



## SAN Styrene Acrylonitrile Copolymer

### **Description**

SAN is a co-polymer of 70% Styrene and 30% Acrylonitrile and offers improved service temperatures to GPPS with good low temperature impact property, rigidity and stiffness

### **Applications**

Kitchen utensils, washing machine doors, fridge trays. It can be brittle when used for thin walled applications.

### **Types of grade available**

Glass filled grades  
UV stabilised grades available

### **Optical Properties**

Transmission	91%
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### **General Processing**

Drying Time	3 – 4 hours	1 hour
Drying Temperature	75°C	85°C
Type of Drier	Hot Air	Desiccant Drying
Purging	DYNAPURGE C	
Moisture Absorption	0.25%	
Other Considerations	Reground material will absorb moisture quicker than virgin, therefore always dry before use.	

### **Processing Injection Moulding**

Barrel Settings	200 - 250 °C
Injection speed	Moderate to Fast
Injection Pressure	First stage High, Second stage Low
Back Pressure	5 –15 rpm
Screw Speed	40 – 80 rpm
Tool Temperature	40 - 70°C
Melt Temperature	200 - 230°C
Processing Stability	Maximum residence time not to exceed 5 minutes
Gate Considerations	All types of gates used but edge, fan and tab gates used for applications where visual or optical properties are demanded, such as lenses or instrument covers

Sprie & Runner Considerations	Runners should be sized so as to prevent high stress levels during moulding
<b>Processing Extrusion</b>	
Barrel Settings	200 to 245 C
Screw Speed	Set to suite surface finish
Screen Packs	20, 60, 80, 20
Haul-off / Cooling	Water bath chilled 10c
Calibration	Suitable for use with a vacuum calibrator or sizing plates.
<b>Mechanical Properties</b>	
Shrinkages	0.2 – 0.6%
Flexural Strength	110 137 MPa
Tensile Strength at Yield	45-80 MPa
<b>Physical Properties</b>	
Density	1.07
Cold Bend	N/A
Cold Flex	N/A
Elongation	1.5 - 7%
Flexural Modulus	3 4 GPa
General Impact Strength	Material is quite brittle
Material Finish	Clear material with high clarity
<b>Thermal Properties</b>	
Vicat Softening Temperature	107°C
Heat Deflection Temperature	89°C
<b>Flammability</b>	
Flammability Rating	HB UL94
<b>Weatherability</b>	
Suitability for outdoor use	No, but a U/V stabiliser can be added
<b>Fillers &amp; Additives</b>	
	Glass filled
<b>Chemical Resistance</b>	
Resistant to	Saturated hydrocarbons, low aromatic engine fuels and oils, vegetable and animal fats and oils.
Not resistant to	Aromatic and chlorinated hydrocarbons, esters, ethers, ketones and can also be attacked by inorganic acids.
<b>Food Contact Status</b>	
	Meets USA & European standards

<b>Colouring</b>	Can be dry coloured. Liquid colours can also be used instead of solid masterbatches. SAN based masterbatches are often used at concentration levels up to 5% in order to achieve the required shade.
<b>REACH &amp; ROHS Compliance</b>	Yes
<b>Bonding</b>	SAN mouldings may be bonded to each other, exact type of solvent will depend on whether the grade has a high or low acrylonitrile content
<b>Welding</b>	Hot shoe, spin or ultrasonic welding techniques can be used successfully

*This information has been provided as a general guide and we suggest that you carry out your own specific tests to be sure that this material is suitable for your application.*