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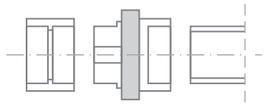
Welding-jointing

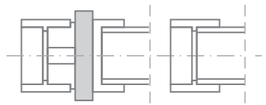
Jointing of pipes and joint fittings are carried out according to the procedure of poly-fusion welding, where special attention should be given to the use of suitable and flawless welding equipment and that the procedure is carried out in accordance with the manufacturer's instructions, or with the appropriate regulations (e.g. DVS 2207T1; DVS is the German Welding Society).

Here are some basic guidelines for the welding procedure:

- Cut the pipe perpendicularly and at the end mark the welding length to which the pipe is to be inserted into the tool. Tool temperature is 260 °C.
- Clean the pipe and jointing element (e.g. with ethyl alcohol), dry them and carefully insert them axially in or on the welding tool.



SUGGESTION: for easier jointing of two larger elements push the pipe and jointing element into the welding tool gradually



- Welding time indicated in the table starts when the pipe and jointing element are inserted to the correct depth into the welding tool.
- After the end of the welding time quickly remove the pipe and jointing element from the tool and joint them immediately without radial rotating until the socket end reaches the marking on the pipe.

ATTENTION: Do not push the pipe into the fitting too quickly, because it can cause a decrease of the internal diameter or even clog the pipe.

- Let the pipe and jointing elements cool for the prescribed time.

Table of parameters for poly-fusion welding of pipes and fittings according to DVS 2207, part 11

Ext. pipe diameter	Welding depth	Heating time		Welding time	Cooling time
mm	mm	sek DVS	sek TP*	sek	min
16	13,0	5	7	4	2
20	14,0	5	7	4	2
25	15,0	7	10	4	2
32	16,5	8	12	6	4
40	18,0	12	17	6	4
50	20,0	18	25	6	4
63	24,0	24	34	8	6

Totraplastika recommended welding times
In accordance with DVS 2207, part 11; at outside temperature under 5 °C the heating times are increased for about 50%.

Storage and warehousing

Store the pipes and fittings in a space which protects from impacts, surface damage, deformation or even breakage. The pipes and fittings must not be exposed to direct UV radiation during storage or after installation. The system is designed mainly for concealed installation.

Threading – sealing

With threaded joints it must be taken into account that the metal insert with an inner thread is made from material which can, in combination with the end thread on a pipe or another fitting (zinc coated fittings), cause damage on this inserted totrasanitar fitting. Joints should therefore be made only with the appropriate threads.
Yarn should not be used for sealing; a suitable liquid sealant is recommended (Loctite 577 or similar), without loading the joint with mechanical load. The Teflon band can also be applied, but in the right quantity and without excessive threading force.

ISO 9001:2008
Q-1926

TOTRASANITERM

The **Totrasaniterm pipe system** is designed for the delivery system of cold and hot tap water from the house connection to various users within the building, connected in parallel or sequentially, either wall mounted or concealed, for a new construction or for renovation. The TOTRASANITERM pipe system for cold and hot water delivery is manufactured from polypropylene (PP-R) in accordance with the SIST EN 15874 standard.

Advantages of the system:

- the pipes are light and flexible
- non-corrosive and have high chemical resistance
- smooth inner surface – no build-ups
- thermal and sound insulation – low noise emissions
- does not influence the clarity, odour and taste of water
- environmentally friendly – 100% recyclable
- sanitary
- long life span >50 years

Areas of use:

- for drinking water and sanitation systems
- low temperature heating installations
- floor heating
- geothermal heating systems – heat pumps
- installations in pool systems
- installations of compressed air systems
- installations for aggressive media systems (upon consulting the contractor)
- installations in agriculture (greenhouses)

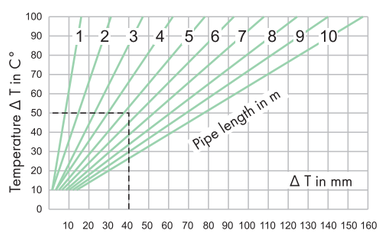
The life span of the system depends on the operating conditions and is longer than 50 years at a temperature of 70 °C and a pressure of 10 bar.

ALLOWABLE OPERATING PRESSURE FOR SDR6 PIPES FROM PPR 80, FLOW MEDIUM – WATER, SAFETY FACTOR SF = 1.25

Operating time (years)	1	5	10	25	50	100
Temperature (°C)	Allowable operating pressure (bar)					
10	42,0	39,8	38,5	37,3	36,3	35,4
20	36,0	33,8	32,8	31,8	30,9	29,9
30	30,6	28,7	27,7	26,8	26,1	25,5
40	25,8	24,2	23,6	22,6	22,0	21,3
50	22,0	20,4	19,7	19,1	18,5	17,8
60	18,5	17,2	16,6	15,9	15,3	-
70	15,6	14,3	14,0	12,1	10,2	-
80	13,1	11,5	9,6	7,6	-	-
95	9,2	6,1	-	-	-	-

Planning and implementation of installations:
When planning installations the specific requirements of the system manufactured from PP-R must be taken into account – especially expansion due to increase in temperature, which is significantly higher than with other metal pipes.
Linear expansion coefficient α = 1.5 x 10-4 (K-1) or 0.15 mm/mK
The expansion is calculated according to the equation ΔL = L x ΔT x α where:
ΔL= expansion (mm)
L = original length (m)

Example: pipe length SA 50 = 5m
Temperature change ΔT= 50 °C
Δ L = 5x50x0,15 = 37,5 mm



This table provides graphic determination of expansion at known pipe length at a change of temperature in the pipeline.

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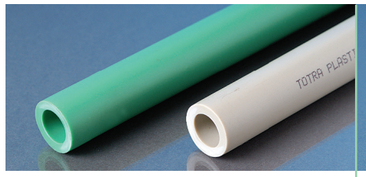
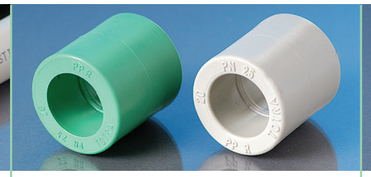


PIPE SANITERM

16 mm × 2,7 mm	40 mm x 6,7 mm
20 mm x 3,4 mm	50 mm x 8,4 mm
25 mm x 4,2 mm	63 mm x 10,5 mm
32 mm x 5,4 mm	

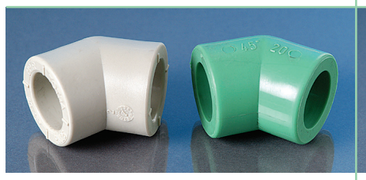


SOCKET

16 mm	40 mm
20 mm	50 mm
25 mm	63 mm
32 mm	

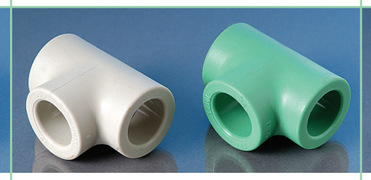
ELBOW 90°

20 mm	40 mm
25 mm	50 mm
32 mm	63 mm



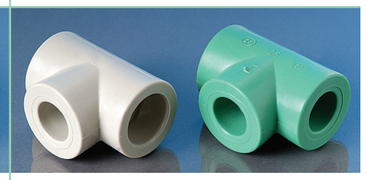
ELBOW 45°

20 mm	40 mm
25 mm	50 mm
32 mm	



TEE

20 mm	40 mm
25 mm	50 mm
32 mm	63 mm



REDUCING TEE

20/20/25 mm	50/25/50 mm	63/40/63 mm
25/20/25 mm	50/32/50 mm	63/50/63 mm
32/25/32 mm	50/40/50 mm	
40/32/40 mm	63/32/63 mm	

ELBOW 90° IN/OUT

20 mm
25 mm
32 mm

END CAP

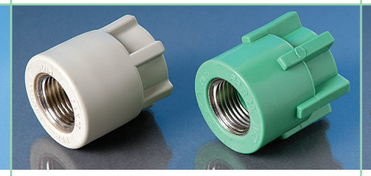
20 mm	40 mm
25 mm	50 mm
32 mm	63 mm

REDUCER

20/16 mm	40/20 mm	50/25 mm	63/32 mm
25/20 mm	40/25 mm	50/32 mm	63/40 mm
32/20 mm	40/32 mm	50/40 mm	63/50 mm
32/25 mm	50/20 mm	63/25 mm	

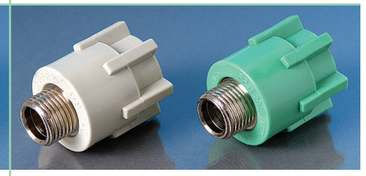
AVOIDING PIPE

20 mm
25 mm
32 mm



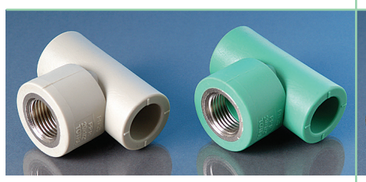
ADAPTOR FEMALE THREAD

20 mm x 1/2″	32 mm x 1″
20 mm x 3/4″	40 mm x 5/4″
25 mm x 1/2″	50 mm x 6/4″
25 mm x 3/4″	63 mm x 2″



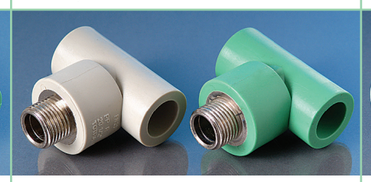
ADAPTOR MALE THREAD

20 mm x 1/2″	32 mm x 1″
20 mm x 3/4″	40 mm x 5/4″
25 mm x 1/2″	50 mm x 6/4″
25 mm x 3/4″	63 mm x 2″



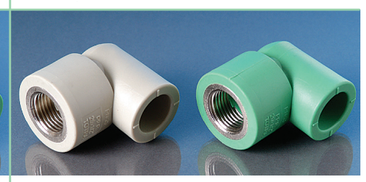
TEE FEMALE THREAD

20 mm x 1/2″	25 mm x 3/4″
20 mm x 3/4″	32 mm x 1″
25 mm x 1/2″	



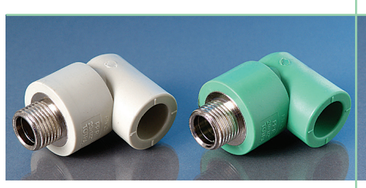
TEE MALE THREAD

20 mm x 1/2″	25 mm x 3/4″
20 mm x 3/4″	32 mm x 1″
25 mm x 1/2″	



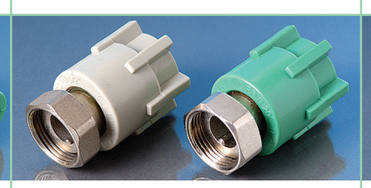
ELBOW FEMALE THREAD

20 mm x 1/2″	25 mm x 3/4″
20 mm x 3/4″	32 mm x 1″
25 mm x 1/2″	



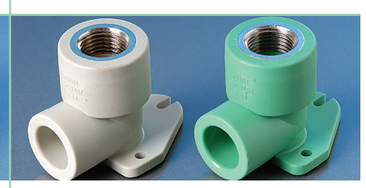
ELBOW MALE THREAD

20 mm x 1/2″	25 mm x 3/4″
20 mm x 3/4″	32 mm x 1″
25 mm x 1/2″	



ADAPTOR UNION

20 mm x 1/2″ x 3/4″
25 mm x 3/4″ x 1″
32 mm x 1″ x 5/4″



WALL CONNECTION ELBOW

20 mm x 1/2″
20 mm x 3/4″
25 mm x 1/2″
25 mm x 3/4″

VALVE – TYPE A

20 mm
25 mm
32 mm

VALVE – TYPE B

20 mm
25 mm
32 mm

VALVE – TYPE C

20 mm
25 mm
32 mm

BALL VALVE CASE

20 mm x 3/4″
25 mm x 3/4″
32 mm x 1″

BALL VALVE

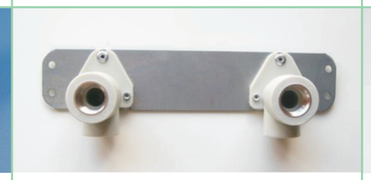
20 mm
25 mm
32 mm

BALL VALVE

20 mm	40 mm
25 mm	50 mm
32 mm	63 mm

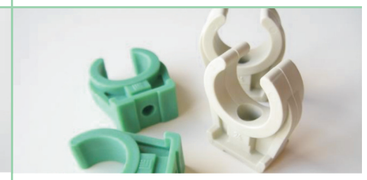
PLUG MALE THREAD

1/2"
3/4"



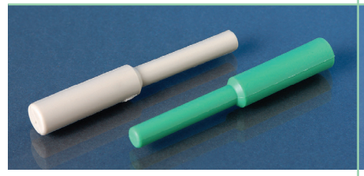
INSTALLATION UNIT

20 mm x 1/2″



PIPE HOLDER

20 mm	40 mm
25 mm	50 mm
32 mm	63 mm



REPAIR PIN

11/7 mm

HEATING TOOLS

20 mm	40 mm
25 mm	50 mm
32 mm	63 mm

WELDING EQUIPMENT

Welding tool
Spigot/socket 20, 25, 32
Supporting stand
Stainless steel box

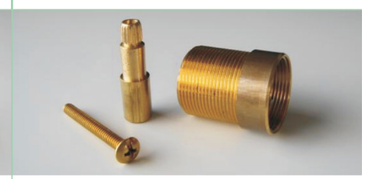
SCISSORS

Scissors

ROSETTE + END CAP

MALE COUPLER – PLASTIC THREAD

25 mm x 3/4″



VALVE EXTENDER KIT

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