

POLYETHYLENE PE100 GAS PIPES

Polyethylene gas pipes are manufactured from imported high density polyethylene PE 100 produced by the biggest European producers.

Quality

HIP-Petrohemija Petroplast gas pipes meet all the provisions of EN 1555-2 standard. Pipes quality is controlled according to mentioned standard. Modernly equipped laboratories in the HIP-Petrohemija and Petrpolast factories offer guarantee for the products' high quality.

Colour and Markings

Pipe colour:

Black with no co-extruded lines

Black with co-extruded lines in orange colour

Ends are clearly cut at right angles, and they are covered with yellow caps.

Gas pipes are visivly marked at intervals of one meter with nonerasable mark.

Dimensions

Pipes are designed for work pressures of up to 4 bar, class SDR 17.6 and up to 10 bar, class SDR 11, dimensions as in the table 1:

Red. broj	Nominal outside diameters de (mm)	Allowable tolerances Δ de (mm)	Nominal wall thickness and allowable tolerances				Flat pipes allowable ovality
			SDR 17,6		SDR 11		
			e (mm)	Δ de (mm)	e (mm)	Δ de (mm)	Flet pipes (mm)
1	20	+0,3			3,0	+0,4	1,20
2	25	+0,3	2,3	+0,4	3,0	+0,4	1,20
3	32	+0,3	2,3	+0,4	3,0	+0,4	1,30
4	40	+0,4	2,3	+0,4	3,7	+0,5	1,40
5	50	+0,4	2,9	+0,4	4,6	+0,6	1,40
6	63	+0,4	3,6	+0,5	5,8	+0,7	1,50
7	75	+0,5	4,3	+0,6	6,8	+0,8	1,60
8	90	+0,6	5,2	+0,7	8,2	+1,0	1,80
9	110	+0,6	6,3	+0,8	10,0	+1,1	2,20
10	125	+0,6	7,1	+0,9	11,4	+1,3	2,50
11	140	+0,9	8,0	+0,9	12,7	+1,4	2,80
12	160	+1,0	9,1	+1,1	14,6	+1,6	3,20
13	180	+1,0	10,3	+1,2	16,4	+1,8	3,60
14	200	+1,2	11,4	+1,3	18,2	+2,0	4,00
15	225	+1,4	12,8	+1,4	20,5	+2,2	4,50
16	250	+1,5	14,2	+1,6	22,7	+2,4	5,00

Packaging and Storage

Pipes are produced either flat and cut into 6 or 12 meters length, or wound into coils of 100m, 200m or other length upon customer's demand

Pipes are stored in a way to be protected against mechanical damages.

Handling Polyethylene Pipes

Transportation

Transportation means for polyethylene pipes should be selected based on criteria that straight pipes and those in coils do not get damaged or deformed during transportation. It is necessary that pipes be laid in their entire length during transportation. A special attention should be paid whilst loading and unloading, so as not to scratch the pipes against the vehicle surfaces. Fittings are individually packed in transparent packages, for protection purposes. For easier transportation and handling during storage, several units are packed together in a cardboard box.

Pipes Laying

Polyethylene pipes can be laid under ground, above ground and under water. For underground laying the depth of the channel is within the range of 0.8 up to 1m, depending on the terrain configuration. In case of intersection of the pipeline with a line of communication, the depth is adjusted accordingly. If a protective pipe is used, the laying depth can go up to two meters. In case of channel laying, the coil should be unwound at least 24 hours in advance. In case of outside temperatures around 0°C, heating with hot air is highly recommended. Also, for laying purposes, the coefficient of linear thermal expansion should be taken into consideration which in case of polyethylene is $2 \times 10^{-4} \text{ }^{\circ}\text{C}^{-1}$ or 0.2 mm per each meter of pipe length, at 1°C change in temperature. When the route direction is changed, the minimum allowed bending diameters for different temperatures should be taken into consideration:

$$R_{\min.} = 50d \text{ at } 0^{\circ}\text{C} \quad R_{\min.} = 35d \text{ at } 10^{\circ}\text{C} \quad R_{\min.} = 20d \text{ at } 20^{\circ}\text{C}$$

Special precautions should be taken when laying PE gas pipes:

- laying should not be performed at temperatures below 0°C;
- in case of laying parallel to or intersecting a pipeline transporting hot fluid, the gas line should be laid at the distance which ensures that the temperature of polyethylene pipes do not exceed 20°C;
- under bridges, roads and railroads, gas line should be led through a protective pipe;
- in case of intersection with lines of communication, water flows and canals, the angle of intersection must be from 60° to 90°. In special cases an intersection angle of less than 60° may be allowed but with the approval of the owner of the object;
- after the gas line laying has been completed, filling of the channel should be done in the shortest possible time in order to avoid possible damage to the pipes; taking into consideration the composition and granulation of the filling material.
- a warning yellow stripe displaying the word "gas" on it should be placed at the depth of 30cm.

Jointing of Polyethylene Pipes

Polyethylene pipes are jointed using separable connection (metal couplers, PE and PP couplers, flanges) or inseparable (fixed) connection – by welding. It is strongly recommended that activities of pipe laying be entrusted to experts specialized in these jobs.

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