PE
PIPING SYSTEMS

Chemical Resistant

Thermal Resistant

Weather Resistant

Smooth Inner wall

Light Weight

Elastic

Impact Resistant

Thermally Insulating

Non Toxic

Polyethylene (PE) is a sturdy thermoplastic material produced from the polymerization of ethylene and is widely used in water, slurry, and gas applications. Sangir PE pipes are manufactured by extrusion in sizes ranging from 16mm to 1200mm. PE is available in rolled coils of various lengths (up to 125mm OD) or in straight lengths up to 12mtrs. PE pipe is available in a wide variety of wall thicknesses but is primarily based on Controlled Outside Diameter (OD). A promising material, it has a design life extending up to 100 years for some applications.

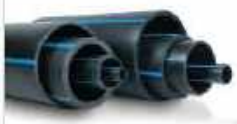
PE pipe is available in many forms and colors such as the following:

- Single extrusion colored or black pipe
- Black pipe with coextruded color Stripe
- Black or natural pipe with one or more coextruded colored layers

Technical Information

			HDPE	MDPE	LDPE	PEUHMW
Specific gravity (p)	ISO 1183	g/cm³	0.95	0.938	0.925	0.93
Max. Permissible service temp		°C	-50 to 90	-50 to 85	-50 to 60	-50 to 90
Tensile strength at yield (σS)	ISO 527	Mpa	27	20	11	17
Elongation at break (εR)	ISO 527	%	≥700	≥600	≥600	≥50
Impact strength (an)	ISO 179	kJ/m²	No Break	No Break	No Break	No Break
Flexural strength (σB 3,5%)	ISO 178	Mpa	22	40	80	27
Modulus of elasticity (Et)	ISO 527	Mpa	1150	760	260	680
Coef. of linear therm. expansion (α)	DIN 53752	$K^{-1} X 10^{-4}$	1.5	1.5	1.4	2
Vicat Softening Temp	ISO 306		80	80	94	80

HDPE Black Liner - 3.2 Mt / 6.2 Mt Long			
Sr No	Liner Size in NB	OD in mm	Thk in mm
1	25	29.20	3.00
2	40	44.70	4.10
3	50	56.00	4.50
4	65	75.00	4.50
5	80	81.90	4.50
6	100	107.00	5.30
7	150	164.20	5.70
8	200	206.00	6.20
9	250	262.80	6.10
10	300	314.40	8.70



HDPE

Range :
20 - 1200mm | PN 2.5 -16

Standards :
ISO 4427 | EN 12201
IS 4984 | IS14333
ASNZ 4130 | ASTM 2619/3035

PP
PIPING SYSTEMS

Chemical Resistant

Thermal Resistant

Easy Installation

Smooth inner wall

Light Weight

Elastic

Impact Resistant

Crack Resistant

Non Toxic

Polypropylene (PP) is a thermoplastic from the polyolefin group. Sangir Pipes are made from semi-rigid, translucent polymer with good toughness and, weather resistance properties, low water absorption, and are easily molded to desired shapes. PP is a largely-polar, partially crystalline thermoplastic with a crystallinity of 60% to 70% and a density of 0.90 to 0.91g/cm3, which is amongst the lowest for all plastics.

It is generally available in three advanced forms:

- PP- Homopolymer (PP-H)
- PP- Copolymer (PP-C)
- PP- Random Copolymer (PP-R)

Technical Information

			PP-C	PP-H	PP-R	PP2222
Specific gravity (ρ)	ISO 1183	g/cm³	0.91	0.90	0.909	0.912
Max. Permissible service temp		°C	0 to 75	5 to 100	5 to 100	5 to 100
Tensile strength at yield (σS)	ISO 527	Mpa	26	31	26.1	26
Elongation at break (εR)	ISO 527	%	-	≥400	≥400	≥400
Impact strength (an)	ISO 179	kJ/m²	No Break	No Break	No Break	No Break
Modulus of elasticity (Et)	ISO 527	Mpa	1200	1400	1200	1200
Coef. of linear therm. expansion (α)	DIN 53752	$K^{-1} X 10^{-4}$	1.5	1.5	1.5	1.5
Vicat Softening Temp	ISO 306	°C	148	150	131.3	148
Shore Hardness	ISO868	Shore D	67	70	60	67

PP Orange Liner - 3.2 Mt / 6.2 Mt Long			
Sr No	Liner Size in NB	OD in mm	Thk in mm
1	25	29.20	3.00
2	40	44.70	4.10
3	50	56.00	4.50
4	65	75.00	4.50
5	80	81.90	4.50
6	100	107.00	5.30
7	150	164.00	5.70
8	200	206.00	6.20
9	250	250.00	6.10
10	300	314.40	8.70

Range : 20 - 315 mm
Standards : Custom Size

PVDF
PIPING SYSTEMS

KYNAR®

Chemical Resistant

Thermal Resistant

Weather Resistant

Fungal Resistant

High Purity

UV Resistant

Low Creep

Smooth Inner Surface

Non Toxic

KYNAR® PVDF has outstanding barrier properties, which allow better protection to the environment from leakages of hazardous chemicals. Polyvinylidene fluoride or polyvinylidene difluoride is a highly non-reactive thermoplastic fluoropolymer produced by the polymerization of vinylidene difluoride. Kynar PVDF is a polymer containing carbon, hydrogen, and fluorine. Fluorine Being the giant molecule, ensures the stability of the polymer chain. PVDF is considered to be one of the most inert substances on earth.

PVDF has the advantage of absolute suppression of corrosion, even under varying process conditions, compared to other materials. KYNAR® PVDF has the characteristic properties of high resistance to chemical attack intrinsic to all fluoropolymers based on the very high strength of the carbon-fluorine molecular bonding.

Technical Information

			PVDF Standard	PVDF Flex
Specific gravity (ρ)	ISO 1183	g/cm³	1.78	1.78
Max. Permissible service temp		°C	-30 to 140	-30 to 140
Tensile strength at yield (σS)	ISO 527	Mpa	50	35
Elongation at break (εR)	ISO 527	%	≥50	≥50
Flexural strength (σB 3,5%)	ISO 178	Mpa	80	80
Modulus of elasticity (Et)	ISO 527	Mpa	2000	1000
Coef. of linear therm. expansion (α)	DIN 53752	$K^{-1} \times 10^{-4}$	1.2	1.5
Volume resistivity (ρD)	VDE 0303	Ω X cm	$\geq 10^{13}$	$\geq 10^{13}$

PVDF Natural Liner - 3.2 Mt / 6.2 Mt Long			
Sr No	Liner Size in NB	OD in mm	Thk in mm
1	25	29.00	3.20
2	40	45.00	3.20
3	50	57.00	3.20
5	80	83.00	3.20
6	100	108.00	3.68
7	150	164.00	4.90
8	200	214.00	4.70

Liner

Range : 16 - 160 mm
1" - 8"

Standards : Custom Size