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|---------------------|---------------------------------------------|
| PRODUCT CODE        | TISBLEND IA 20D03 R01                       |
| PRODUCT DESCRIPTION | ABS/PA, 20% GLASS FIBER REINFORCED, NATURAL |

| PHYSICAL | PROPERTIES        | CONDITION | STANDARD  | UNITS             | VALUE     |
|----------|-------------------|-----------|-----------|-------------------|-----------|
|          | DENSITY           | -         | ISO 1183  | g/cm <sup>3</sup> | 1.17-1.22 |
|          | MOLDING SHRINKAGE | PARALLEL  | ISO 294-4 | %                 | -         |
|          | MOISTURE CONTENT  | -         | ISO 15512 | %                 | 0.2       |

| MECHANICAL | PROPERTIES                    | CONDITION | STANDARD  | UNITS             | VALUE     |
|------------|-------------------------------|-----------|-----------|-------------------|-----------|
|            | YIELD STRENGTH                | +23°C     | ISO 527-2 | MPa               | -         |
|            | TENSILE STRESS AT BREAK       | +23°C     | ISO 527-2 | MPa               | 70-80     |
|            | TENSILE STRAIN AT BREAK       | +23°C     | ISO 527-2 | %                 | 4.5       |
|            | TENSILE MODULUS               | +23°C     | ISO 527-2 | MPa               | 4500-5000 |
|            | IZOD IMPACT STRENGTH, NOTCHED | +23°C     | ISO 180/A | kJ/m <sup>2</sup> | 8-12      |

| THERMAL | PROPERTIES                  | CONDITION | STANDARD       | UNITS | VALUE |
|---------|-----------------------------|-----------|----------------|-------|-------|
|         | VICAT SOFTENING TEMPERATURE | 50 N      | ISO 306        | °C    | -     |
|         | HEAT DEFLECTION TEMPERATURE | 0,45 MPa  | ISO 75         | °C    | -     |
|         | HEAT DEFLECTION TEMPERATURE | 1,80 MPa  | ISO 75         | °C    | -     |
|         | MELTING TEMPERATURE         | 10 K/min  | ISO 11357      | °C    | -     |
|         | BALL PRESSURE TEST          | -         | ISO 60695-10-2 | -     | -     |



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| ELECTRICAL&FLAMMABILITY | PROPERTIES                         | CONDITION  | STANDARD  | UNITS  | VALUE |
|-------------------------|------------------------------------|------------|-----------|--------|-------|
|                         | FLAME RATING                       | 0,75 mm    | UL 94     | -      | HB    |
|                         | FLAME RATING                       | 1,6 mm     | UL 94     | -      | HB    |
|                         | GLOW WIRE FLAMMABILITY INDEX       | 2 mm       | IEC 60695 | °C     | -     |
|                         | GLOW WIRE IGNITABILITY TEMPERATURE | 2 mm       | IEC 60695 | °C     | -     |
|                         | COMPARATIVE TRACKING INDEX         | Solution A | ISO 60112 | Volt   | -     |
|                         | VOLUME RESISTIVITY                 | -          | IEC 60093 | Ohm.cm | 1E+16 |
|                         | SURFACE RESISTIVITY                | -          | IEC 60093 | Ohm    | 1E+14 |

| INJECTION PROCESS | PROPERTIES                | UNITS | VALUE   |
|-------------------|---------------------------|-------|---------|
|                   | PREDRYING TEMPERATURE     | °C    | 80-90   |
|                   | PREDRYING TIME            | Hours | 3-4     |
|                   | MELTING TEMPERATURE       | °C    | -       |
|                   | NOZZLE TEMPERATURE        | °C    | 220-240 |
|                   | PRE- 3 REGION TEMPERATURE | °C    | 210-230 |
|                   | MID-2 REGION TEMPERATURE  | °C    | 210-230 |
|                   | AFT-1 REGION TEMPERATURE  | °C    | 190-210 |
|                   | MOLD TEMPERATURE          | °C    | 60-90   |
|                   | HOLD PRESSURE             | MPa   | -       |

