

# TECHNYL® A 218 NATURAL

Polyamide 66  
Solvay Engineering Plastics

Message:

TECHNYL® A 218 Natural is an unreinforced polyamide 66, standard viscosity, heat stabilized for injection moulding.It is available in natural color.

| General Information            |                          |             |                   |                 |
|--------------------------------|--------------------------|-------------|-------------------|-----------------|
| Additive                       | Heat Stabilizer          |             |                   |                 |
| Features                       | Good Chemical Resistance |             |                   |                 |
|                                | Heat Stabilized          |             |                   |                 |
|                                | High Heat Resistance     |             |                   |                 |
| Agency Ratings                 | UU 453/2010/EC           |             |                   |                 |
| RoHS Compliance                | RoHS Compliant           |             |                   |                 |
| Appearance                     | Natural Color            |             |                   |                 |
| Processing Method              | Injection Molding        |             |                   |                 |
| Part Marking Code (ISO 11469)  | >PA66<                   |             |                   |                 |
| Physical                       | Dry                      | Conditioned | Unit              | Test Method     |
| Density                        | 1.14                     | --          | g/cm <sup>3</sup> | ISO 1183/A      |
| Molding Shrinkage              |                          |             |                   | Internal Method |
| Across Flow                    | 1.9                      | --          | %                 |                 |
| Flow                           | 1.9                      | --          | %                 |                 |
| Water Absorption (23°C, 24 hr) | 1.3                      | --          | %                 | ISO 62          |
| Molding Shrinkage Isotropy     | 1.00                     | --          |                   | Internal Method |
| Mechanical                     | Dry                      | Conditioned | Unit              | Test Method     |
| Tensile Modulus                | 3000                     | 1500        | MPa               | ISO 527-2/1A    |
| Tensile Strength               |                          |             |                   |                 |
| Yield                          | 85.0                     | --          | MPa               | ASTM D638       |
| Yield                          | 90.0                     | 60.0        | MPa               | ISO 527-2/1A    |
| Break                          | 55.0                     | 40.0        | MPa               | ISO 527-2/1A    |
| Tensile Strain                 |                          |             |                   |                 |
| Yield                          | 4.0                      | 10          | %                 | ISO 527-2/1A    |
| Break                          | 30                       | --          | %                 | ASTM D638       |
| Break                          | 50                       | 200         | %                 | ISO 527-2/1A    |
| Flexural Modulus               |                          |             |                   |                 |
| --                             | 3300                     | --          | MPa               | ASTM D790       |
| --                             | 3000                     | 1300        | MPa               | ISO 178         |
| Flexural Strength              |                          |             |                   |                 |
| --                             | 125                      | --          | MPa               | ASTM D790       |

|                                         |              |             |                   |                |
|-----------------------------------------|--------------|-------------|-------------------|----------------|
| --                                      | 120          | 70.0        | MPa               | ISO 178        |
| Impact                                  | Dry          | Conditioned | Unit              | Test Method    |
| Charpy Notched Impact Strength (23°C)   | 4.5          | 10          | kJ/m <sup>2</sup> | ISO 179/1eA    |
| Charpy Unnotched Impact Strength (23°C) | No Break     | No Break    |                   | ISO 179/1eU    |
| Notched Izod Impact                     |              |             |                   |                |
| --                                      | 80           | --          | J/m               | ASTM D256      |
| 23°C                                    | 4.0          | 10          | kJ/m <sup>2</sup> | ISO 180/1A     |
| Unnotched Izod Impact Strength          | No Break     | No Break    |                   | ISO 180        |
| Thermal                                 | Dry          | Conditioned | Unit              | Test Method    |
| Deflection Temperature Under Load       |              |             |                   |                |
| 0.45 MPa, Unannealed                    | 220          | --          | °C                | ASTM D648      |
| 0.45 MPa, Unannealed                    | 200          | --          | °C                | ISO 75-2/Bf    |
| 1.8 MPa, Unannealed                     | 82.0         | --          | °C                | ISO 75-2/Af    |
| Melting Temperature                     | 263          | --          | °C                | ISO 11357-3    |
| CLTE - Flow (23 to 85°C)                | 7.0E-5       | --          | cm/cm/°C          | ISO 11359-2    |
| Electrical                              | Dry          | Conditioned | Unit              | Test Method    |
| Surface Resistivity                     | 1.0E+15      | 1.0E+13     | ohms              | IEC 60093      |
| Volume Resistivity                      | 1.0E+15      | 1.0E+14     | ohms·cm           | IEC 60093      |
| Electric Strength                       | 25           | 22          | kV/mm             | IEC 60243-1    |
| Relative Permittivity                   | 2.90         | 3.20        |                   | IEC 60250      |
| Dissipation Factor                      | 0.030        | 0.080       |                   | IEC 60250      |
| Comparative Tracking Index              |              |             |                   | IEC 60112      |
| Solution A                              | 600          | 600         | V                 |                |
| Solution B                              | 350          | --          | V                 |                |
| Flammability                            | Dry          | Conditioned | Unit              | Test Method    |
| Flame Rating                            |              |             |                   | UL 94          |
| 1.60 mm                                 | V-2          | --          |                   |                |
| 3.20 mm                                 | V-2          | --          |                   |                |
| Glow Wire Flammability Index (1.60 mm)  | 650          | --          | °C                | IEC 60695-2-12 |
| Oxygen Index                            | 26           | --          | %                 | ISO 4589-2     |
| Injection                               | Dry          | Unit        |                   |                |
| Drying Temperature                      | 80.0         |             | °C                |                |
| Suggested Max Moisture                  | 0.20         |             | %                 |                |
| Rear Temperature                        | 265 to 275   |             | °C                |                |
| Middle Temperature                      | 270 to 280   |             | °C                |                |
| Front Temperature                       | 280 to 290   |             | °C                |                |
| Mold Temperature                        | 60.0 to 80.0 |             | °C                |                |

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