



SMMA Acrylic Styrene Copolymer

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| 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 | DYNAPURGE C |
| 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 | |
| Screen Packs | Yes |

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| Haul-off / Cooling | Water tem at last 10c |
| Calibration | Vacuum or plate |
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| Mechanical Properties | |
| Shrinkages | .02 – 0.06% |
| Flexural Modulus | 2.17 MPa |
| Tensile strength at Yield | 30 to 60 MPA |
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| 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 |
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| Thermal Properties | |
| Vicat Softening Temperature | 99c |
| Heat Deflection Temperature | 90C |
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| Flammability | |
| Flammability Rating | Not flame retardant |
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| Weatherability | |
| Suitability for outdoor use | Unmodified grades are not suitable for outdoor use |
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| Fillers & Additives | Can be UV stabilised, very high impact grades available |
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| 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 |
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| Food Contact Status | Some grades FDA and USP Class 6 approved |
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| Colouring | Clear base colour allows easily colouring using a wide range of masterbatch |
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| REACH & 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.