

XAREC* SPS

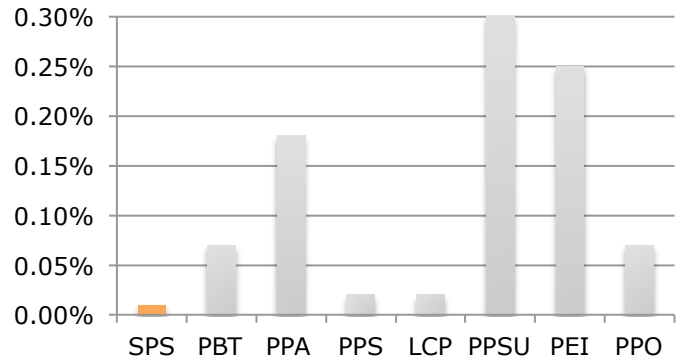
A high performance polymer

Xarec* is the trade name for Syndiotactic Polystyrene (SPS). It is a non-polar polymer which is key to its unique properties – outstanding chemical resistance and electrical properties. SPS offers 500F HDT, best-in-class electrical properties, and outstanding mechanical property retention in humid environments. Blends with Nylon are available for higher performance nylon products.

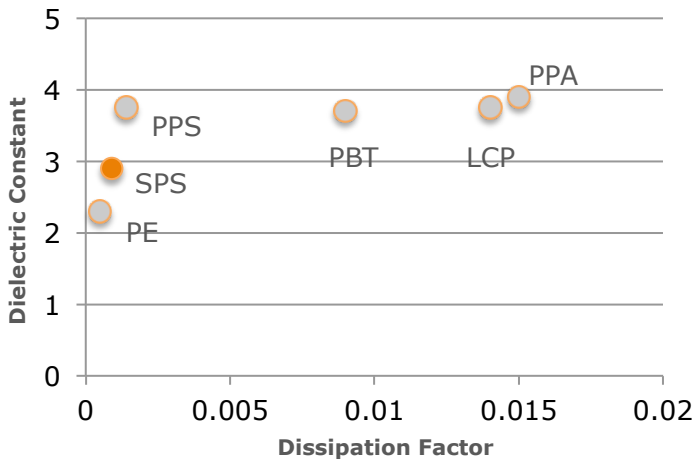
Dimensional Stability

	Crystalline Density (g/cm ³)	Amorphous Density (g/cm ³)	Difference (%)
Xarec* SPS	1.05	1.05	0.00%
PPS	1.43	1.32	7.69%
PBT	1.41	1.28	9.22%
PA66	1.23	1.08	12.20%
PA46	1.28	1.08	15.63%
PET	1.5	1.3	13.33%

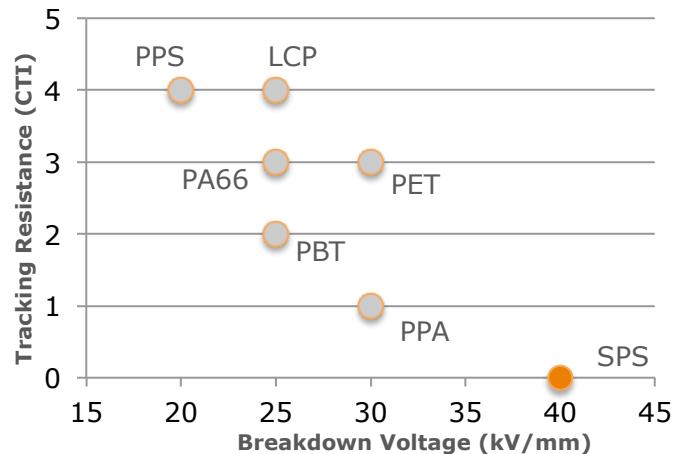
24 Hour Water Absorption



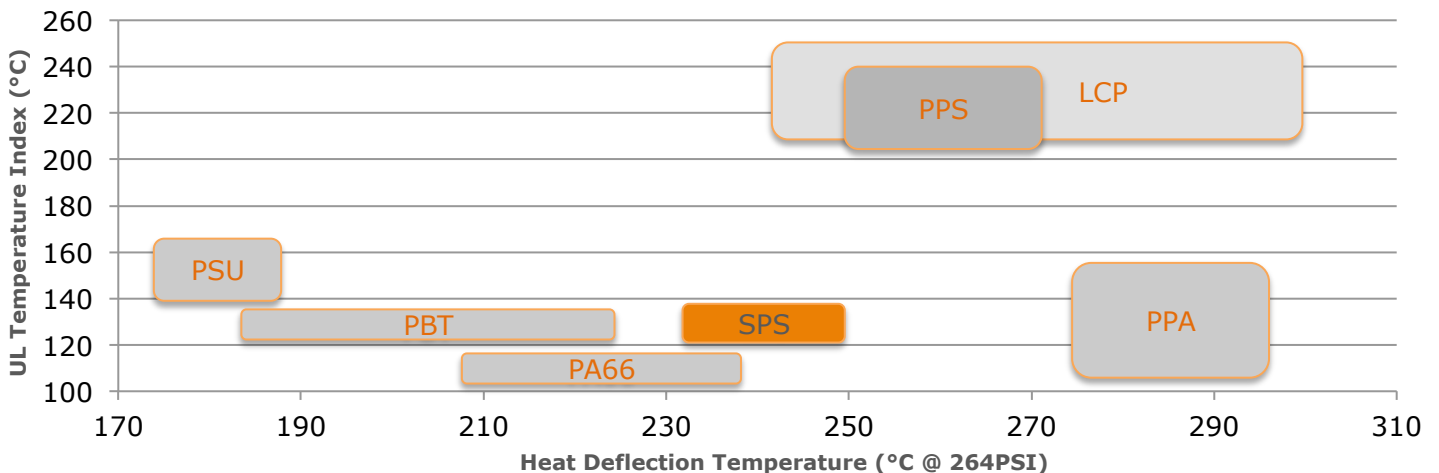
Electrical Insulation & Power Loss



Electrical Durability



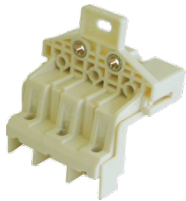
Thermal Stability



Chemical Resistance

	PPS	SPS	PA66	PPA	PBT
Acids	Green Diagonal	Green Diagonal	Red Grid	Red Grid	Orange Vertical
Bases	Green Diagonal	Green Diagonal	Green Diagonal	Green Diagonal	Green Diagonal
Glycols (Antifreeze)	Green Diagonal	Green Diagonal	Orange Vertical	Green Diagonal	Green Diagonal
Oils (Under Hood Fluids)	Green Diagonal	Green Diagonal	Green Diagonal	Green Diagonal	Green Diagonal
Chlorinated Hydrocarbons	Orange Vertical	Red Grid	Red Grid	Red Grid	Red Grid
Aromatic Hydrocarbons	Green Diagonal	Orange Vertical	Orange Vertical	Orange Vertical	Orange Vertical
Aliphatic Hydrocarbons	Green Diagonal	Green Diagonal	Green Diagonal	Green Diagonal	Green Diagonal
Gasoline	Green Diagonal	Orange Vertical	Green Diagonal	Green Diagonal	Green Diagonal
Alcohols	Green Diagonal	Green Diagonal	Red Grid	Red Grid	Green Diagonal
Salt Solutions	Green Diagonal	Green Diagonal	Green Diagonal	Green Diagonal	Green Diagonal
Water	Green Diagonal	Green Diagonal	Red Grid	Red Grid	Orange Vertical

Applications



High Voltage Connector

- Superior Chemical Resistance
- Excellent Tracking Resistance
- Heat & Humidity Resistant



Incandescent/LED Light Socket

- Low Outgassing
- 1000 hr. exp to 210°C Cycle
- Excellent Electrical Properties



Fluid Engineering Components

- Superior Hydrolytic Stability
- Excellent Resistance to -Cl Water
- NSF61 drinking water approved



Arthroscopy Adapter

- Steam sterilization (500+ Cycles)
- Excellent EtO/Gamma Sterilization
- ISO10993/USPVI

Important Design Considerations

Grade	Tradename	Xarec* SPS Grade	Design Considerations
PBT	Valox	N WA7020, NWA7030	Review secondary operations. Xarec typically requires UV pretreatment.
PET	Rynite	EA522 EA533	Determine required U.L. rating, EA522 can be supplied as 5VA or V0. Determine ductility requirements of flexible features (snap fits).
PPA	Amodel, Zytel HTN	WA212	Determine elevated temp. requirements: creep & thermal stability.
LCP	Vectra	EA533, WA212	Injection molding gates and draft angles for LCP differ significantly from recommendations for Xarec. Determine U.L. rating required.
PSU	Udel	WA214	Determine requirements for wear resistance & transparency
PPS	Ryton	WA214, EA543	Determine elevated temp. requirements: creep & thermal stability.