



Technical Data Sheet

MX-Nylon: Grade S6121

Product Information

Food grade used for improved barrier performance and suitable for monolayer or multilayer film and sheet and extrusion direct blow bottles.

| Property | Method | Units | Typical Value |
|---|------------|----------|--------------------------|
| Melting point (T_m) | DSC | °C/°F | 237 / 459 |
| Glass transition temperature (T_g) | DSC | °C/°F | 85 / 185 |
| Specific gravity | ASTM D792 | -- | 1.22 |
| Relative Viscosity | ISO 307 | -- | 3.50 |
| Melt Flow Rate (MFR) | ASTM D1238 | g/10 min | 0.5 |
| Melt viscosity 260°/270° at 100 sec ⁻¹ 260°/270° at 1000 sec ⁻¹ | | Pa·s | 2000 / 1500 590 / 520 |
| Water absorption equilibrium in water @20°C | ASTM D570 | % | 5.8 |
| Non-oriented film | | | |
| Tensile strength | ASTM D638 | MPa | 85 |
| Tensile elongation at break | ASTM D638 | % | 33 |
| Tensile modulus | ASTM D638 | GPa | 3.1 |
| Oriented film | | | |
| Tensile strength | ASTM D638 | MPa | 210 |
| Tensile elongation at break | ASTM D638 | % | 65 |
| Tensile modulus | ASTM D638 | GPa | 4.3 |

* Physical properties of 100 micron non-oriented and 20 micron oriented film specimens.

Processing, Handling and Storage

Processing temperatures between 250°C and 290°C (482°F and 554°F) are suggested for initial evaluations. Maximum processing temperature should not exceed 300°C (572°F). It is not necessary to dry MX Nylon before processing when proper storage to prevent moisture absorption is provided. Packaging is sealed and should be opened only immediately prior to processing. To avoid moisture absorption from the air, packages must be stored in dry rooms and always carefully resealed after opening. Packages stored in cold rooms should be allowed to equilibrate to normal temperature before opening to minimize condensation. Pellets that have absorbed water from exposure to air may be dried using suitable drying conditions either under vacuum at 150°C for 5 hours or without vacuum at 100°C for 12 hours. Depending on the application, a suitable tie resin may be necessary to promote adhesion to polyolefins or PET.



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Safety and Hygiene

FDA has approved the use of MX Nylon for indirect and direct food contact with specific food applications and conditions of use.

- Direct contact 21 CFR Part 177.1500 (b) 10.1
- Indirect contact 21 CFR Part 177.1390 (c) (1) (i) (e)
21 CFR Part 177.1500 (b) 10.3
- Modifier of PET 21 CFR Part 177.1630 (e) (4) (v)
- Modifier of PET FCN# 870*

*21 CFR 177.1500 (b), item 10.2, when tested by the methods given in 21 CFR 177.1500 (c)

MX Nylon is in compliance with EC-Directives for food packaging materials.

The data listed here fall within the normal range of product properties but they should not be used to establish specification limits nor used alone as the basis of design. These data do not imply any guarantee of certain properties, or the suitability of the product for a suitable purpose. MGC Advanced Polymers, Inc. assumes no obligation or liability for any advice furnished by it or for results obtained with respect of this information. It is the responsibility of the recipient of our products to ensure that any proprietary rights and existing laws and legislation are observed. All such advice is given and accepted at the buyer's risk.

CAUTION: Do not use in medical applications involving permanent implantation in the human body.