



King Plastic Corporation

King PipeGrade® FAQ

What is King PipeGrade®?

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 3350 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 NSF approved for Standards 14 & 61 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.

What type of finish?

Smooth finish on both sides of the sheet.

What colors are available?

King PipeGrade® is available in Black.



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Can you custom color match?

Yes. Please call Customer Service at 941.493.5502.

What is required for custom orders?

Please call Customer Service at 941.493.5502.

What sizes are available?

King PipeGrade® standard sheets sizes are 48" x 96" and 60" x 120". Standard gauges for 48" x 96" are 1/8", 3/16", 1/4", 3/8", 1/2", 5/8", 3/4", 1", 1-1/4", 1-1/2", 1-3/4", 2", 2-1/2", 3", 3-1/2", and 4". Standard Gauges for 60" x 120" are 1/4", 1/2", 3/4", 1", and 1-1/2". Custom sheet sizes and gauges available upon request. Please call Customer Service at 941.493.5502.

Is King PipeGrade® available with an antimicrobial?

No.

Is King PipeGrade® available with a flame retardant?

No.

How does carbon black protect against UV damage in King PipeGrade®?

Carbon black at a 2% level in King PipeGrade® prevents photodegradation of polyethylene due to UV light exposure by the blocking process.

What are the features and benefits of King PipeGrade®?

- Compliant to ASTM 3350 as a standard material
- King PipeGrade® (PE4710/PE100) is completely compatible and 100% interchangeable for use in applications that presently use PE3608/PE80 material
- NSF Standard 14 & 61 certified to be used in potable water piping systems
- 50-100 years service life per ISO CRS 10 MPa @ 20°C
- PE4710- PE100 tends to have a higher hydrostatic design basis (HDB) than other resins but most significantly is the notched tensile/slow crack PENT test which is > 10,000 hours vs. 100-200 hours for others



How can the material be fabricated and finished?

Use standard woodworking tools: table saws, table routers, drills, blades and bits. Carbide router bits with two to four flutes are recommended. For more information, please refer to the fabrication brochures.

How to clean and maintain?

- To clean everyday dirt and stains, use either Mr. Clean Magic Eraser, Soft Scrub® or Simple Green Concentrate at full strength with a nylon scrubby or stiff nylon brush. Scrub lightly; excess force can mar the finish.
- Persistent stains will usually go away if you soak the area with bleach. Do not use 100% chlorine used to treat swimming pools.
- To clean a petroleum stain such as grease or oil; use a citrus cleaner, alcohol or mineral spirits.
- For severe petroleum-based stains, spray with WD40®. Then use toluene or acetone and a white nylon scrub pad (colored pads release staining dyes when combined with acetone).
- Do not use MEK, turpentine or naphtha solvent.
- Furniture polish or products such as Armor-All® can add an attractive luster to the finish and hide small surface blemishes. To prevent slipping, do not use these products on walking surfaces.
- If a mark or stain won't come out, you may lightly sand the area. Be careful to only work on the stained area because sanding will remove the matte finish.

How to care and store?

- Store the sheets flat on a level surface
- Keep away from teak oil and other products that can stain the finish
- Use china markers or water-based markers to draw patterns
- Pen marks can usually be removed with household cleaners
- Keep away from heat sources that exceed 180°F
- Because there is no grain, parts can be cut from any area of the sheet
- Save the scraps for small parts, shims, spacers and plugs
- Remnants may be eligible for recycling; contact your distributor or King Plastic Corporation for details



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What are common applications?

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

Is King PipeGrade® FDA approved?

No.

Can I use a CNC machine?

Yes.

Will the material produce dust when fabricating?

No, only small shavings that can be recycled.

Can I use glue or paint?

Gluing is not recommended. Because King PipeGrade® sheet products are designed to resist water and grime, they cannot be painted and the use of adhesives is not recommended. It is preferable to mechanically fasten or weld. Specialized welding equipment and rods, designed for use with polymer sheets, are available.