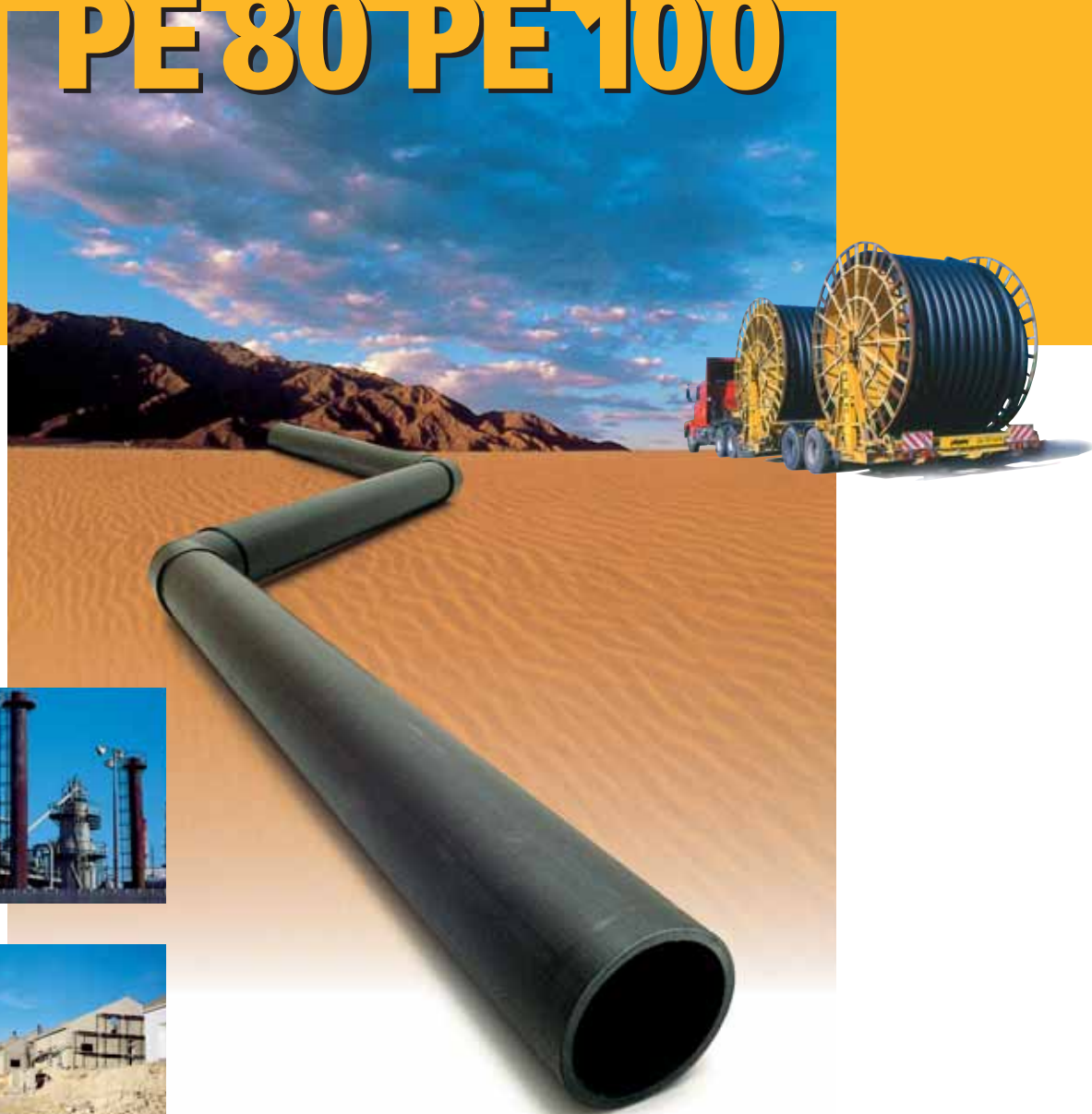


Galflex

HDPE Pressure Systems

**Piping and Accessories for
Drinking Water, Infrastructures,
Industry and Sewage**

PE 80 PE 100



GALFLEX HDPE Pressure Systems Piping and Accessories for Drinking Water, Infrastructures, Industry and Sewage

Typical Applications

- Drinking water supply systems in national, urban and rural networks.
- Sewage systems and water treatment plants.
- Agricultural and irrigation systems.
- Systems for marine use.
- Swimming pool systems.
- Piping systems for communication and electrical cable protection.
- Systems for conveying suspension and semi-solid materials
- Gas supply systems.
- Systems for conveying chemical materials

List for resistance to different chemicals is available from PALGAL Plastic Industry.

PE 80 Mechanical and Physical Properties

Material: Polyethylene (PE) 80 (MRS 8) Comply eith DIN 4427

Properties	Value	Unit	Test method
Hydrostatic Design Stress	8	mPa	ISO TR 9080
Density	954	kg/m ³	ISO 1183D, ISO 182-2B
Melt Flow Index (MFI). 190°C, 2.16 kg	<0.1	g/10 min	ISO 1133
Melt Flow Index (MFI). 190°C, 5.00 kg	0.4	g/10 min	ISO 1133
Viscosity Number	390	cm ³ /g	ISO 1628-3
Hardness (Shore D)	60	1	ISO 868
Carbon Black Content	2.25	%	ISO 6964
Tensile Yield	19-23	mPa	ISO 527
Tensile Yield Elongation	8	%	ISO 527
Ultimate Elongation	>800	%	ISO 527
Linear Thermal Expansion (20°C-90°C)	0.2	mm/m°C	ASTM D 696
Elastic Modulus	850	mPa	ISO 6529, ISO 527

PE 100 Mechanical and Physical Properties

Material: Polyethylene (PE) 100 (MRS 10) Comply eith DIN 4427

Properties	Value	Unit	Test method
Hydrostatic Design Stress	10	mPa	ISO TR 9080
Density Compound	958	kg/m ³	ISO 1183-1872
Melt Flow Index (MFI). 190°C, 2.16 kg	<0.1	g/10 min	ISO 1133
Melt Flow Index (MFI). 190°C, 5.00 kg	0.25-0.4	g/10 min	ISO 1133
Viscosity Number	390	cm ³ /g	ISO 1628-3
Hardness (Shore D)	60	1	ISO 868
Carbon Black Content	2.25	%	ISO 6964
Tensile Yield	21-24	mPa	ISO 527
Tensile Yield Elongation	8	%	ISO 527
Ultimate Elongation	>600	%	ISO 527
Linear Thermal Expansion (20°C-90°C)	0.2	mm/m°C	ASTM D 696
Elastic Modulus	1200-1400	mPa	ISO 6529, ISO 527



polyethylene

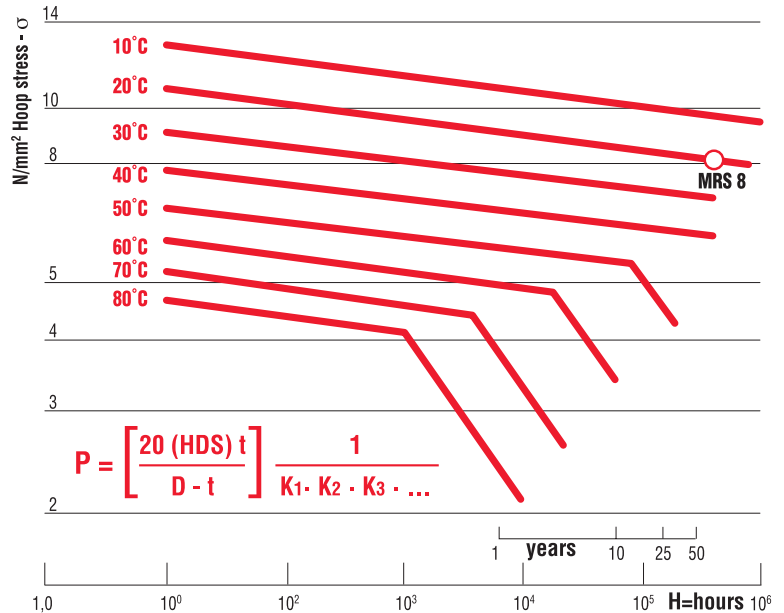
PE 80 PE 100

GALFLEX PROPERTIES

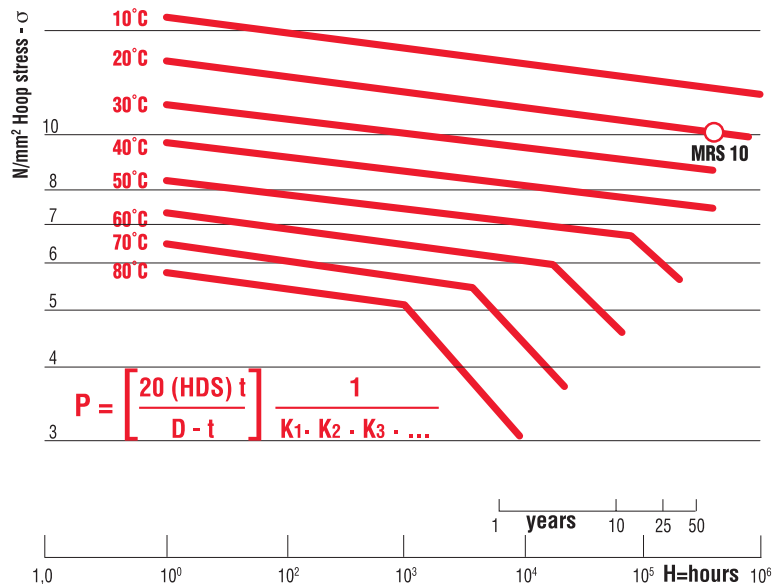
- Heat resistance in a wide range of service temperatures: Up to + 40°C Fitted (for calculated working pressures. See table below).
- Resistant to UV radiation.
- Pipes can be laid uncovered on the ground.
- Can be used in drinking water and food systems.
- High flexibility and low weight make for convenient and easy installation.
- Low hydraulic friction (C=150) and scale free makes excellent conduction of liquids and slurry with low pressure losses over the years.
- Corrosion resistant. Resistant to most chemicals.
- Excellent resistance to wear, good for long time suspension transportation.
- Resistance to external soil loads. System is sufficiently flexible for easy installation in narrow and curved passages.
- Suitable for welding, making welding convenient, fast and reliable using a broad variety of welding accessories: plug and socket welding, butt welding and electric fusion welding.
- Suits mechanical accessories.
- Stable molecular structure which does not release contaminants and poisonous substances into the environment.
- Can be completely recycled and conforms with the most stringent regulations for the quality of environment.

Circumferential stress curve at various temperature and Duration

PE 80



PE 100



P = Working pressure (bar)
t = Wall thickness (mm)
D = External diameter (mm)
HDS = Hoop design stress (N/mm²)
σ / K = HDS
K = Design coefficient. K - 1.25 minimum (for water) Thickness of pipe in calculated table according to **K = 1.6** at temperature of 20°C for 50 years

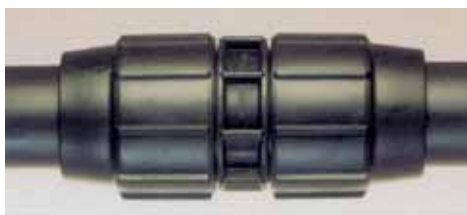
K₁ = Safety coefficient dependent on temperature.
K₂ = Safety coefficient dependent on external load.
K₃ = Safety coefficient dependent on concentration of chemical material.
 • For additional technical advice contact PALGAL Plastic Industries

Galflex Polyethylene

Dimensions



BUTTWELDING (Butt fusion) - B.W.



MECHANICAL JOINT-M.J.



ELECTROFUSION - E.F.

PE 80

Nominal Dimeters (mm)	Imperial Dimeters (Inch)	Wall Thickness			Connection Methods		
		Class 6 (mm)	Class 10 (mm)	Class 16 (mm)	Mechanical	Butt Weld	Electro Fusion
50	1½	*3.0	*4.6	5.6	•	—	•
63	2	*3.8	4.7	7.1	•	—	•
75	2½	*4.5	5.6	8.4	•	•	•
90	3	4.3	6.7	10.1	•	•	•
110	4	5.3	8.1	12.3	•	•	•
125	5	6.0	9.2	14.0	•	•	•
140	5½	6.7	10.3	15.7	•	•	•
160	6	7.7	11.8	17.9	•	•	•
180	6	8.6	13.3	20.1	•	•	•
200	8	9.6	14.7	22.4	—	•	•
225	8	10.8	16.6	25.2	—	•	•
250	10	11.9	18.4	27.9	—	•	•
280	10	13.4	20.6	31.3	—	•	•
315	12	15.0	23.2	35.2	—	•	•

* = Wall calculated as per PE 63

PE 100

Nominal Dimeters (mm)	Imperial Dimeters (Inch)	Wall Thickness			Connection Methods		
		Class 10 (mm)	Class 12.5 (mm)	Class 16 (mm)	Mechanical	Butt Weld	Electro Fusion
75	2½	4.5	5.6	6.8	•	•	•
90	3	5.4	6.7	8.2	•	•	•
110	4	6.6	8.1	10.0	•	•	•
125	5	7.4	9.2	11.4	•	•	•
140	5½	8.3	10.3	12.7	•	•	•
160	6	9.5	11.8	14.6	•	•	•
180	6	10.7	13.3	16.4	•	•	•
200	8	11.9	14.7	18.2	—	•	•
225	8	13.4	16.6	20.5	—	•	•
250	10	14.8	18.4	22.7	—	•	•
280	10	16.6	20.6	25.4	—	•	•
315	12	18.7	23.2	28.6	—	•	•

OD = Nominal Diameter
Dimensions - Average Values
Comply with ISI 499 (2000) - DIN 8079



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