# Vendel MD FG (Blue Acetal)

## Technical Data Sheet

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Engineering Plastic Solutions

## Product Description

During the modification with Vendel MD FG, metal fillings are added to the basic polyoxymethylene, which allows the plastic to be detectable. The excellent machinability, tenacity and dimensional stability of the basic plastic remain. The EU VO 10/2011-/FDA approval assures physiological safety. Vendel MD plastics are used as building parts in the food industry.

## Applications

- Automative Industry
- Electrical Industry
- Mechanical Engineering
- Stirring Staffs
- Medical Technolog
- Plastics Industry
- Machined Components
- Stripper



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## Physical Properties

| | Value | Unit | Verification |
|---|---|---|---|
| Moisture pick-up till saturation (in normal climate 23 °C / 50% r.h.) | - | % | ISO 62 |
| Water absorption till saturation (in water at 23 °C) | <0.1 | % | ISO 62 |

## Mechanical Properties

| | Value | Unit | Verification |
|---|---|---|---|
| Tensile stress at yield [v = 50 mm/min] | 52 | MPa | ISO 527-2 |
| Tensile stress at break [v = 5 mm/min] | 48 | MPa | ISO 527-2 |
| Nominal percentage elongation at break | 16 | % | ISO 527-2 |
| Tensile modulus of elasticity | 3200 | MPa | ISO 527-2 |
| Flexural modulus of elasticity | 1900 | MPa | ISO 178 |
| Ball indentation hardness (value at 30 sec.) | 148 | MPa | ISO 2039-1 |
| Rockwell hardness (measured with test pieces 10 mm thk) | - | | ISO 2039-2 |
| Charpy impact strength (+23 °C) | 60 | $kJ/m^2$ | ISO 179/1eU |
| Charpy impact strength - notched (+23 °C) | - | $kJ/m^2$ | ISO 179/1eA |

## Electric Properties

| | Value | Unit | Verification |
|---|---|---|---|
| Specific insulation resistance [≥] | - | Ohm - m | IEC 60093 |
| Specific surface resistance [≥] | $10^{22}$ | Ohm | IEC 60093 |
| Dielectric constant (at 1 MHz) | - | $10^6$ Hz | IEC 60250 |
| Dielectric constant (at 100 Hz) | - | $10^2$ Hz | IEC 60250 |
| Dissipation factor (at 1 MHz) | - | $10^6$ Hz | IEC 60250 |
| Dissipation factor (at 100 Hz) | - | $10^2$ Hz | IEC 60250 |
| Dielectric strength K20/K20 (in transformer oil) | - | kV/mm | IEC 60243-1 |
| Comparative tracking index (CTI) | - | | IEC 60112 |

## Thermal Properties

| | Value | Unit | Verification |
|---|---|---|---|
| Temperature for usage in air (max. short term) | 120 | °C | |
| Temperature for usage in air (max. lasting) | 100 | °C | |
| Minimum service temperature in air | - | °C | |
| Heat distortion temperature (HDT A process) | 105 | °C | ISO 75-2 |
| Coefficient of linear expansion (at length, 23 – 60 °C) | - | $10^{-4/K}$ | ISO 11359 |
| Thermal conductivity (+23 °C) | 0.38 | W/(K · m) | DIN 52612 |
| Flammability according UL Standard (thickness 3 and 6 mm) | HB | Class | UL 94 |
| Vicat softening temperature (VST/B/50) | 155 | °C | ISO 306 |
| Melting point (DSC, 10 K/min) | 165 | °C | ISO 3146 |