

Rubber Puddle Flange- Specification

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1.1 General

- A. The contractor shall use rubber puddle flanges to seal pipes passing through concrete walls and floor slabs.
- B. Puddle Flange shall be specifically designed for the pressure-tight installation of pipes through concrete walls, foundation plates and manholes.
- C. The Puddle Flange shall be suitable for all standard pipes in steel, plastic, stoneware, concrete and cast iron. Standard range can encompass from d20 to d3200.
- D. The Puddle Flanges shall be pressure tight up to 10 bar (for d20 to d315) and 8 bar (for d355 onwards) preventing the ingress of pressurized water, diffusing media such as gases (eg.radon) and hydrocarbons (eg.Oil,Petrol).
- E. The circular puddle flange with profiled walls shall be pretensioned, fitted onto the pipe and fastened there with a steel band clamping system.
- F. Clamping band shall be of stainless steel.
- G. It should be a flexible product available in a range of versions and easy to install.

1.2 Material

- A. The Puddle Flange shall be made out of **EPDM** rubber (ethylene propylene diene monomer (M-class) rubber).
- B. The material shall be, chemically resistant to a wide range of acids and bases and shall offer outstanding weather and ozone resistance.
- C. For applications involving oil and petrol environments puddle flanges shall be made out of Nitrile butadiene rubber (NBR).

1.3 Installation

- A. The Puddle flange shall be suitable to be installed on any type of pipe material, from plastic, steel and stoneware to concrete, cast iron, fibre cement or GRP. Puddle flanges shall be available for all conventional outside diameters.
- B. The outer surface of the pipe shall be smooth, pore-free, clean and dry.
- C. The concrete cover shall be a minimum of 5cm all over the puddle flange.
- D. The Puddle flange shall be manually fitted over the pipe and secured with the clamping bands. A screwdriver can be used to install the clamping band on pipes of upto 315mm diameter but for larger pipes special clamping tools are required to be used as per manufacturer's recommendation.
- E. For pipe sizes from d20 to d315, two stainless steel clamping bands shall be used as a minimum.
- F. For pipe sizes from d 355 shall have three stainless steel fasteners per puddle flange.
- G. The puddle flanges shall not be treated as anchor points for pipes.

1.4 Quality Assurance

- A. The Production, logistics and development of the puddle flanges shall be certified according to DIN EN ISO9001:2008 ff.
- B. The high quality shall be ensured with the use of high quality raw materials, latest production techniques and comprehensive factory-wide monitoring.

1.5 Testing and Certification

- A. The product shall be independently tested for the pressure-tightness and sealing capability.
- B. Depending on the diameter, the puddle flanges shall be proven to be tight up to pressures between 8 to 10 bar.
- C. The Contractor shall submit the test certificate from independent testing institutes along with the material submittal.

1.6 REFERENCE STANDARDS

	Test Standard	Unit/Conditions	Actual Value Part (All Puddle Flanges upto d315)	Actual Value Part (All Puddle Flanges => d315)
Density	DIN 53479	g/cm ³	1.12	1.17
Shore Hardness	DIN 53505	Shore A	38	43
Tensile Strength	DIN 53504	Mpa	6.1	10
Elongation at fracture	DIN 53504	%	660	540
Tear Propagation Strength	DIN 53515	N/mm ²	4.2	3.9
Temperature resistance	ASTM 55031	°C (soil -45 / +150)		OK
Deformation under pressure	ASTM D395/B	% (72h 70°C)		31

END OF SECTION