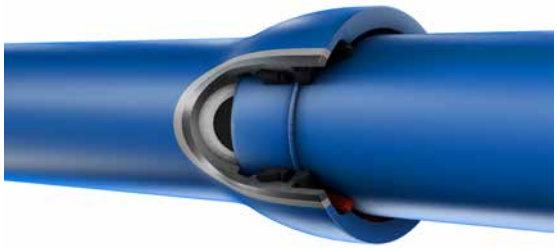
### Joint structure

A restrained socket consists of two separate chambers: a retaining chamber and a sealing chamber. The forces are transmitted from one pipe / fitting to the other via the welded bead and the locking elements into the socket. The design of the joint is the same for pipes and fittings.

The joint acts as a longitudinally displaceable connection and can withstand high loads. It remains sealed even under maximum decentering or joint-bending conditions, as proven by the type tests according to EN 545.

⚠ Thrust blocks to absorb the internal forces are not necessary – and mobility in the joint is maintained.

⚠ Tiroler Rohre GmbH offers pipe-system tests (type tests) according to ÖNORM EN 545 and ÖNORM EN 598 for all DN and pressure ratings.



VRS®-T joint DN 80 to DN 500

VRS®-T joint DN 600

VRS®-T joint with clamping ring DN 80 to DN 500

## Allowable pressures
acc. to EN 545 + EN 805

**PFA allowable operating pressure**

(highest hydrostatic pressure that a pipeline component can withstand in continuous operation)

**PMA highest allowable operating pressure**

(highest temporary pressure, including pressure surges, that a pipeline component can withstand during operation)
= 1.2 x PFA

**PEA-allowable test pressure**

(highest hydrostatic pressure that a newly installed pipeline component can withstand for a relatively short time to ensure the integrity and leak-tightness of the pipeline)
= 1.2 x PFA + 5 bar

⚠ The allowable test pressure (PEA) differs from the system test pressure (STP), which relates to the calculation pressure of the pipeline and serves to maintain its condition and leak-tightness.

## Negative internal pressure

Ductile iron pipes and fittings can be used for negative pressures of up to -0.6 bar (continuous) or -0.9 bar (short-term).

## Pressure classes (C classes)

According to EN 545, restrained locking systems are not classified into C classes, so the dimensions deviate from those of pipes according to EN 545 Table 17 (pipes with non-restrained locking systems).

## Consistent system

Restrained locking systems made by different manufacturers cannot be combined because they use different force-transmission elements, have different welded-bead designs and are located at different distances from the pipe end.

⚠ For possible solutions, please contact our application engineering department.

VRS®-T EPDM gasket ring according to EN 681-1

VRS®-T lock set

VRS®-T lock set with high-pressure lock (HDR)

# VRS®-T Joint

DN 80 to DN 250

VRS®-T joint with tension and shear protection according to ÖNORM B 2597. Separate retaining and sealing chamber, spigot with welded bead.

## VRS®-T joint set DN 80 to DN 250:

+ VRS®-T EPDM gasket ring according to EN 681-1
+ VRS®-T lock set:
  – 1 lock, right (black)
  – 1 lock, left (red)
  – 1 catch
+ High-pressure lock (HDR – optional)

⚠ HDRs are used at the VRS®-T joints in nominal diameters DN 150 to DN 250 primarily for trenchless installation methods or for high internal pressures. For all other nominal diameters and pressure ratings, standard lock designs are sufficient.

VRS®-T EPDM gasket ring according to EN 681-1

VRS®-T lock set

# VRS®-T Joint

DN 300 to DN 500

VRS®-T joint with tension and shear protection according to ÖNORM B 2597. Separate retaining and sealing chamber, spigot with welded bead.

## VRS®-T joint set DN 300 to DN 500:

+ VRS®-T EPDM gasket ring according to EN 681-1
+ VRS®-T lock set:
  – 2 locks, right (black)
  – 2 locks, left (red)
  – 2 catches

VRS®-T EPDM gasket ring according to EN 681-1

VRS®-T clamping ring for cut pipes

# VRS®-T Joint with clamping ring

DN 80 to DN 500

VRS®-T joint with tension and shear protection according to ÖNORM B 2597. Separate retaining and sealing chamber, spigot without welded bead.

⚠ The installation instructions for clamping rings must be observed!

## Clamping ring set DN 80 to DN 500:

+ VRS®-T EPDM gasket ring according to EN 681-1
+ VRS®-T split clamping ring:
  – 2 clamping ring halves
  – 2 hex bolts
  – 2 nuts
  – Tightening torque 60 Nm

Clamping rings can be used with cut VRS®-T pipes, which means that the customer does not need to use a welded bead. The clamping ring is a restrained locking system in which the claws of the clamping ring press into the outer wall of the pipe to secure the connection.

⚠ Avoid clamping rings in fittings!

⚠ Do not use clamping rings in above-ground pipes, in pipes subject to pulsation or in trenchless installations .

TYTON® EPDM gasket ring according to EN 681-1

VRS®-T locking set

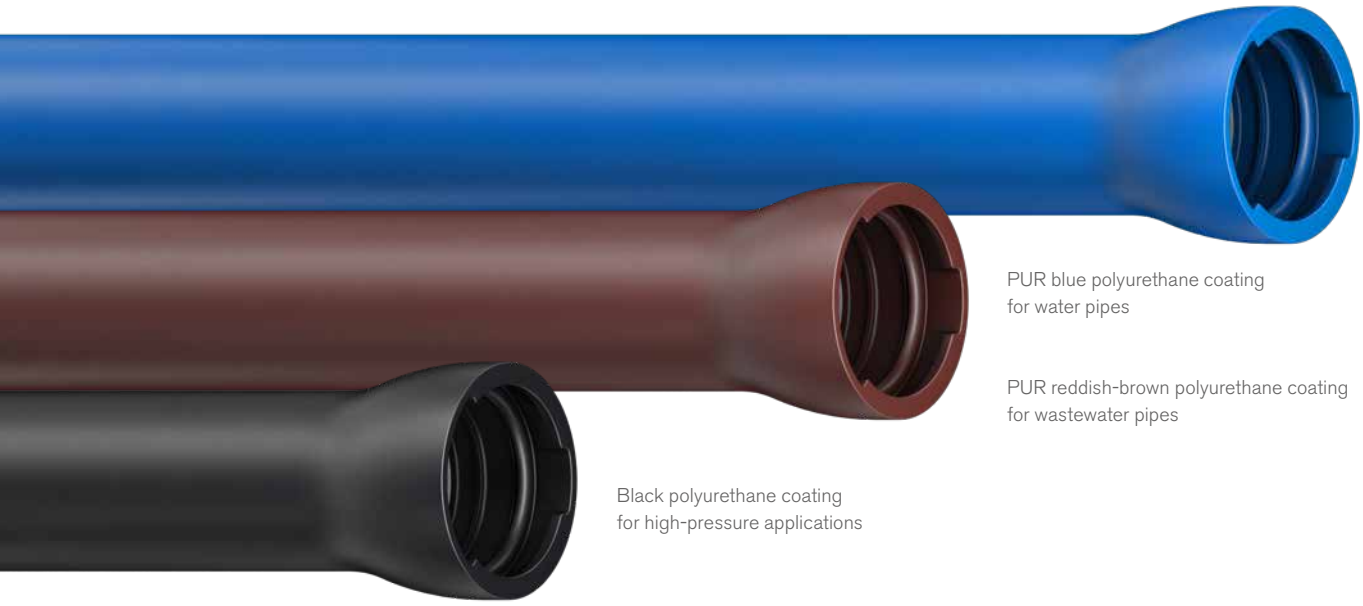
# VRS®-T Joint

DN 600

VRS®-T joint with tension and shear protection according to ÖNORM B 2597.Separate retaining and sealing chamber, spigot with welded bead.

## VRS®-T joint set DN 600:

+ TYTON® EPDM gasket ring according to EN 681-1
+ VRS®-T locking set:
  - 9 locking segments
  - 1 tension strap or
  - 1 metal clip (only necessary for trenchless installation)



PUR blue polyurethane coating
for water pipes

PUR reddish-brown polyurethane coating
for wastewater pipes

Black polyurethane coating
for high-pressure applications

# VRS®-T Pressure Pipes

DN 80 to DN 600

standard overall length 5.0 m

according to ÖNORM EN 545, ÖNORM EN 598 and ÖNORM B 2597 with VRS®-T restrained locking systems.

## Coating

**Internal lining**

+ Portland cement
+ High-alumina cement

⚠ Special linings available on request

**External coating**

+ Zinc coating with PUR-Longlife coating
+ Zinc coating with PUR-TOP coating
+ Zinc coating with ZMU-Austria coating

⚠ Other coatings (e.g. WKG coating and zinc-aluminum coating with top coat) available on request

⚠ For more detailed information, see the section on coatings.

Extremely resistant ZMU-Austria (cement-mortar coating)

WKG pipe, buried with PE-HD casing pipe

PUR-TOP coating

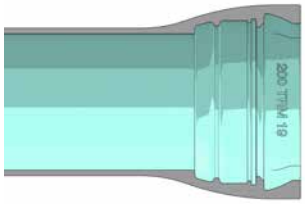
WKG pipe, open-air with spiral casing pipe

## Labeling

Pressure pipes are labeled by cast markings and lettering.

**Cast labels:**

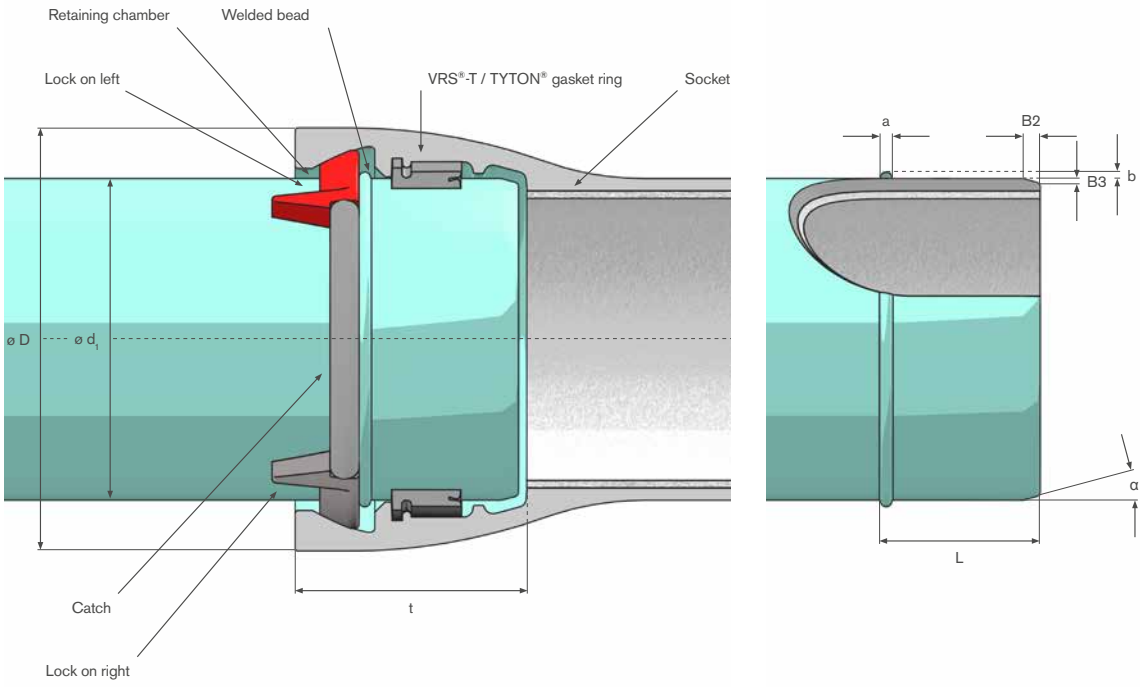
The pipes are labeled with the nominal diameter, the manufacturer's mark and the year inside the socket, i.e. at a suitable point where the function of the joint is not disturbed. These markings can be cast in embossed or grooved form.
The parallel, curved grooves some 3 mm deep in the front of the socket further identify the material as "ductile cast iron".
Short lengths of pipe (4 m or 4.5 m) are marked at the front of the socket.



Nominal diameter, manufacturer's mark and year inside the socket.

Marking for short lengths of pipe (4 m or 4.5 m) at the front of the socket.

Marking for ductile iron at the front of the socket.




# VRS®-T Pressure Pipes

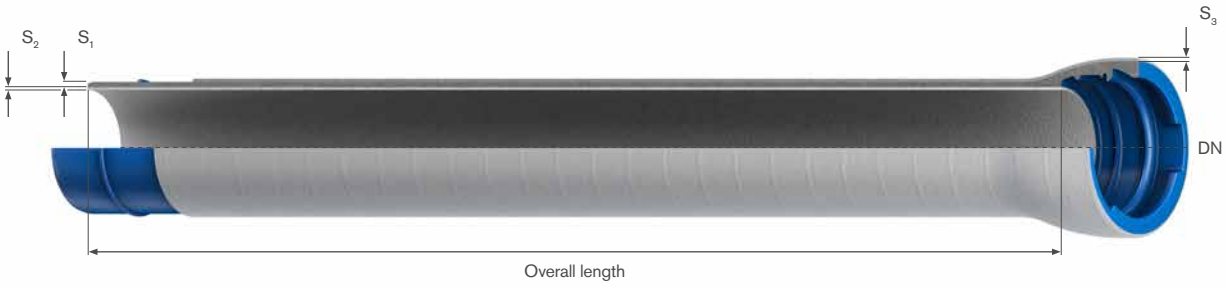
## DN 80 to DN 600

## standard overall length 5.0 m

Overview of technical data for pipes with restrained locking systems.

### **VRS®-T joint** DN 80 to DN 600

| DN | Dimensions [mm] | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Spigot diameter | Tolerances | Socket diameter | Insertion depth | Welded bead | | | Bevel | | |
| | d1 | | D | t | L | a | b | B2 | B3 | α |
| 80 | 98 | +1.0 \| -2.7 | 156 | 127 | 86 ±4 | 8 ±2 | 5 +0.5 \| -1 | 8–10 | 3–4 | 10 |
| 100 | 118 | +1.0 \| -2.8 | 177 | 135 | 91 ±4 | 8 ±2 | 5 +0.5 \| -1 | | | |
| 125 | 144 | +1.0 \| -2.8 | 206 | 143 | 96 ±4 | 8 ±2 | 5 +0.5 \| -1 | | | |
| 150 | 170 | +1.0 \| -2.9 | 232 | 150 | 101 ±4 | 8 ±2 | 5 +0.5 \| -1 | | | |
| 200 | 222 | +1.0 \| -3.0 | 292 | 160 | 106 ±4 | 9 ±2 | 5.5 +0.5 \| -1 | | | |
| 250 | 274 | +1.0 \| -3.1 | 352 | 165 | 106 ±4 | 9 ±2 | 5.5 +0.5 \| -1 | | | |
| 300 | 326 | +1.0 \| -3.3 | 410 | 170 | 106 ±4 | 9 ±2 | 5.5 +0.5 \| -1 | | | |
| 400 | 429 | +1.0 \| -3.5 | 521 | 190 | 115 ±5 | 10 ±2 | 6 +0.5 \| -1 | | | |
| 500 | 532 | +1.0 \| -3.8 | 630 | 200 | 120 ±5 | 10 ±2 | 6 +0.5 \| -1 | | | |
| 600 | 635 | +1.0 \| -4.0 | 732 | 175 | 116 +0 \| -2 | 9 ±1 | 6 +0.5 \| -1 | 8–10 | 3–4 | 15 |




## VRS®-T pipes DN 80 to DN 600

| DN | Municipal | | Dimensions [mm] | | | Weight per meter of pipe [kg]$_a$ | | Weight per pipe [kg]$_b$ | |
|---|---|---|---|---|---|---|---|---|---|
| | K class | PFA [bar] | $s_1$ Cast iron | $s_2$ ZMA | $s_3$ ZMU | Pipe 5 m | Pipe 5 m ZMU | Pipe 5 m | Pipe 5 m ZMU |
| 80 | K 10 | 100 | 4.7 | 4 | 5 | 16.3 | 20.0 | 81.6 | 100.1 |
| 100 | K 10 | 75 | 4.7 | 4 | 5 | 20.0 | 24.5 | 100.0 | 122.3 |
| 125 | K 10 | 63 | 4.8 | 4 | 5 | 25.6 | 31.1 | 128.2 | 155.3 |
| 150 | K 9 | 63 | 4.7 | 4 | 5 | 31.5 | 37.9 | 157.3 | 189.4 |
| 200 | K 9 | 40 | 4.8 | 4 | 5 | 40.9 | 49.3 | 204.5 | 246.5 |
| 250 | K 9 | 40 | 5.2 | 4 | 5 | 53.8 | 64.2 | 268.9 | 320.8 |
| 300 | K 9 | 40 | 5.6 | 4 | 5 | 67.9 | 80.3 | 339.5 | 401.3 |
| 400 | K 9 | 30 | 6.4 | 5 | 5 | 104.0 | 120.3 | 519.9 | 601.5 |
| 500 | K 9 / 10 | 25/30 | 7.2/8.2 | 5 | 5 | 142.4 | 162.7 | 711.8 | 813.3 |
| 600 | K 9 | 32 | 8.0 | 5 | 5 | 181.9 | 206.2 | 909.5 | 1,031.2 |

$_a$ theoretical mass of 1 m pipe, incl. ZMA, zinc, top coat and socket portion

$_b$ theoretical mass per pipe, incl. ZMA, zinc, top coat and socket portion, an overmold of approx. 10% is to be expected.

$_1$ Minimum dimension

$_{2, 3}$ Nominal dimension

| DN | K class | PFA [bar]$_a$ | | | Number of locks or set of locks | alwbl. tensile forces [kN] acc. to TRM$_d$ | max. bending [°] | min. radius [m] |
|---|---|---|---|---|---|---|---|---|
| | | without HDR | with HDR$_b$ | Clamping Ring | | | | |
| 80 | K 10 | 100 | 110 | 45 | 2/3$_c$ | 115 | 5 | 57 |
| 100 | K 10 | 75 | 100 | 45 | 2/3$_c$ | 150 | 5 | 57 |
| 125 | K 10 | 63 | 100 | 45 | 2/3$_c$ | 225 | 5 | 57 |
| 150 | K 9 | 63 | 75 | 45 | 2/3$_c$ | 240 | 5 | 57 |
| 200 | K 9 | 40 | 63 | 45 | 2/3$_c$ | 350 | 4 | 72 |
| 250 | K 9 | 40 | 44 | 45 | 2/3$_c$ | 375 | 4 | 72 |
| 300 | K 9 | 40 | – | 30 | 4 | 380 | 4 | 72 |
| 400 | K 9 | 30 | – | 30 | 4 | 650 | 3 | 95 |
| 500 | K 9 | 25 | – | 30 | 4 | 860 | 3 | 95 |
| 600 | K 9 | 32 | – | – | 9 | 1,525 | 2 | 143 |

$_a$ PFA: allowable operating pressure | PMA = 1.2 x PFA | PEA = 1.2 x PFA + 5 | higher PFA on request | see instructions on the use of clamping rings

$_d$ Tensile forces due to tensile tests by Berliner Wasserbetriebe water company

$_b$ HDR = high-pressure lock required for trenchless installation methods.

$_c$ with HDR = high-pressure lock

# VRS®-T Fittings

## DN 80 to DN 600

Ductile iron pressure fittings are supplied with nominal diameters of DN 80 to DN 600 with VRS®-T restrained locking systems.
The wall thicknesses of the pressure fittings are adapted to the allowable operating pressures (PFAs) of the restrained locking systems.

## Markings on ductile iron fittings

**Cast labels:**

All fittings manufactured by member companies of the "Fachgemeinschaft Gussrohrsysteme" (European Association for Ductile Iron Pipe Systems – FGR/EADIPS) carry the "FGR" mark as confirmation of compliance with all guidelines for obtaining the "FGR Quality Seal".

Ductile iron fittings are marked with the manufacturer's logo, nominal diameter and type of socket (VRS®-T). Bends are also provided with the respective centering angle on the outer surface.

The nominal pressures PN 16, PN 25 and PN 40 are cast or stamped on flanged fittings. Flanged fittings for PN 10 and all socket fittings do not indicate the nominal pressure.

⚠ To identify the material as "ductile cast iron", the fittings have three embossed points in a triangle on the outer surface.

⚠ In special cases, further markings can be specified.

## Fitting designations and symbols

| Name | Description | Symbol | page |
|---|---|---|---|
| Flanged socket | EU |  | 14 |
| Single-flanged fitting | F |  | 15 |
| Short fitting with welded bead | GDR |  | 16 |
| Sleeve socket | U (short) |  | 17 |
| Long sleeve socket | U (long) |  | 18 |
| Socket bend 11 1/4° | MK 11 |  | 19 |
| Socket bend 22 1/2° | MK 22 |  | 20 |
| Socket bend 30° | MK 30 |  | 21 |
| Socket bend 45° | MK 45 |  | 22 |
| Double-socket bend 11 1/4° | MMK 11 |  | 23 |
| Double-socket bend 22 1/2° | MMK 22 |  | 24 |

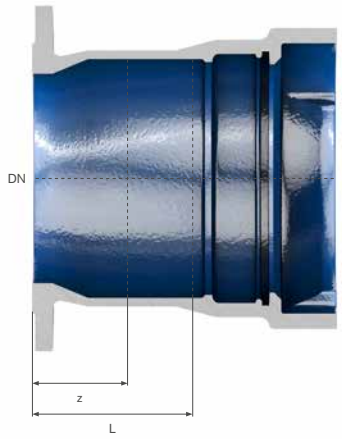
| Name | Description | Symbol | page |
|---|---|---|---|
| Double-socket bend 30° | MMK 30 |  | 25 |
| Double-socket bend 45° | MMK 45 |  | 26 |
| Double-socket bend 90° | MMQ |  | 27 |
| Socket fitting with socket branch | MB |  | 28 |
| Double-socket fitting with socket branch | MMB |  | 29 |
| Double-socket fitting with flanged branch | MMA |  | 30/31 |
| Double-socket transition fitting (reduction) | MMR |  | 32 |
| Connector fitting with 2" internal thread | A |  | 33 |
| Socket plug with 2" internal thread | P |  | 34 |
| Spigot sealing cap with 2" internal thread | O |  | 35 |
| Duckfoot bend 90° | EN |  | 36 |

## Coating

All fittings are coated with epoxy resin powder on the inside and outside according to EN 14 901 and meet the specifications of the “Quality-Assurance Association for Heavy-Duty Corrosion Protection" (GSK) RAL-GZ 662.

⚠ Please note: Customers may not cut, otherwise modify or process fittings.

RAL GÜTEZEICHEN
SCHWERER KORROSIONSSCHUTZ
VON ARMATUREN UND FORMSTÜCKEN




# VRS®-T EU Fitting

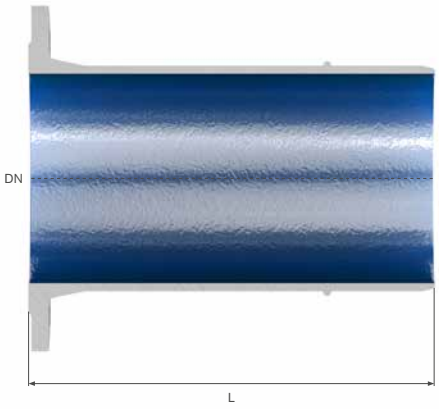
## Flanged socket

Ductile iron transition fitting flanged joint and socket joint according to ÖNORM EN 545. VRS®-T joint according to ÖNORM B 2597. Flange joint according to ÖNORM EN 1092-2. Epoxy resin coating according to ÖNORM EN 14 901 and RAL-GZ 662.

| DN | Dimensions [mm][a] | | Article no. | | | | | | Mass [kg] | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | L | z | PN 10 | PN 16 | PN 25 | PN 40 | PN 63 | PN 100 | PN 10 | PN 16 | PN 25 | PN 40 | PN 63 | PN 100 |
| 80 | 130 | 90 | 106080020 | | | | 106080021 | 106080022 | 9.7 | | | | 12.5 | 15.2 |
| 100 | 130 | 90 | 106080023 | | 106080024 | | 106080025 | 106080026 | 12.0 | | 12.7 | | 16.2 | 20.0 |
| 125 | 135 | 95 | 106089027 | | 106089028 | | 106089029 | 106080030 | 16.0 | | 18.2 | | 23.4 | 26.4 |
| 150 | 135 | 95 | 106089031 | | 106089032 | | 106089033 | 106089034 | 20.9 | | 22.1 | | 32.5 | 32.5 |
| 200 | 140 | 100 | 106089035 | 106089036 | 106089037 | 106080038 | 106089039 | 106089040 | 28.0 | 30.6 | 29.0 | 37.0 | 50.0 | 56.6 |
| 250 | 145 | 105 | 106089041 | 106089042 | 106089043 | 106089044 | 106089045 | 106080046 | 39.8 | 45.0 | 47.0 | 50.0 | 66.2 | 95.0 |
| 300 | 150 | 110 | 106089047 | 106089048 | 106089049 | 106089050 | 106089051 | 106089700 | 52.0 | 52.0 | 53.0 | 68.0 | 100.0 | 120.0[1] |
| 400 | 160 | 120 | 106080812 | 106080813 | 106080814 | 106080815 | 106080816 | – | 84.5 | 89.0 | 95.0 | 137.0 | 188.0 | – |
| 500 | 170 | 130 | 106080837 | 106080838 | 106080839 | 106080840 | 106080810 | – | 130.0 | 141.0 | 165.0 | 178.0[1] | 241.5 | – |
| 600 | 180 | 140 | 106026119 | 106025457 | 106028346 | 106024611 | – | – | 104.0 | 104.0 | 104.0 | 184.0[1] | – | – |

[a] according to EN 545 | B 2597 | EN 1092-2 | factory standards

[1] Note the PFA of the VRS-T joint.



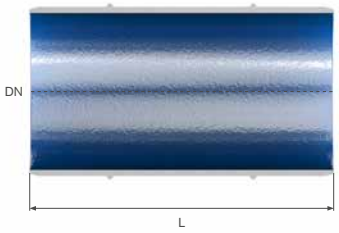

# VRS®-T F Fitting

## Single-flanged fitting

Ductile iron transition fitting flanged joint and socket joint (spigot) according to ÖNORM EN 545. VRS®-T joint according to ÖNORM B 2597. Flange joint according to ÖNORM EN 1092-2. Epoxy resin coating according to ÖNORM EN 14 901 and RAL-GZ 662.

| DN | Dimensions [mm]$_a$ | Article no. | | | | | | Mass [kg] | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | L | PN 10 | PN 16 | PN 25 | PN 40 | PN 63 | PN 100 | PN 10 | PN 16 | PN 25 | PN 40 | PN 63 | PN 100 |
| 80 | 350 | 106080052 | | | | 106070003 | 106080054 | 7.6 | | | | 10.4 | 12.4 |
| 100 | 360 | 106080055 | | 106080056 | | 106080057 | 106080058 | 9.8 | | 10.9 | | 15.5 | 17.9 |
| 125 | 370 | 106080059 | | 106080060 | | 106080061 | 106080062 | 14.1 | | 16.7 | | 22.5 | 26.2 |
| 150 | 380 | 106080063 | | 106080064 | | 106080065 | 106080066 | 19.6 | | 23.1 | | 32.5 | 36.0 |
| 200 | 400 | 106089067 | 106089068 | 106089069 | 106089070 | 106089071 | 106089072 | 28.5 | 29.4 | 24.5 | 29.3 | 51.5 | 57.5 |
| 250 | 420 | 106089073 | 106089074 | 106080075 | 106080076 | 106080077 | – | 37.0 | 42.5 | 36.0 | 55.7 | 70.5 | – |
| 300 | 440 | 106089078 | 106089079 | 106089080 | 106089081 | – | – | 46.5 | 58.3 | 47.5 | 62.0 | – | – |
| 400 | 480 | 106080817 | 106080818 | 106080819 | 106029783 | – | – | 74.5 | 79.5 | 84.0 | 118.0 | – | – |
| 500 | 520 | 106070258 | 106028407 | 106070307 | 106028658 | – | – | 146.0 | 146.0 | 155.0 | 175.0 | – | – |
| 600 | 560 | 106026118 | 106028008 | 106028347 | 106024612 | – | – | 135.0 | 135.0 | 135.0 | 227.0 | – | – |

$_a$ according to EN 545 | B 2597 | EN 1092-2 | factory standards




# VRS®-T GDR Fitting

## Short fitting with welded beads

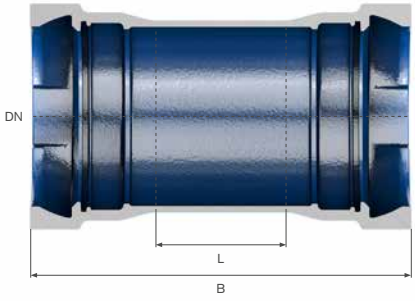
Short ductile iron pipe fitting with two welded beads according to factory standards. VRS®-T joint according to ÖNORM B 2597. EPOXY coating according to ÖNORM B2562 and cement-mortar lining.

| DN | Article no. | Dimensions [mm]$_a$ L | PFA [bar] | Mass [kg] |
|---|---|---|---|---|
| 80 | 106089083 | 400 | 100 | 6.5 |
| 100 | 106089085 | 400 | 100 | 9.5 |
| 125 | 106089088 | 400 | 100 | 12.1 |
| 150 | 106089090 | 400 | 100 | 15.3 |
| 200 | 106089092 | 400 | 100 | 22.8 |
| 80 | 106089084 | 800 | 100 | 13.9 |
| 100 | 106080086 | 800 | 100 | 18.5 |
| 125 | 106080087 | 800 | 100 | 20.5 |
| 150 | 106080089 | 800 | 100 | 32.5 |
| 200 | 106080091 | 800 | 100 | 43.6 |
| 250 | 106080260 | 800 | 100 | 55.5 |
| 300 | 106080261 | 800 | 100 | 84.0 |
| 400 | 106080255 | 800 | 40 | 79.0 |
| 400 | 106080258 | 800 | 63 | 105.0 |
| 500 | 106080256 | 800 | 30 | 104.0 |
| 600$_b$ | 106000195 | 1000$_c$ | 32 | 1,118.4 |

$_a$ according to factory standards | B 2597

$_b$ Internal lining: cement-mortar lining according to ÖNORM B 2562

$_c$ Special component, length K9 1000 mm




# VRS®-T U Fitting (short)

## Sleeve socket

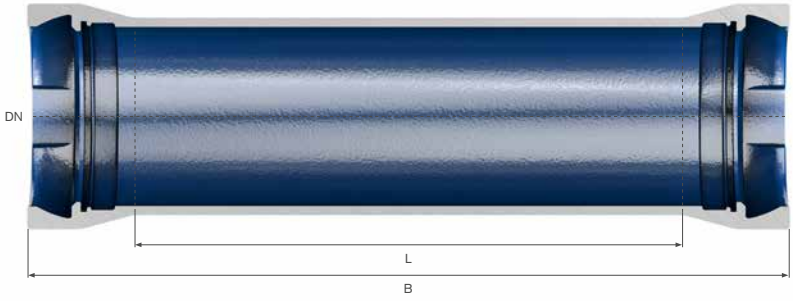
Push-on double-socket fitting for connecting a ductile iron pipe according to ÖNORM EN 545 and factory standards. VRS®-T joint according to ÖNORM B 2597. Epoxy resin coating according to ÖNORM EN 14 901 and RAL-GZ 662.

- ⚠ Use TYTON® gasket rings for easier sliding during assembly.
- ⚠ TYTON® gasket rings are supplied and must not be confused with VRS®-T gaskets
- ⚠ The installation instructions for clamping-ring connections must be observed!

| DN | Article no. | Dimensions [mm][a] | | PFA [bar] | Mass [kg] |
|---|---|---|---|---|---|
| | | L | B | | |
| 80 | 106080650 | 161 | 415 | 100 | 12.5 |
| 100 | 106080651 | 160 | 430 | 100 | 17.0 |
| 125 | 106080652 | 174 | 460 | 100 | 22.5 |
| 150 | 106080653 | 180 | 480 | 100 | 30.5 |
| 200 | 106080654 | 180 | 500 | 100 | 42.5 |
| 250 | 106080655 | 190 | 520 | 100 | 65.0 |
| 300 | 106089656 | 200 | 540 | 85 [1] | 96.0 |
| 400 | 106080836 | 210 | 590 | 30 | 115.0 |
| 500 | 106080950 | 320 | 720 | 30 | 208.0 |

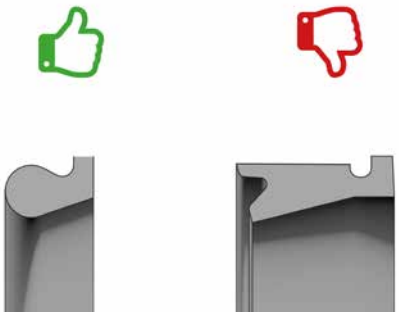
[a] according to EN 545 | B 2597 | factory standards

[1] PFA 100 possible after consultation with our application engineering department.




# VRS®-T U Fitting (long)

## Long sleeve socket

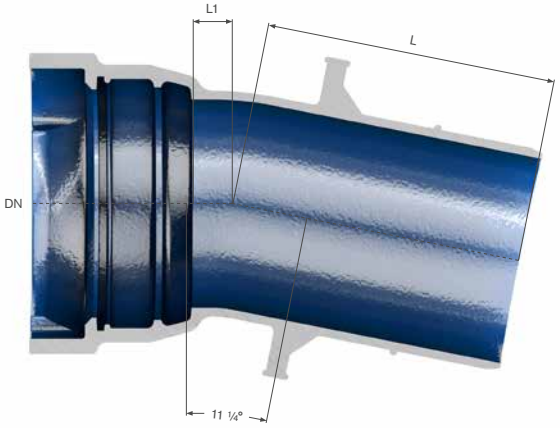


Push-on double-socket fitting for connecting a ductile iron pipe according to factory standards. Designed for use as an expansion compensation fitting. VRS®-T joint according to ÖNORM B 2597. Epoxy resin coating according to ÖNORM EN 14 901 and RAL-GZ 662.

- ⚠ Use TYTON® gasket rings for easier sliding during assembly.
- ⚠ TYTON® gasket rings are supplied and must not be confused with VRS®-T gaskets
- ⚠ The installation instructions for clamping-ring connections must be observed!

| DN | Article no. | Dimensions [mm]$_a$ | | PFA [bar] | Mass [kg] |
|---|---|---|---|---|---|
| | | L | B | | |
| 150 | 106080846 | 900 | 600 | 100 | 46.0 |
| 200 | 106080847 | 900 | 580 | 100 | 78.0 |
| 250 | 106080848 | 900 | 570 | 100 | 110.0 |

$_a$ according to factory standards | B 2597




# VRS®-T MK Fitting 11

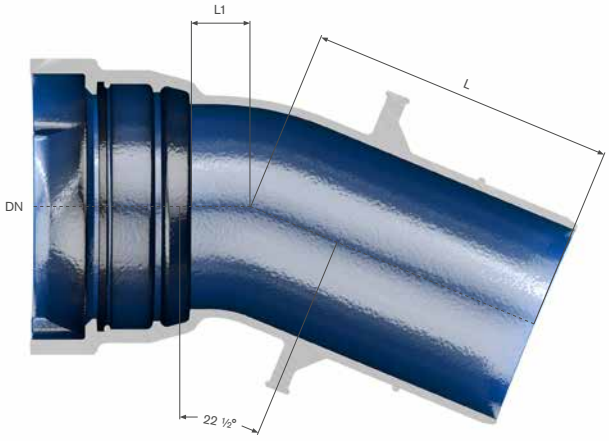
## Socket bend 11 1/4°

Ductile iron bend fitting with socket and spigot and 11 1/4° bend according to factory standards. VRS®-T joint according to ÖNORM B 2597. Epoxy resin coating according to ÖNORM EN 14 901 and RAL-GZ 662.

| DN | Article no. | Dimensions [mm][a] | | PFA [bar] | Mass [kg] |
|---|---|---|---|---|---|
| | | L | L1 | | |
| 80 | 106080098 | 175 | 30 | 100 | 8.2 |
| 100 | 106080102 | 185 | 30 | 100 | 11.4 |
| 125 | 106080106 | 200 | 35 | 100 | 15.3 |
| 150 | 106089110 | 210 | 35 | 100 | 20.0 |
| 200 | 106089114 | 230 | 40 | 100 | 31.5 |
| 250 | 106089118 | 250 | 50 | 100 | 51.0 |
| 300 | 106089122 | 270 | 55 | 85 [1] | 73.0 |
| 400 | 106080821 | 375 | 65 | 63 | 129.0 |
| 500 | 106080803 | 405 | 75 | 50 | 203.0 |
| 600 | 106017327 | 399 | 97 | 55 | 189.0 |

[a] according to EN 545 | B 2597 | factory standards

[1] PFA 100 possible after consultation with our application engineering department.




# VRS®-T MK Fitting 22

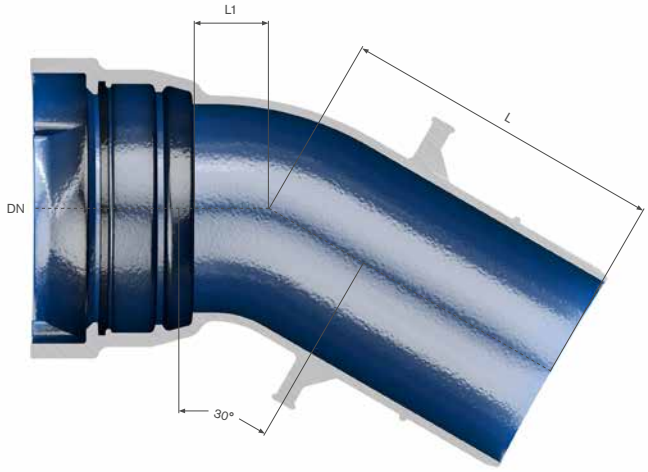
## Socket bend 22 1/2°

Ductile iron bend fitting with socket and spigot and 22 1/2° bend according to factory standards. VRS®-T joint according to ÖNORM B 2597. Epoxy resin coating according to ÖNORM EN 14 901 and RAL-GZ 662.

| DN | Article no. | Dimensions [mm]$_a$ | | PFA [bar] | Mass [kg] |
|---|---|---|---|---|---|
| | | L | L1 | | |
| 80 | 106080099 | 185 | 40 | 100 | 8.5 |
| 100 | 106080103 | 195 | 40 | 100 | 11.8 |
| 125 | 106080107 | 215 | 50 | 100 | 16.0 |
| 150 | 106089111 | 230 | 55 | 100 | 20.5 |
| 200 | 106089115 | 255 | 65 | 100 | 33.5 |
| 250 | 106089119 | 275 | 75 | 100 | 55.0 |
| 300 | 106089123 | 300 | 85 | 85 [1] | 80.0 |
| 400 | 106080822 | 420 | 110 | 63 | 138.8 |
| 500 | 106080804 | 460 | 130 | 50 | 222.0 |
| 600 | 106017328 | 459 | 157 | 55 | 216.0 |

$_a$ according to EN 545 | B 2597 | factory standards

[1] PFA 100 possible after consultation with our application engineering department.




# VRS®-T MK Fitting 30

## Socket bend 30°

Ductile iron bend fitting with socket and spigot and 30° bend according to factory standards. VRS®-T joint according to ÖNORM B 2597. Epoxy resin coating according to ÖNORM EN 14 901 and RAL-GZ 662.

| DN | Article no. | Dimensions [mm][a] | | PFA [bar] | Mass [kg] |
|---|---|---|---|---|---|
| | | L | L1 | | |
| 80 | 106080100 | 190 | 45 | 100 | 8.5 |
| 100 | 106080104 | 205 | 50 | 100 | 12.1 |
| 125 | 106080108 | 220 | 55 | 100 | 16.2 |
| 150 | 106089112 | 240 | 65 | 100 | 21.8 |
| 200 | 106089116 | 270 | 80 | 100 | 35.5 |
| 250 | 106089120 | 295 | 95 | 100 | 55.8 |
| 300 | 106089124 | 320 | 110 | 85 [1] | 84.0 |
| 400 | 106080823 | 450 | 140 | 63 | 135.0 |
| 500 | 106080805 | 495 | 170 | 50 | 224.0 |
| 600 | 106017331 | 501 | 199 | 55 | 264.0 |

[a] according to EN 545 | B 2597 | factory standards

[1] PFA 100 possible after consultation with our application engineering department.


# VRS®-T MK Fitting 45

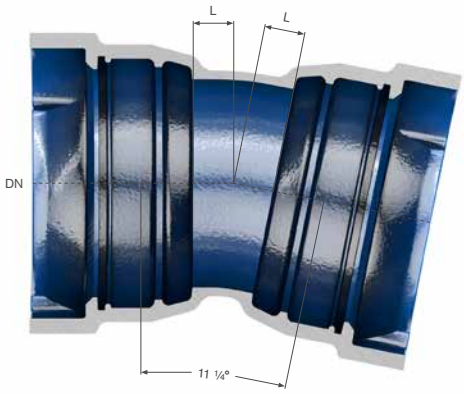
## Socket bend 45°

Ductile iron bend fitting with socket and spigot and 45° bend according to factory standards. VRS®-T joint according to ÖNORM B 2597. Epoxy resin coating according to ÖNORM EN 14 901 and RAL-GZ 662.

| DN | Article no. | Dimensions [mm]$_a$ | | PFA [bar] | Mass [kg] |
|---|---|---|---|---|---|
| | | L | L1 | | |
| 80 | 106080101 | 200 | 55 | 100 | 9.0 |
| 100 | 106080105 | 220 | 65 | 100 | 12.6 |
| 125 | 106080109 | 240 | 75 | 100 | 17.5 |
| 150 | 106089113 | 260 | 85 | 100 | 23.8 |
| 200 | 106089117 | 300 | 110 | 100 | 38.0 |
| 250 | 106089121 | 335 | 130 | 100 | 64.0 |
| 300 | 106089125 | 365 | 150 | 85 [1] | 86.0 |
| 400 | 106080850 | 505 | 195 | 63 | 162.5 |
| 500 | 106080851 | 567 | 245 | 50 | 258.0 |

$_a$ according to EN 545 | B 2597 | factory standards

[1] PFA 100 possible after consultation with our application engineering department.




# VRS®-T MK Fitting 11

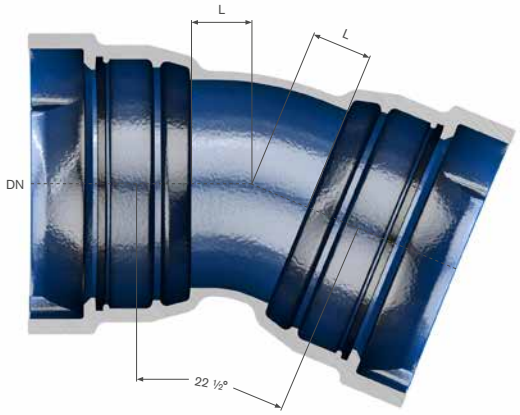
## Double-socket bend 11 1/4°

Ductile iron bend fitting with two sockets and 11 1/4° bend according to ÖNORM EN 545 and ÖNORM EN 598. VRS®-T joint according to ÖNORM B 2597. Epoxy resin coating according to ÖNORM EN 14 901 and RAL-GZ 662.

| DN | Article no. | Dimensions [mm]$_a$ L | PFA [bar] | Mass [kg] |
|---|---|---|---|---|
| 80 | 106080186 | 30 | 100 | 10.0 |
| 100 | 106080190 | 30 | 100 | 14.3 |
| 125 | 106080194 | 35 | 100 | 20.2 |
| 150 | 106089198 | 35 | 100 | 22.5 |
| 200 | 106089202 | 40 | 100 | 36.8 |
| 250 | 106089206 | 50 | 100 | 53.0 |
| 300 | 106089210 | 55 | 85 [1] | 69.4 |
| 400 | 106080831 | 65 | 30 | 116.0 |
| 500 | 106025095 | 75 | 30 | 170.0 |
| 600 | 106026120 | 85 | 32 | 127.0 |

[a] according to EN 545 | B 2597 | factory standards

[1] PFA 100 possible after consultation with our application engineering department.




# VRS®-T MK Fitting 22

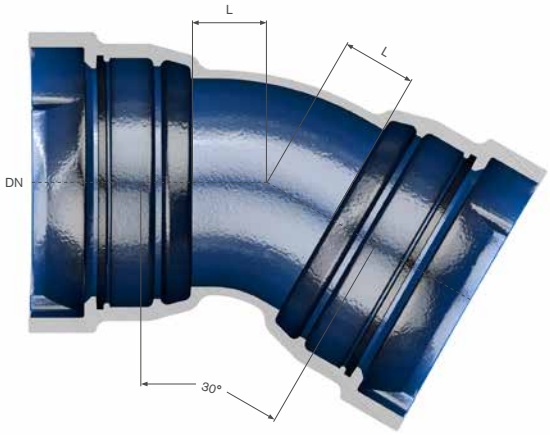
## Double-socket bend 22 1/2°

Ductile iron bend fitting with two sockets and 22 1/2° bend according to ÖNORM EN 545 and ÖNORM EN 598. VRS®-T joint according to ÖNORM B 2597. Epoxy resin coating according to ÖNORM EN 14 901 and RAL-GZ 662.

| DN | Article no. | Dimensions [mm][a] | PFA [bar] | Mass [kg] |
|---|---|---|---|---|
| | | L | | |
| 80 | 106080187 | 40 | 100 | 11.3 |
| 100 | 106080191 | 40 | 100 | 14.6 |
| 125 | 106080195 | 50 | 100 | 20.8 |
| 150 | 106089199 | 55 | 100 | 23.6 |
| 200 | 106089203 | 65 | 100 | 38.6 |
| 250 | 106089207 | 75 | 100 | 56.7 |
| 300 | 106089211 | 85 | 85 [1] | 75.6 |
| 400 | 106080832 | 110 | 30 | 125.5 |
| 500 | 106029152 | 130 | 30 | 197.8 |
| 600 | 106026121 | 150 | 32 | 141.0 |

[a] according to EN 545 | B 2597 | factory standards

[1] PFA 100 possible after consultation with our application engineering department.




# VRS®-T MK Fitting 30

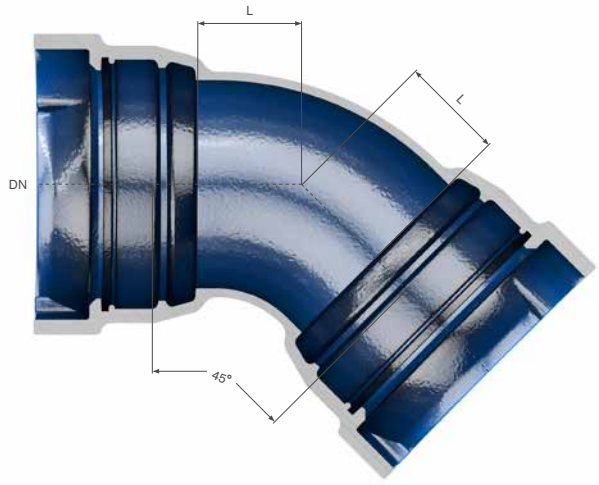
## Double-socket bend 30°

Ductile iron bend fitting with two sockets and 30° bend according to ÖNORM EN 545 and ÖNORM EN 598. VRS®-T joint according to ÖNORM B 2597. Epoxy resin coating according to ÖNORM EN 14 901 and RAL-GZ 662.

| DN | Article no. | Dimensions [mm]$_a$ | PFA [bar] | Mass [kg] |
|---|---|---|---|---|
| | | L | | |
| 80 | 106080188 | 45 | 100 | 10.3 |
| 100 | 106080192 | 50 | 100 | 14.8 |
| 125 | 106080196 | 55 | 100 | 21.0 |
| 150 | 106089200 | 65 | 100 | 24.3 |
| 200 | 106089204 | 80 | 100 | 41.3 |
| 250 | 106089208 | 95 | 100 | 57.0 |
| 300 | 106089212 | 110 | 85 [1] | 77.8 |
| 400 | 106080833 | 140 | 30 | 137.0 |
| 500 | 106025362 | 170 | 30 | 205.0 |
| 600 | 106026122 | 200 | 32 | 225.0 |

[a] according to EN 545 | B 2597 | factory standards

[1] PFA 100 possible after consultation with our application engineering department.




# VRS®-T MK Fitting 45

## Double-socket bend 45°

Ductile iron bend fitting with two sockets and 45° bend according to ÖNORM EN 545 and ÖNORM EN 598. VRS®-T joint according to ÖNORM B 2597. Epoxy resin coating according to ÖNORM EN 14 901 and RAL-GZ 662.

| DN | Article no. | Dimensions [mm][a] L | PFA [bar] | Mass [kg] |
|---|---|---|---|---|
| 80 | 106080189 | 55 | 100 | 11.4 |
| 100 | 106089193 | 65 | 100 | 14.5 |
| 125 | 106080197 | 75 | 100 | 22.0 |
| 150 | 106089201 | 85 | 100 | 25.8 |
| 200 | 106089205 | 110 | 100 | 41.3 |
| 250 | 106089209 | 130 | 100 | 64.6 |
| 300 | 106089213 | 150 | 85 [1] | 84.5 |
| 400 | 106080834 | 195 | 30 | 149.5 |
| 500 | 106029150 | 240 | 30 | 234.0 |
| 600 | 106026141 | 285 | 32 | 268.0 |

[a] according to EN 545 | B 2597 | factory standards

[1] PFA 100 possible after consultation with our application engineering department.


# VRS®-T MMQ Fitting

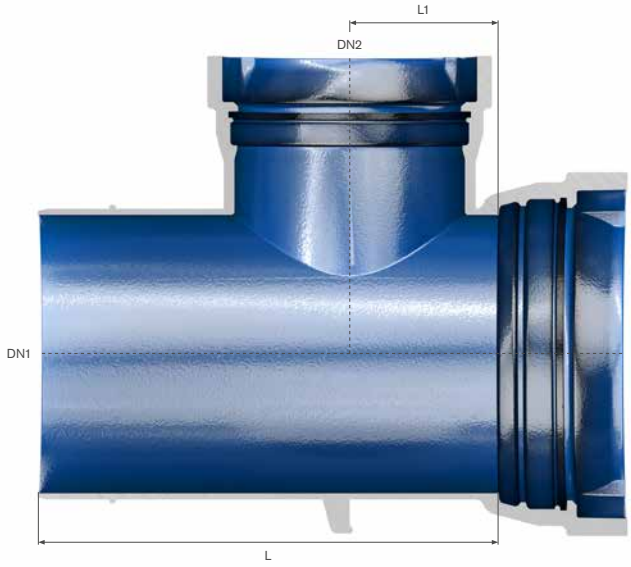
## Double-socket bend 90°

Ductile iron bend fitting with two sockets and 90° bend according to ÖNORM EN 545 and ÖNORM EN 598. VRS®-T joint according to ÖNORM B 2597. Epoxy resin coating according to ÖNORM EN 14 901 and RAL-GZ 662.

| DN | Article no. | Dimensions [mm][a] L | PFA [bar] | Mass [kg] |
|---|---|---|---|---|
| 80 | 106080214 | 100 | 100 | 11.3 |
| 100 | 106080215 | 120 | 100 | 16.7 |
| 125 | 106080216 | 145 | 100 | 24.8 |
| 150 | 106089217 | 170 | 100 | 30.5 |
| 200 | 106089218 | 220 | 100 | 53.4 |
| 250 | 106089219 | 270 | 100 | 78.0 |
| 300 | 106089220 | 320 | 85 [1] | 89.0 |
| 400 | 106029194 | 430 | 30 | 180.0 |

[a] according to EN 545 | B 2597 | factory standards

[1] PFA 100 possible after consultation with our application engineering department.



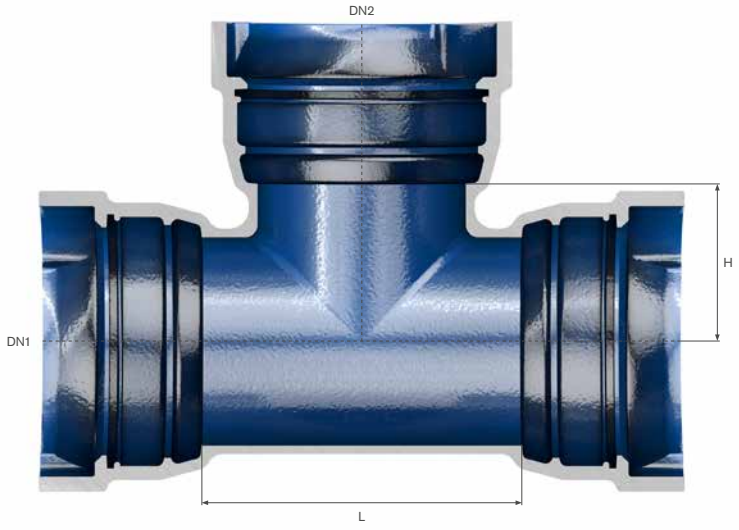

# VRS®-T MB Fitting

## Socket fitting with socket branch

Ductile iron fitting with socket and spigot with socket branch according to factory standards. VRS®-T joint according to ÖNORM B 2597. Epoxy resin coating according to ÖNORM EN 14 901 and RAL-GZ 662.

| DN 1 | DN 2 | Article no. | Dimensions [mm][a] | | PFA [bar] | Mass [kg] |
|---|---|---|---|---|---|---|
| | | | L | L1 | | |
| 80 | 80 | 106080677 | 449 | 85 | 100 | 20,0 |
| 100 | 80 | 106080678 | 485 | 95 | 100 | 24,0 |
| 125 | 80 | 106080679 | 536 | 112,5 | 100 | 31,0 |
| 150 | 80 | 106080680 | 584 | 128 | 100 | 39,0 |
| 200 | 80 | 106080681 | 671 | 157,5 | 100 | 58,0 |
| 400 | 80 | 106080806 | 680 | 220 | 63 | 184,0 |
| 400 | 300 | 106080807 | 680 | 220 | 63 | 211,5 |

[a] according to EN 545 | B 2597 | factory standards




# VRS®-T MMB Fitting

## Double-socket fitting with socket branch

Ductile iron fitting with two sockets and socket branch according to ÖNORM EN 545. VRS®-T joint according to ÖNORM B 2597. Epoxy resin coating according to ÖNORM EN 14 901 and RAL-GZ 662.

| DN 1 | DN 2 | Article no. | Dimensions [mm]$_a$ | | PFA [bar] | Mass [kg] |
|---|---|---|---|---|---|---|
| | | | L | H | | |
| 80 | 80 | 106080159 | 170 | 85 | 100 | 16.9 |
| 100 | 80 | 106080160 | 170 | 95 | 100 | 20.2 |
| 100 | 100 | 106080161 | 190 | 95 | 100 | 23.2 |
| 125 | 80 | 106080162 | 170 | 105 | 100 | 25.4 |
| 125 | 100 | 106080163 | 195 | 110 | 100 | 27.2 |
| 125 | 125 | 106080164 | 225 | 110 | 100 | 31.3 |
| 150 | 80 | 106080165 | 170 | 120 | 100 | 32.7 |
| 150 | 100 | 106080166 | 195 | 120 | 100 | 36.3 |
| 150 | 125 | 106080167 | 255 | 125 | 100 | 41.0 |
| 150 | 150 | 106089168 | 255 | 125 | 100 | 39.8 |
| 200 | 80 | 106089169 | 175 | 145 | 100 | 47.6 |
| 200 | 100 | 106089170 | 200 | 145 | 100 | 47.5 |
| 200 | 125 | 106080171 | 255 | 145 | 100 | 58.0 |
| 200 | 150 | 106089172 | 255 | 150 | 100 | 54.2 |
| 200 | 200 | 106089173 | 315 | 155 | 100 | 63.4 |

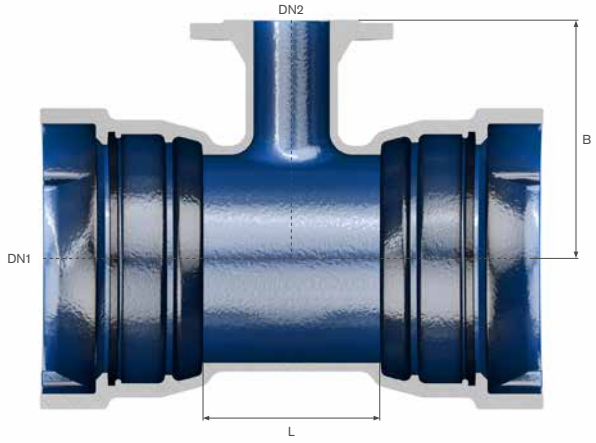
$_a$ according to EN 545 | B 2597 | factory standards

[1] PFA 100 possible after consultation with our application engineering department.

| DN 1 | DN 2 | Article no. | Dimensions [mm]$_a$ | | PFA [bar] | Mass [kg] |
|---|---|---|---|---|---|---|
| | | | L | H | | |
| 250 | 80 | 106089174 | 180 | 170 | 100 | 72.0 |
| 250 | 100 | 106089175 | 200 | 170 | 100 | 62.4 |
| 250 | 125 | 106089176 | 230 | 175 | 100 | 72.0 |
| 250 | 150 | 106089177 | 260 | 175 | 100 | 75.0 |
| 250 | 200 | 106089178 | 315 | 180 | 100 | 77.0 |
| 250 | 250 | 106089179 | 375 | 190 | 100 | 89.0 |
| 300 | 80 | 106089180 | 180 | 195 | 85 [1] | 97.0 |
| 300 | 100 | 106089181 | 205 | 195 | 85 [1] | 82.0 |
| 300 | 150 | 106089182 | 260 | 200 | 85 [1] | 87.2 |
| 300 | 200 | 106089183 | 320 | 205 | 85 [1] | 95.8 |
| 300 | 250 | 106089184 | 375 | 210 | 85 [1] | 109.0 |
| 300 | 300 | 106089185 | 435 | 220 | 85 [1] | 140.0 |
| 400 | 400 | 106025626 | 560 | 280 | 30 | 170.0 |
| 500 | 500 | 106089701 | 680 | 350 | 30 | 427.0 |

$_a$ according to EN 545 | B 2597 | factory standards

[1] PFA 100 possible after consultation with our application engineering department.




# VRS®-T MMA Fitting

## Double-socket fitting with flanged branch

Ductile iron fitting with two sockets and flanged branch according to ÖNORM EN 545. VRS®-T joint according to ÖNORM B 2597. Flange joint according to ÖNORM EN 1092-2. Epoxy resin coating according to ÖNORM EN 14 901 and RAL-GZ 662.

| DN 1 | DN 2 | Dimensions [mm][a] | | Article no. | | | | Mass [kg] | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | L | B | PN 10 | PN 16 | PN 25 | PN 40 | PN 10 | PN 16 | PN 25 | PN 40 |
| 80 | 50 | 170 | 160 | | 106080126 | | | | 15.2 | | |
| 80 | 80 | 170 | 165 | | 106080127 | | | | 16.0 | | |
| 100 | 50 | 170 | 170 | | 106080128 | | | | 19.4 | | |
| 100 | 80 | 170 | 175 | | 106080129 | | | | 20.0 | | |
| 100 | 100 | 190 | 180 | 106080130 | | – | – | 22.3 | | – | |
| 125 | 80 | 170 | 190 | | 106080131 | | | | 25.8 | | |
| 125 | 100 | 195 | 195 | 106080132 | | – | – | 27.5 | | – | |
| 125 | 125 | 225 | 200 | 106070194 | | – | – | 28.8 | | – | |
| 150 | 80 | 170 | 205 | | 106089134 | | | | 30.6 | | |
| 150 | 100 | 195 | 210 | 106089135 | | – | – | 33.0 | | – | |
| 150 | 150 | 255 | 220 | 106089137 | | – | – | 39.6 | | – | |
| 200 | 80 | 175 | 235 | | 106089138 | | | | 45.4 | | |
| 200 | 100 | 200 | 240 | 106089139 | | – | – | 46.8 | | – | |

[a] according to EN 545 | B 2597 | EN 1092-2 | factory standards

| DN 1 | DN 2 | Dimensions [mm]$_a$ | | Article no. | | | | Mass [kg] | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | L | B | PN 10 | PN 16 | PN 25 | PN 40 | PN 10 | PN 16 | PN 25 | PN 40 |
| 200 | 150 | 255 | 250 | 106089141 | | – | – | 51.6 | | – | |
| 200 | 200 | 315 | 260 | 106089143 | | – | – | 57.0 | | – | |
| 250 | 80 | 180 | 265 | 106089144 | | | | 62.0 | | | |
| 250 | 100 | 200 | 270 | 106089145 | | – | – | 57.5 | | – | |
| 250 | 150 | 260 | 280 | 106089146 | | – | – | 70.0 | | – | |
| 250 | 200 | 315 | 290 | 106070130 | 106089148 | – | – | 76.0 | 76.0 | – | |
| 250 | 250 | 375 | 300 | 106089149 | – | – | – | 85.0 | | – | |
| 300 | 80 | 180 | 295 | 106089151 | | | | 76.6 | | | |
| 300 | 100 | 205 | 300 | 106089152 | | 106080811 | | 81.2 | | 82.6 | |
| 300 | 150 | 260 | 310 | 106089153 | | 106070199 | – | 80.0 | | 81.0 | – |
| 300 | 200 | 320 | 320 | 106070200 | – | – | – | 94.4 | | – | |
| 300 | 300 | 435 | 340 | 106089157 | 106089158 | – | – | 111.8 | 111.8 | – | |
| 400 | 150 | 270 | 370 | 106080824 | | 106080825 | 106080826 | 147.0 | | 152.0 | 145.5 |
| 400 | 200 | 325 | 380 | 106080827 | 106080828 | 106080829 | – | 164.0 | 164.0 | 170.0 | – |
| 400 | 300 | 440 | 400 | 106080830 | – | – | – | 170.0 | – | – | – |
| 400 | 400 | 560 | 420 | 106021934 | 106026835 | 106026836 | – | 207.0 | 249.0 | 249.0 | – |
| 500 | 200 | 330 | 440 | 106028212 | 104175201 | 106026065 | – | 140.0 | 140.0 | 130.0 | – |
| 500 | 300 | 450 | 460 | 106028213 | 106029897 | – | – | 205.0 | 205.0 | – | – |
| 500 | 400 | 565 | 480 | 106028007 | – | – | – | 198.0 | – | – | – |
| 500 | 500 | 680 | 500 | 106025495 | 106027032 | – | 106026421 | 315.0 | 357.0 | – | 345.0 |
| 600 | 150 | 570 | 490 | 106028214 | | – | – | 230.0 | | – | – |
| 600 | 200 | 340 | 500 | 106028215 | – | 106028661 | – | 240.0 | – | 240.0 | – |
| 600 | 300 | 570 | 520 | – | 106028713 | – | – | – | 266.0 | – | – |
| 600 | 400 | 570 | 540 | 106028217 | – | – | – | 310.0 | – | – | – |
| 600 | 600 | 800 | 580 | 106026145 | 106028131 | – | – | 376.5 | 393.0 | – | – |

$_a$ according to EN 545 | B 2597 | EN 1092-2 | factory standards


# VRS®-T MMR Fitting

## Double-socket transition fitting (reduction)

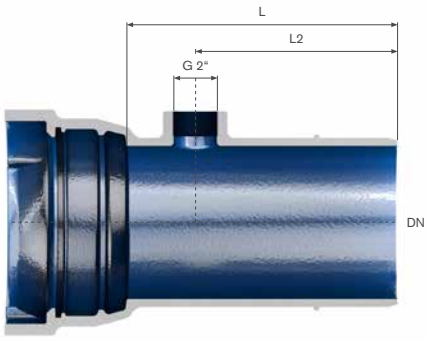
Ductile iron fitting with two sockets and reduction according to ÖNORM EN 545. VRS®-T joint according to ÖNORM B 2597. Epoxy resin coating according to ÖNORM EN 14 901 and RAL-GZ 662.

| DN 1 | DN 2 | Article no. | Dimensions [mm]$_a$ L | PFA [bar] | Mass [kg] |
|---|---|---|---|---|---|
| 100 | 80 | 106080221 | 90 | 100 | 11.9 |
| 125 | 80 | 106080222 | 140 | 100 | 16.0 |
| 125 | 100 | 106080223 | 100 | 100 | 17.2 |
| 150 | 80 | 106080224 | 190 | 100 | 19.0 |
| 150 | 100 | 106080225 | 150 | 100 | 21.0 |
| 150 | 125 | 106080226 | 100 | 100 | 20.8 |
| 200 | 100 | 106080227 | 250 | 100 | 29.6 |
| 200 | 150 | 106080228 | 150 | 100 | 30.0 |
| 250 | 150 | 106080229 | 250 | 100 | 44.2 |
| 250 | 200 | 106080230 | 150 | 100 | 45.8 |
| 300 | 150 | 106080231 | 350 | 85 [1] | 53.0 |
| 300 | 200 | 106080232 | 250 | 85 [1] | 59.0 |
| 300 | 250 | 106080233 | 150 | 85 [1] | 62.8 |
| 400 | 300 | 106080835 | 260 | 30 | 110.8 |
| 500 | 400 | 106080808 | 260 | 30 | 159.5 |
| 600$_b$ | 500 | 100020689 | 500 | 40 | 186,8 |

$_a$ according to EN 545 | B 2597 | factory standards

[1] PFA 100 possible after consultation with our application engineering department.

$_b$ non-restrained fitting




# VRS®-T A Fitting

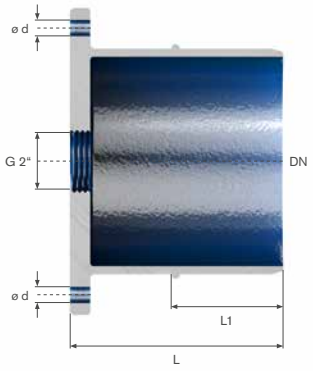
## Connector fitting with 2“ internal thread

Ductile iron fitting with socket and spigot and 2" threaded connection according to factory standards. VRS®-T joint according to ÖNORM B 2597. Epoxy resin coating according to ÖNORM EN 14 901 and RAL-GZ 662.

| DN | Article no. | Dimensions [mm][a] | | PFA [bar] | Mass [kg] |
|---|---|---|---|---|---|
| | | L | L2 | | |
| 80 | 106080001 | 305 | 215 | 100 | 10.5 |
| 100 | 106080002 | 315 | 225 | 100 | 14.0 |
| 125 | 106080003 | 325 | 235 | 100 | 18.0 |
| 150 | 106080004 | 340 | 250 | 100 | 23.6 |
| 200 | 106080005 | 355 | 265 | 100 | 35.0 |
| 250 | 106080006 | 370 | 275 | 100 | 53.0 |
| 300 | 106080007 | 380 | 285 | 85 [1] | 72.0 |

[a] according to factory standards | B 2597

[1] PFA 100 possible after consultation with our application engineering department.



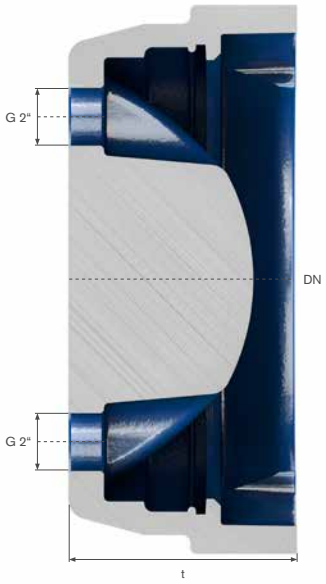

# VRS®-T P Plug

## Socket plug with 2" or 2.5" internal thread

Ductile iron socket plug and 2" or 2.5" threaded connection according to factory standards. VRS®-T joint according to ÖNORM B 2597. Epoxy resin coating according to ÖNORM EN 14 901 and RAL-GZ 662.

| DN | Article no. | Dimensions [mm]$_a$ | | | PFA [bar] | Mass [kg] |
|---|---|---|---|---|---|---|
| | | L1 | L | ød | | |
| 80 | 106080234 | 86 | 170 | M 12 | 100 | 3.6 |
| 100 | 106080235 | 91 | 175 | M 12 | 100 | 4.6 |
| 125 | 106080236 | 96 | 195 | M 16 | 100 | 6.7 |
| 150 | 106080237 | 101 | 200 | M 16 | 100 | 9.0 |
| 200 | 106080238 | 106 | 210 | M 16 | 100 | 14.3 |
| 250 | 106080239 | 106 | 250 | M 20 | 100 | 27.5 |
| 300 | 106080240 | 106 | 300 | M 20 | 100 | 49.5 |
| Socket plug with 2.5" internal thread | | | | | | |
| 80 | 106080241 | 86 | 170 | – | 100 | 3,6 |

$_a$ according to factory standards | B 2597




# VRS®-T O Cap

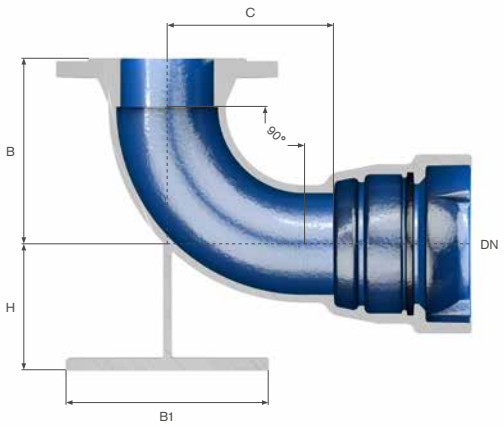
## Spigot sealing cap with 2“ internal thread

Ductile iron spigot sealing cap and 2" threaded connection according to factory standards. VRS®-T joint according to ÖNORM B 2597. Epoxy resin coating according to ÖNORM EN 14 901 and RAL-GZ 662.

| DN | Article no. | Dimensions [mm]$_a$ | | PFA [bar] | Mass [kg] |
|---|---|---|---|---|---|
| | | t | øD | – | |
| 80 | 106080668 | 157 | 201 | 100 | 17.1 |
| 100 | 106080669 | 165 | 221 | 100 | 19.7 |
| 125 | 106080670 | 173 | 247 | 100 | 23.7 |
| 150 | 106080671 | 180 | 273 | 100 | 28.0 |
| 200 | 106080672 | 190 | 326 | 100 | 38.4 |
| 250 | 106080673 | 195 | 385 | 100 | 58.6 |
| 300 | 106080674 | 205 | 430 | 85 [1] | 70.5 |
| 400 | 106029160 | 225 | 540 | 30 | 118.0 |
| 500 | 106029161 | 240 | 650 | 30 | 171.5 |

[a] according to factory standards | B 2597

[1] PFA 100 possible after consultation with our application engineering department.




# VRS®-T EN Fitting

## Duckfoot bend 90°

Ductile iron duckfoot bend 90° for hydrants with flanged connection according to factory standards. VRS®-T joint according to ÖNORM B 2597. Flange joint according to ÖNORM EN 1092-2. Epoxy resin coating according to ÖNORM EN 14 901 and RAL-GZ 662.

| DN | Dimensions [mm][a] | | | | Article no. | | | | Mass [kg] | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | B | C | H | B1 | PN 10 | PN 16 | PN 25 | PN 40 | PN 10 | PN 16 | PN 25 | PN 40 |
| 80 | 165 | 145 | 110 | 180 | 106080008 | | | | 16.6 | | | |
| 100 | 180 | 158 | 125 | 200 | 106080010 | | – | | 21.7 | | – | |

[a] according to EN 545 | B 2597 | EN 1092-2 | factory standards

# PIPE SYSTEMS

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