

Industrial Products





The PE100 Special Black Polyethylene Sheet

King PipeGrade® is a PE100 special black polyethylene sheet. It is the product of a proprietary process called K-Stran™, the most advanced manufacturing process for superior flatness and consistency up to 1-1/2″ thick. It is also available in compression mold greater than 1″ through 4″ thick, and extrusion mold from 2-1/2″ up to 12″ thick. Custom mold sizes available. King PipeGrade® has a smooth black finish on both sides of sheet. It displays improved performance characteristics in a variety of industrial applications. King PipeGrade® is chemical resistant, UV stabilized, and ideal for use in demanding outdoor applications from flanges and gussets to end caps. The polymer sheet will not rust, corrode or rot like traditional pipe materials and is easy to fabricate and weld using thermoplastic welding equipment.

King PipeGrade® is compliant to ASTM D3350 as a standard material meeting cell classifications: PE445574C CC3 and PE445576C CC3. King PipeGrade® (PE4710/ PE100) is completely compatible and 100% interchangeable for use in applications that presently use PE3608/PE80 material. King PipeGrade® is made with materials that comply with NSF/ANSI Standard 14 to be used in potable water piping systems.

PE100 tends to have a higher hydrostatic design basis (HDB) than other resins but most significantly in the notched tensile/slow crack PENT test which is > 10,000 hours vs. 100-200 hours for others.

50 - 100 years service life per ISO CRS 10 MPa @ 20° C.

PIPEGRADE®

Applications

- End Caps
- Flanges
- · Guides and Wear Plates
- Gussets
- Machine Parts
- Manhole Lids
- Tanks and Containers

Specifications

Standard Sheet Sizes

in: 1/8" to 1-1/2" 48" x 96"

mm: 8.255 mm to 38.1 mm 1219 mm x 2438.4 mm

in: 1-1/2" to 4" 48" x 96"

mm: 38.1 mm to 101.6 mm 1219.2 mm x 2438.4 mm

in: 1/4" to 1-1/2" 60" x 120"

mm: 6.35 mm to 38.1 mm 1524 mm x 3048 mm

Standard Color



Black

Note: Color accuracy can vary considerably on computer monitors and printers. Please consult your distributor for a product sample before making critical color choices.

Standard Gauges 48" x 96"

in:	1/8"	3/16"	1/4"	3/8"	1/2"	5/8"	3/4"	1"
mm:	3.75 mm	4.76 mm	6.35 mm	9.53 mm	12.7 mm	15.875 mm	19.05 mm	25.4 mm
in:	1-1/4"	1-1/2"	1-3/4"	2"	2-1/2"	3"	3-1/2"	4"
mm:	31.75 mm	38.1 mm	44.45 mm	50.8 mm	63.5 mm	76.2 mm	88.9 mm	101.6 mm

Standard Gauges 60" x 120"

in:	1/4"		1/2"		3/4"		1"		1-1/2"
mm:	6.35 mm	Ī	12.7 mm	ı	19.7 mm	1	25.4 mm	13	31.75 mm

Approximate Weight 48" x 96"

lbs:	20 lbs	30 lbs	60 lbs		80 lbs		100 lbs	\perp	120 lbs	-	160 lbs		200 lbs
kg:	9.07 kg	13.61 kg	27.21 kg	1	36.29 kg	-	45.36 kg	-	54.43 kg		72.58 kg	-	90.72 kg
lbs:	240 lbs	280 lbs	320 lbs		360 lbs	1	400 lbs	1	480 lbs	-	570 lbs		640 lbs
kg:	108.9 kg	127 kg	145.15 kg	-	163.30 kg	-	181.44 kg	5	217.72 kg	-	258.5 kg		290.3 kg

Approximate Weight 60" x 120"

lbs:	62.5 lbs	125 lbs	187.5 lbs	250 lbs	375 lbs
kg:	28.35 kg	56.7 kg	85.04 kg	113.4 kg	170.01 kg

Tolerance Information:

K-Stran[™]

Gauges 1/8" through 1-1/2" ± 5% | Length and width plus only at room temperature

Compression Molding

Gauges greater than 1" and under 1-1/2" ± 10% | Gauges 1-1/2" and greater plus only | Length and width plus only at room temperature

Custom thickness up to 25"/635 mm with our King Size Blocks and Massive Shapes

Custom Sizes Available up to 96" width and 100'+ in length

Properties	Units	ASTM	Nominal Values
Density	g/cc	D792	0.949
Tensile Strength @ Break	psi	D638	5,510
Tensile Strength @ Yield	psi	D638	3,630
Elongation @ Break	%	D638	600
Flexural Modulus 2% secant	psi	D790	150,000
Izod Impact, Notched	ft.lbs./in. ²	D256	9.2
Brittleness Temp.	°C (°F)	D746	-118°C (-180°F)
Vicat Softening Temp.	°C (°F)	D1525	126°C (259°F)
Environmental Stress Crack Resistance	hrs	D1693C	>5,000
Notch Tensile (PENT)	hrs	F1473	>10,000



