



أباصين فايبر جلاس الشرق الأوسط (ذ.م.م.)
Abahsain Fiberglass M.E., W.L.L.

High Tech ECR Glassfiber

PRESENTATION

ABAHSAIN FIBERGLASS M.E.

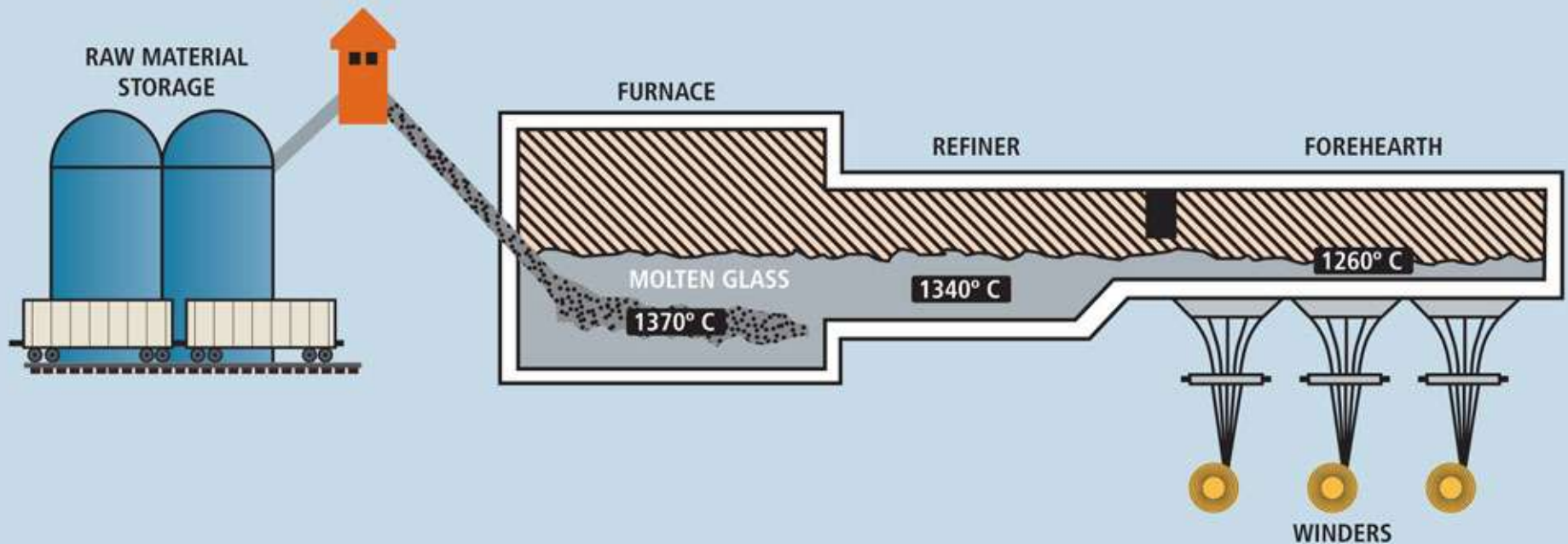




Production Process

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Glass fiber is made by blending raw materials, melting them in a three-stage furnace, extruding the molten glass through bushings in the bottom of the forehearth, cooling the filaments with water, and then applying a chemical size. The filaments then are gathered and wound into a package.

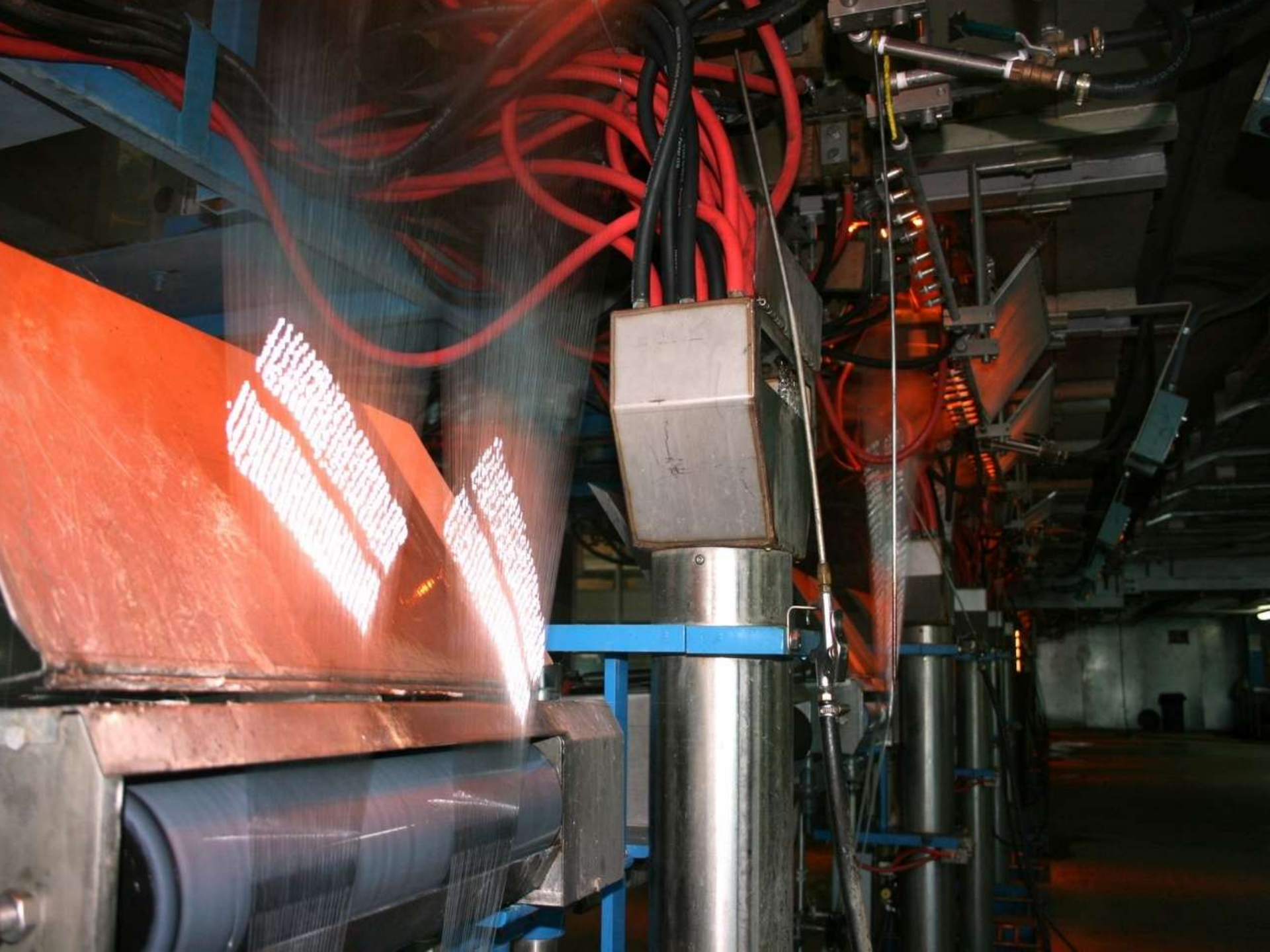




























S R M P
(product)

2400 TEX



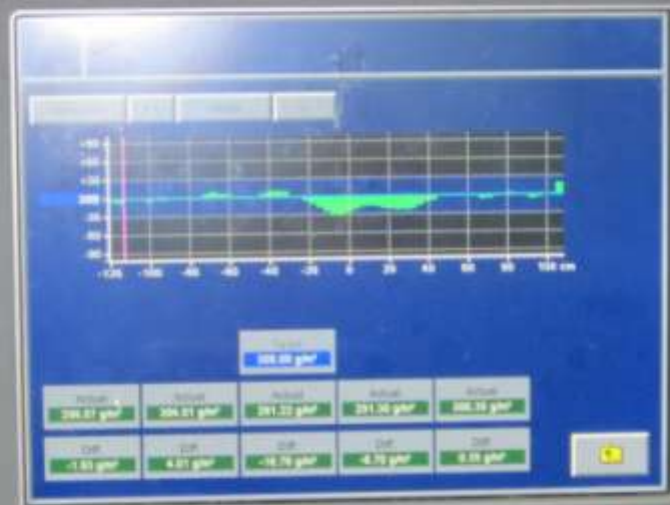












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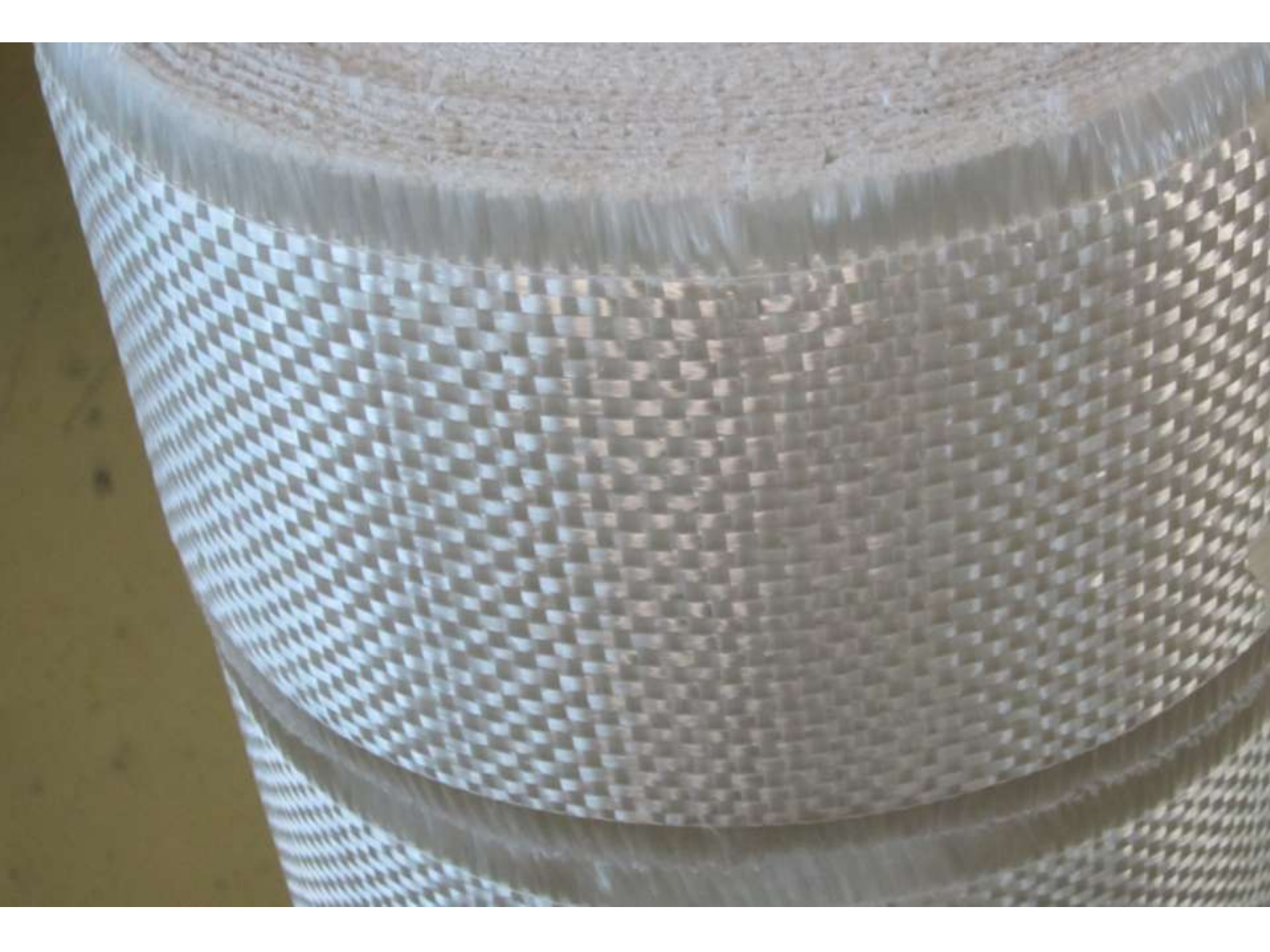
















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Expansion

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Product Range and Applications

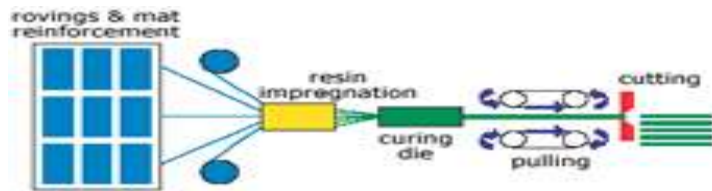
High Tech ECR Glassfiber



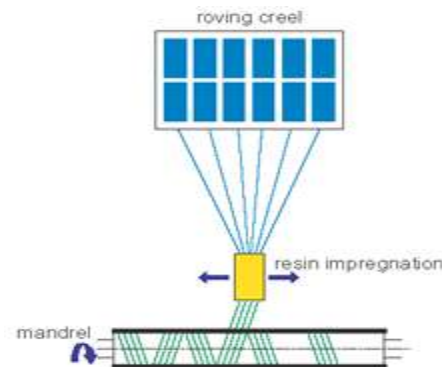


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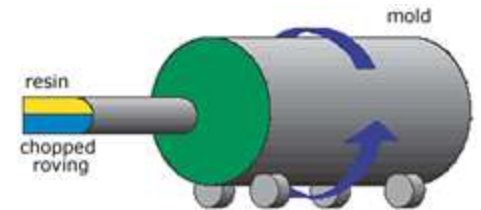
High Tech ECR Glassfiber



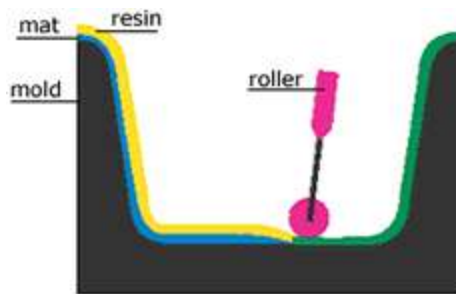
Pultrusion



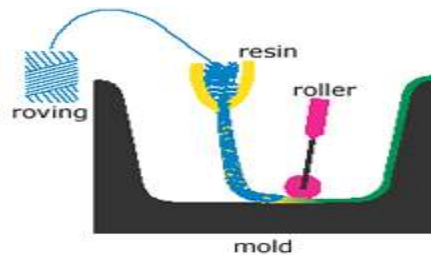
Filament Winding



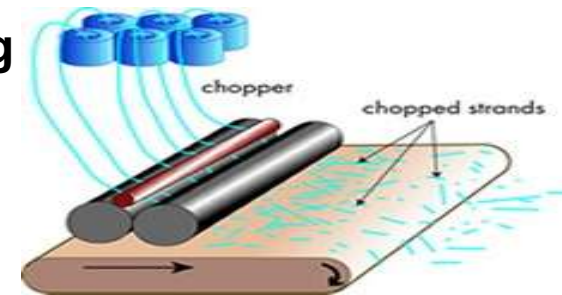
Centrifugal Casting



Hand Lay Up



Spray Up



Chopping



Weaving



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AFG ECR MULTI PURPOSE DIRECT ROVING



ABAHSAIN FIBERGLASS M.E., W.L.L.



AFG ECR MULTI PURPOSE DIRECT ROVING

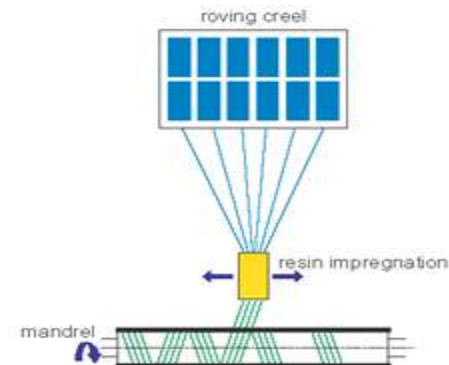
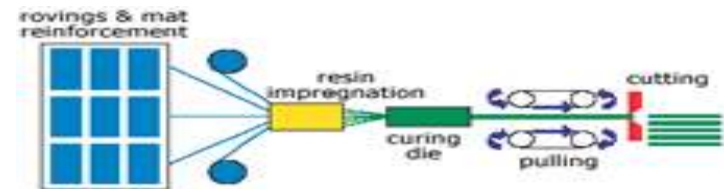
FOR FILAMENT WINDING / PULTRUSION / KNITTING / WEAVING

AFG ECR Multi Purpose Direct Roving is manufactured by direct winding of silane sized continuous ECR glass fibers of defined diameter into a cylindrical roving package.

AFG ECR Multi Purpose Direct Rovings are compatible with polyester, vinyl ester, phenolic and epoxy resins and are designed for use in filament winding, pultrusion, knitting and weaving.

AFG's ECR glass fiber reinforcements combine the electrical and mechanical properties of traditional E glass fiber with superior chemical corrosion resistance, superior thermal resistance, higher dielectric strength and better surface resistivity.

Product	Glass Type	Linear Density	Filament Diameter	Sizing
		(tex)	(µm)	
Direct Roving	ECR	300	14	silane
		600	14	
		1200	17	
		2400	17	
		2400	24	
		4800	24	
		9600	34	





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AFG ECR HEAVY DUTY DIRECT ROVING



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AFG ECR HEAVY DUTY DIRECT ROVING EPOXY COMPATIBLE

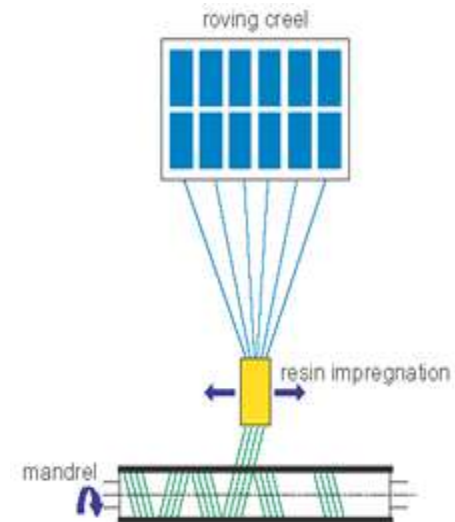
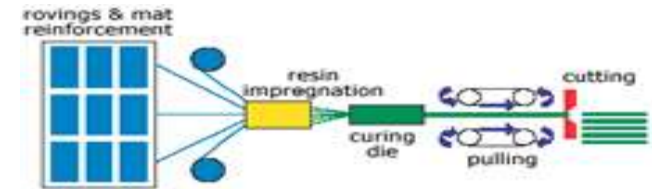
AFG ECR Heavy Duty Direct Roving is manufactured by direct winding of silane sized continuous ECR glass fibers of defined diameter into a cylindrical roving package.

AFG ECR Heavy Duty Direct Rovings are designed for use in heavy duty applications, especially with epoxy resins, in filament winding and pultrusion.

AFG's ECR glass fiber reinforcements combine the electrical and mechanical properties of traditional E glass fiber with superior chemical corrosion resistance, superior thermal resistance, higher di-electric strength and better surface resistivity.

Product	Glass Type	Linear Density (tex)	Filament Diameter (μm)	Sizing
Direct Roving	ECR	1200 2400	17 24	silane

Other densities available on request.





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CHOPPED STRAND MAT FROM AFG



ABAHSAIN FIBERGLASS M.E., W.L.L.



CHOPPED STRAND MAT FROM AFG

Chopped Strand Mats from AFG are composed of chopped E glass fiber strands that are bonded together into mats with a polyester emulsion or powder binder.

Chopped Strand Mats from AFG are compatible with unsaturated polyester, vinyl ester resins and epoxy resins and are used in the contact molding or continuous lamination processes.

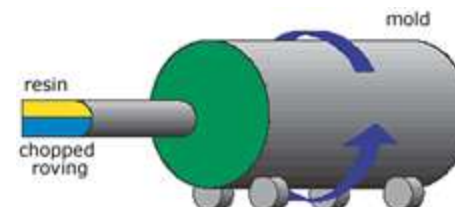
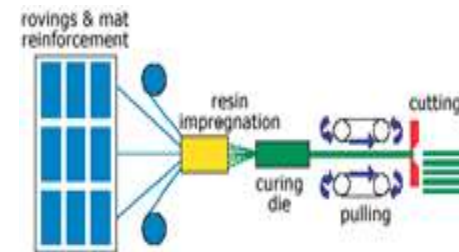
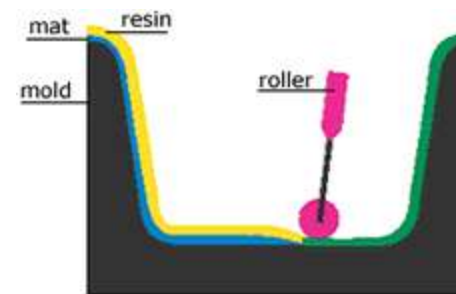
The Chopped Strand Mats from AFG has quick wet out time, less resin consumption and all the conventional properties of E Glass Fiber.

Product	Glass Type	Square Weight (g/m ²)	Standard Width (mm)	Roll Length (m)	Roll Weight (kg)	Sizing	Binder
Emulsion Bound Chopped Strand Mat	E	300	1250 UT	105	40	Silane	PVAc emulsions
		450		70	40		
		600		50	40		
Powder Bound Chopped Strand Mat	E	300	1250 UT	90	34	Silane	Polyester Powder
		450	1270 TT	60	34		
		600		45	34		

UT: non release treatment TT: both sides treatment

Other widths (up to 3000mm) and finishes are available upon request

The products are available with different wet-out and break-up speeds depending on the customer's requirements.





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AFG ECR MULTI END ROVING FOR CHOPPING/SPRAY UP



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AFG ECR MULTI-END ROVING FOR CHOPPING / SPRAY UP

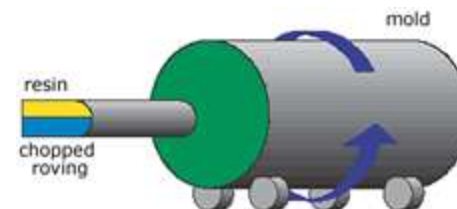
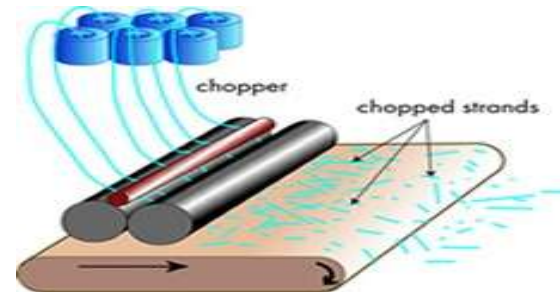
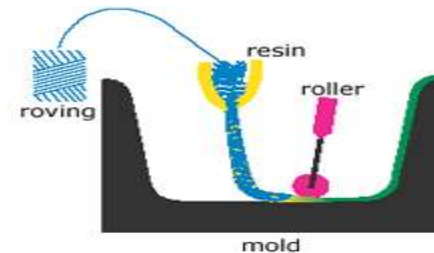
AFG ECR Multi-End Roving is a multi-end continuous roving, with a silane sizing, gathered into a single strand and wrapped into a cylindrical package without twist.

AFG ECR Multi-End Rovings are compatible with polyester and vinyl ester resins and are designed for use in chopping & spray up applications, such as filament winding, centrifugal casting, panel manufacturing etc.

AFG's ECR glass fiber reinforcements combine the electrical and mechanical properties of traditional E glass fiber with superior chemical corrosion resistance, superior thermal resistance, higher dielectric strength and better surface resistivity.

Product	Glass Type	Linear Density	Filament Diameter	Strand Linear Density	Sizing
		(tex)	(μm)	(tex)	
Multi-End Roving	ECR	2400	12	60	silane

Other densities available on request.





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AFG ECR WOVEN ROVING



ABAHSAIN FIBERGLASS M.E., W.L.L.



AFG ECR WOVEN ROVING

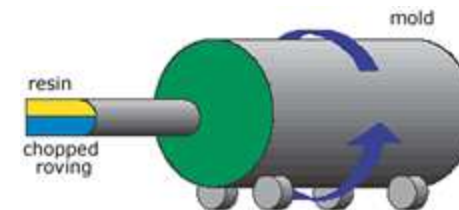
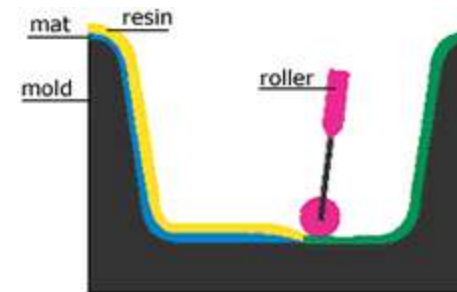
AFG ECR Woven Rovings are composed of ECR glass direct rovings, woven bi-directional into a fabric.

AFG ECR Woven Rovings are compatible with multi-resin systems.

AFG's ECR glass fiber reinforcements combine the electrical and mechanical properties of traditional E glass fiber with superior chemical corrosion resistance, superior thermal resistance, higher dielectric strength and better surface resistivity.

Product	Glass Type	Square Weight (g/m ²)	Standard Width (mm)	Roll Length (m)	Roll Weight (kg)	Thickness (mm)	Weave
Woven Roving	ECR	500	1250	70	44	0.43	Plain
		600		50	40	0.55	
		800		44	44	0.85	

Other widths (from 50mm - 3000mm) and densities are available upon request.





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AFG ECR WOVEN ROVING BANDS



ABAHSAIN FIBERGLASS M.E., W.L.L.



AFG ECR WOVEN ROVING BANDS

AFG ECR Woven Roving Bands are composed of ECR glass direct rovings woven bi-directional into a fabric.

AFG ECR Woven Roving Bands are compatible with multi resin systems.

AFG's ECR glass fiber reinforcements combine the electrical and mechanical properties of traditional E glass fiber with superior chemical corrosion resistance, superior thermal resistance, higher di-electric strength and better surface resistivity.

Product	Glass Type	Square Weight (g/m ²)	Standard Width (cm)	Roll Length (m)	Roll Weight (kg)	Thickness (mm)	Weave
Woven Roving Bands	ECR	270	10 / 16	140	4.1 / 6.5	0.28	Plain
		290		140	3.8 / 6.0	0.28	
		360		100	4.2 / 6.3	0.30	
		580		100	6.9 / 11.0	0.51	

Other widths (up to 3000 mm) and densities are available upon request.
The selvages are bordered by lateral fringes 10 to 20 mm length. The width indicated does not include these fringes; nominal width is determined by the distance between the first and the last yarn of the warp.



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ECR vs. E GLASS FIBER

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ECR is better and equally replaceable with E Glass Fiber for GRP Products like Pultruded Profiles, Pipes, Chemical Storage/Water Tanks, Boats and various other GRP Products because:

- ✓ It provides more thickness.
- ✓ It provides more stiffness.
- ✓ It provides more strength.
- ✓ It provides more strain resistance.
- ✓ It provides more insulation, surface and heat resistance and can withstand very high electric fields.
- ✓ It provides superior corrosion resistance.

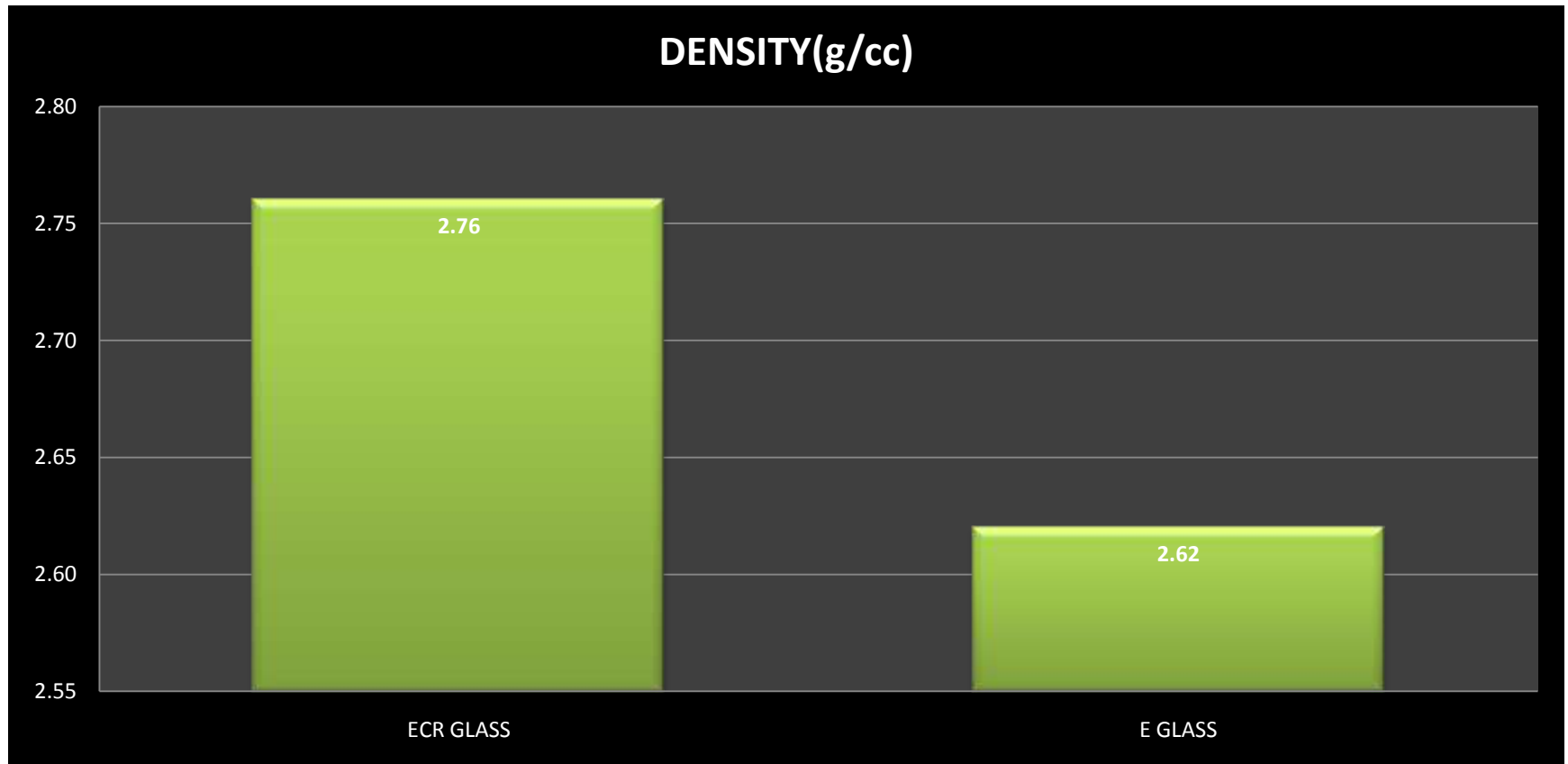


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DENSITY

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ECR Glass has a higher density than E Glass giving more thickness to the GRP Products



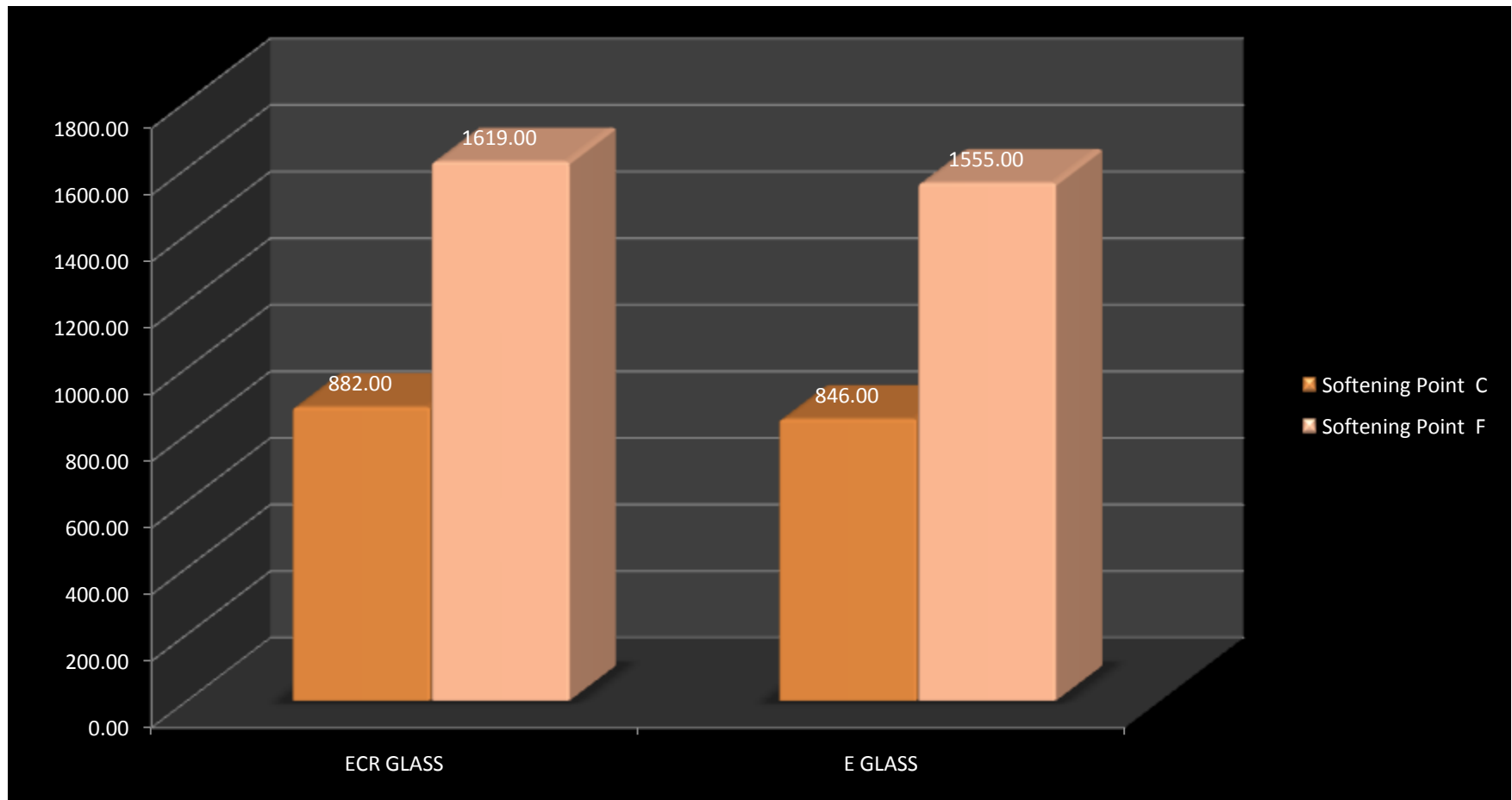


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SOFTENING POINT

High Tech ECR Glassfiber

ECR has a higher softening point at elevated temperatures giving more stiffness to GRP Products as compared to E Glass.



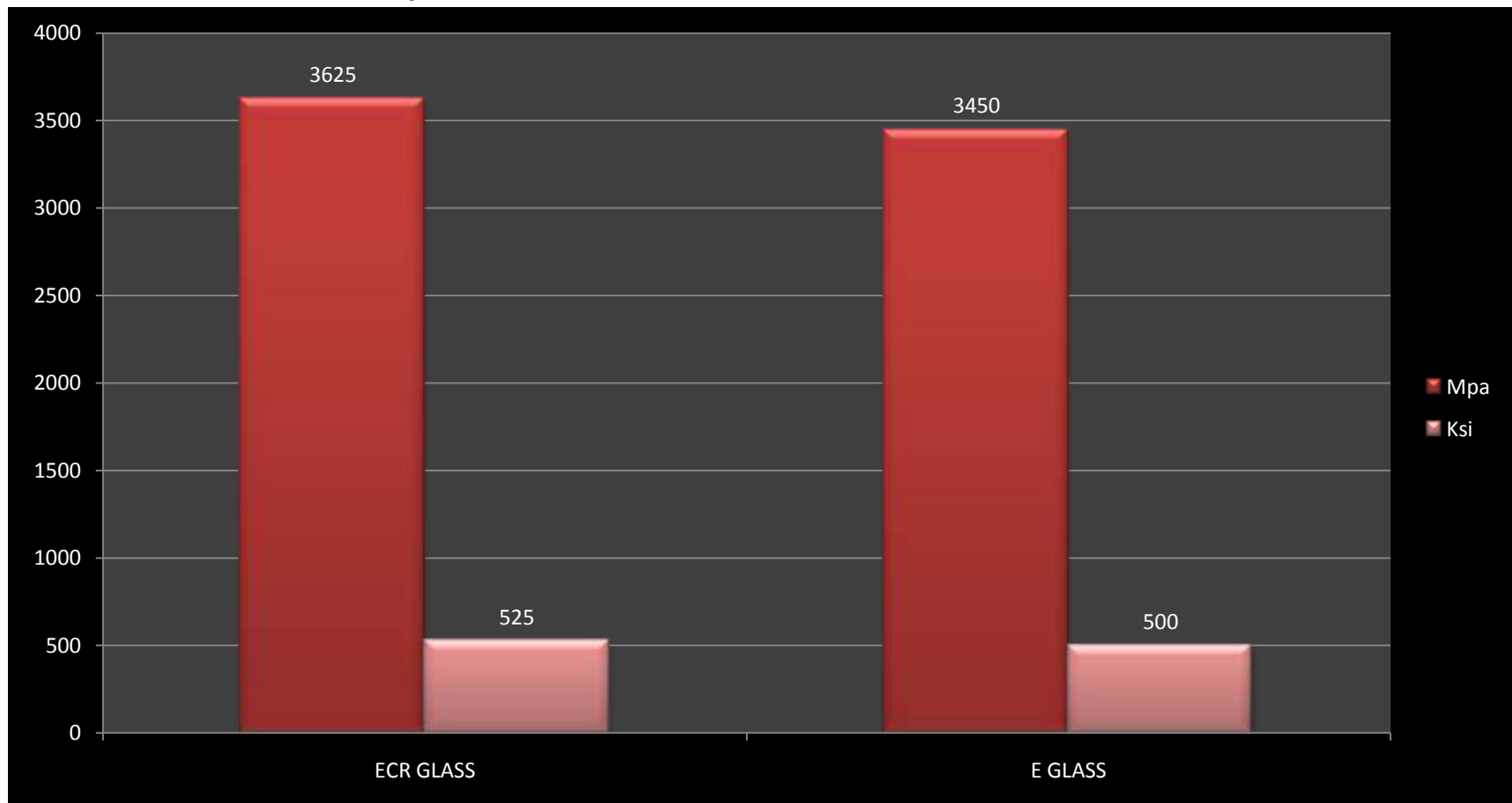


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TENSILE STRENGTH

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Higher Tensile Strength gives more strength to Products reinforced with ECR Glass as compared to E-Glass



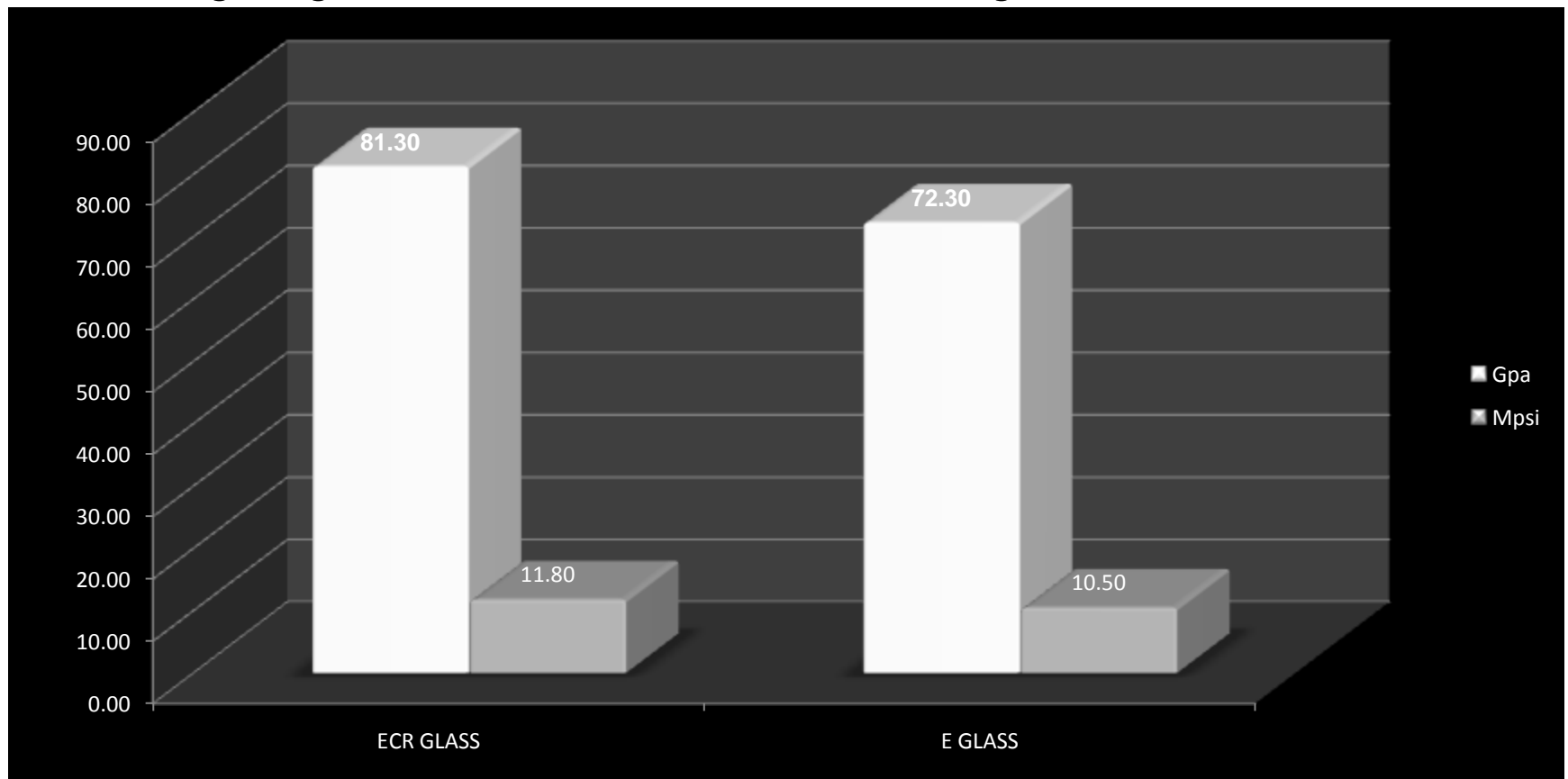


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MODULUS OF ELASTICITY

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The Pultruded Structural Profiles and Pipes are under constant strain throughout the year. ECR Glass has a higher Modulus of Elasticity than E Glass giving more strain resistance and longer life



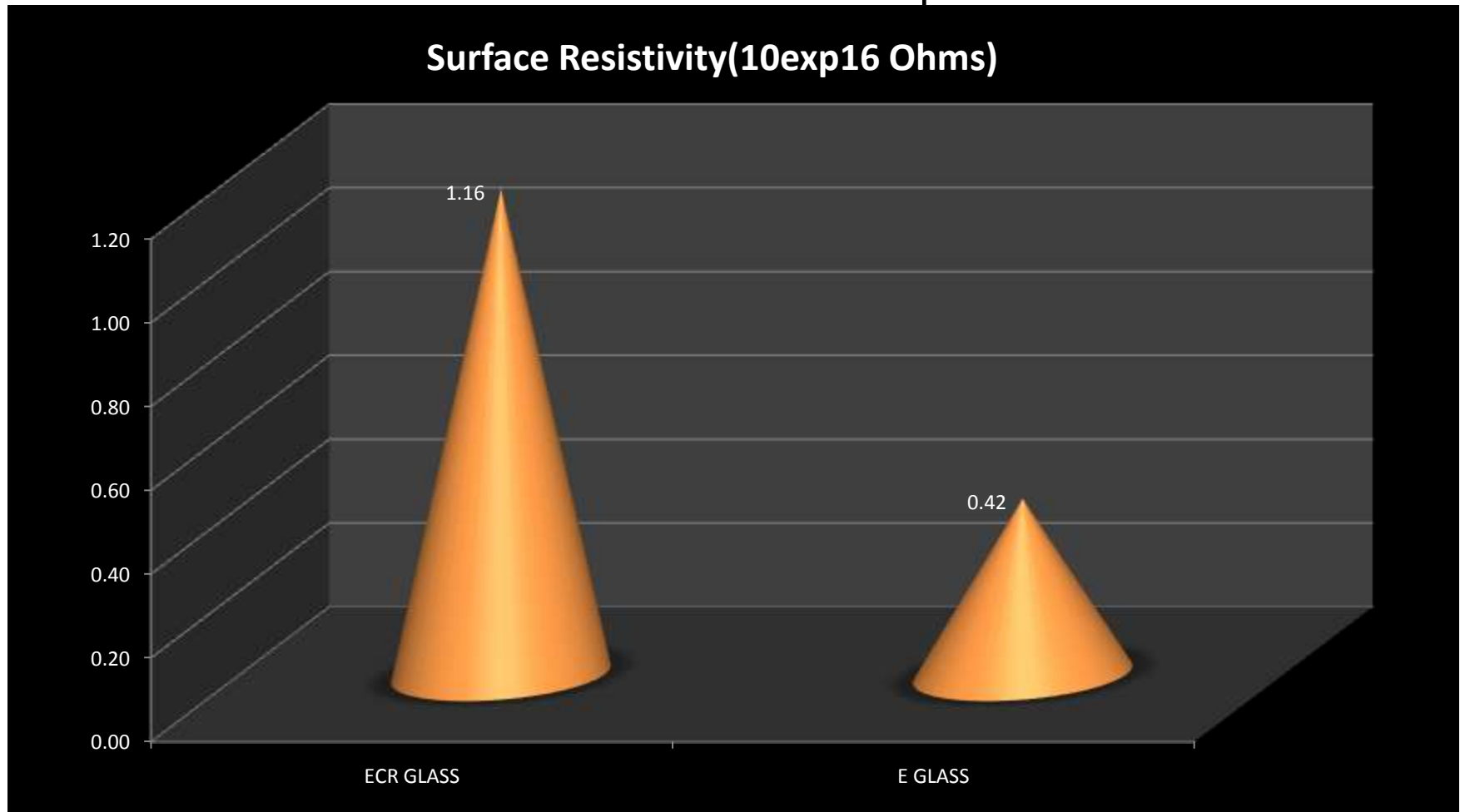


SURFACE RESISTIVITY

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ECR Glass is more surface resistant as compared to E Glass.





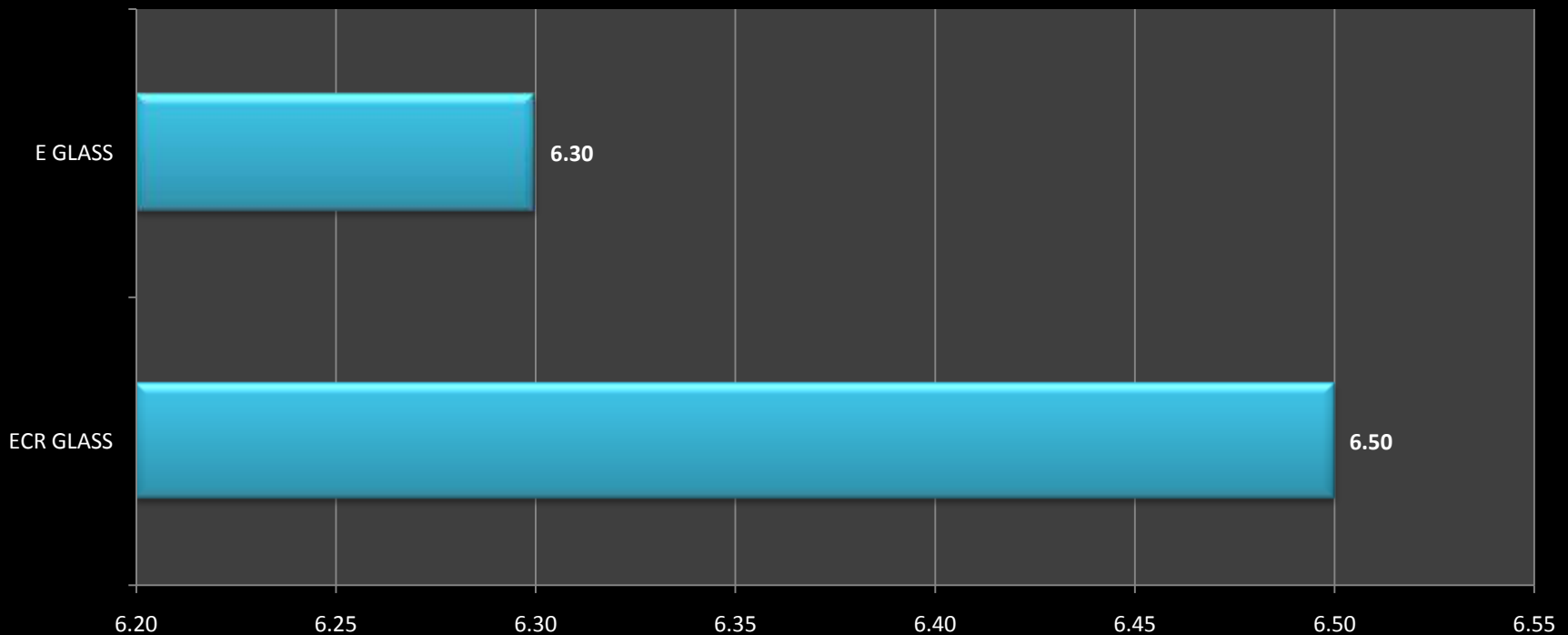
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DIELECTRIC CONSTANT

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Higher Dielectric Constant in ECR Glass gives more insulation than E Glass. This is an essential property for products made for Electrical Insulation and can also withstand very high electric fields.

Dielectric Constant (A)



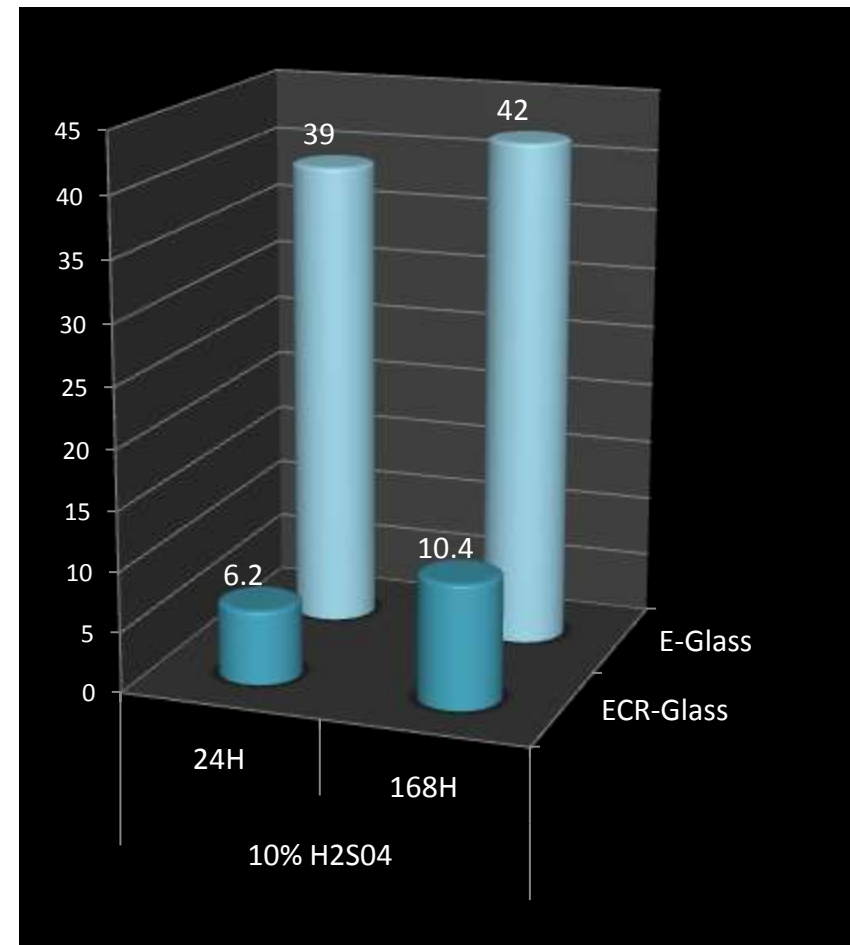
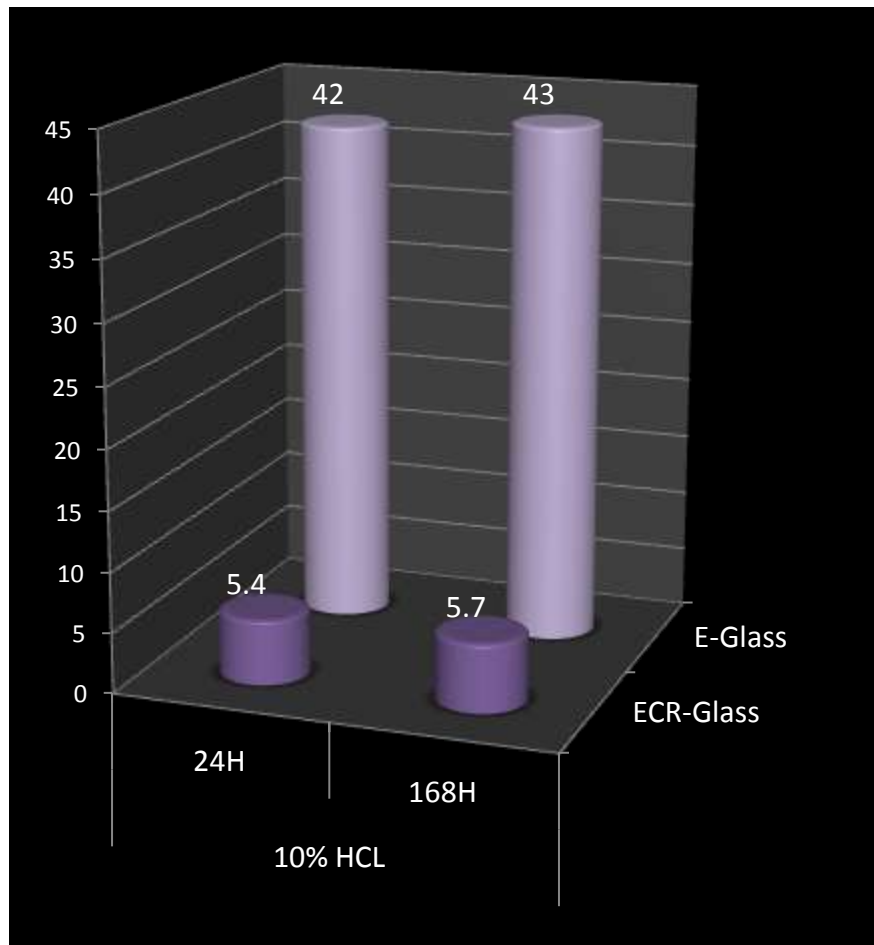
CHEMICAL(CORROSION) RESISTANCE

Percent Weight Loss

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ECR Glass loses minimal weight in acidic and corrosive environment as compared to E Glass and hence longer life.





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Magical Factory Tour

High Tech ECR Glassfiber



**For All about AFG ECR Glass Fiber
Product details visit our website**

www.afg.bh

