



SMMA Acrylic Styrene Copolymer

Description	
A clear alternative to SAN, Acrylic and Polycarbonate. Clear, tough acrylic copolymers with sparkling clarity that deliver excellent performance with lower overall costs for moulders.	
Applications	
Point of sale items, house wares, medical items. Applications requiring ease of process excellent impact and clarity.	
Optical Properties	
Transmission	89.2%
Drying Time	N/A
General Processing	
Drying Temperature	N/A
Type of Drier	N/A
Purging	GPS purge well to achieve clarity
Moisture Absorption	0.1%
Other Considerations	Some grades require a hot tool to achieve full mechanical properties.
Processing Injection Moulding	
Barrel Settings	190C to 230C
Injection speed	High
Injection Pressure	Medium to High
Back Pressure	Low
Screw Speed	Medium
Tool Temperature	15C to 50C
Melt Temperature	200C to 240C
Processing Stability	At a temperature of 260C, residence time no more than 5 or 6 minutes
Gate Considerations	Gates used include pin, submarine and edge
Sprue & Runner Considerations	Use large full round runners and sprues
Processing Extrusion	
Barrel Settings	170c – 250c
Screw Speed	Barrier Screw, 25 - 30 L/D
Screen Packs	Yes
Haul-off / Cooling	Water tem at last 10c

Calibration	Vacuum or plate
Mechanical Properties	
Shrinkages	.02 – 0.06%
Flexural Modulus	2.17 MPa
Tensile strength at Yield	30 to 60 MPA
Physical Properties	
Density	1.05
Cold Bend	N/A
Cold Flex	N/A
Elongation at Break	2.3% (NAS) to 50% (Zylar)
Tensile Modulus	2.30 GPa
General Impact Strength	Good (NAS) to Excellent (Zylar)
Material Finish	Clear materials with sparkling clarity
Thermal Properties	
Vicat Softening Temperature	99c
Heat Deflection Temperature	90C
Flammability	
Flammability Rating	Not flame retardant
Weatherability	
Suitability for outdoor use	Unmodified grades are not suitable for outdoor use
Fillers & Additives	
	Can be UV stabilised, very high impact grades available
Chemical Resistance	
Resistant to	Alcohol, blood and lipids, Gamma and ETO radiation; alcohol / water mixtures, sugar solutions, saturated fats and oils
Not resistant to	Esters, Ketones, ethers, nitriles, gasoline, turpentine, acetone, unsaturated oils, concentrated mineral and organic acids
Food Contact Status	
	Some grades FDA and USP Class 6 approved
Colouring	
	Clear base colour allows easily colouring using a wide range of masterbatch

WEEE & ROHS Compliance	No hazardous substances present
Bonding	Strongest bonds obtained by using cyclohexanone. Loctite Corporation, produces several recommended adhesives for bonding SMMA, contact Loctite direct for details.
Welding	Can be welded using several methods such as hot plate, high frequency or ultrasonic.

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.