

# Datasheet

## Pocan BF4225 000000

PBT, 20% glass fibers, injection molding, flame retardant

ISO Shortname: ISO 20028-PBT,GF20,GFHMR,07-080; ISO 1043-4 FR(17)

| Property  | Test Condition                         | Unit                      | Standard       | guide value <sup>1</sup> |
|---|--|---------------------------|----------------|--------------------------|
| <b>Rheological properties</b>                         |  |                           |                |                          |
| C Melt volume-flow rate                               | 260 °C; 2.16 kg                        | cm <sup>3</sup> /(10 min) | ISO 1133-1     | 19                       |
| C Molding shrinkage, parallel                         | 60x60x2; 250 °C / WZ 80°<br>C; 600 bar | %                         | ISO 294-4      | 0.5                      |
| C Molding shrinkage, transverse                       | 60x60x2; 250 °C / WZ 80°<br>C; 600 bar | %                         | ISO 294-4      | 1.2                      |
| Post- shrinkage, parallel                             | 60x60x2; 120 °C; 4 h                   | %                         | ISO 294-4      | 0.1                      |
| Post- shrinkage, transverse                           | 60x60x2; 120 °C; 4 h                   | %                         | ISO 294-4      | 0.1                      |
| <b>Mechanical properties (23 °C/50 % r. h.)</b>       |  |                           |                |                          |
| C Tensile modulus                                     | 1 mm/min                               | MPa                       | ISO 527-1,-2   | 8300                     |
| C Tensile Stress at break                             | 5 mm/min                               | MPa                       | ISO 527-1,-2   | 120                      |
| C Tensile Strain at break                             | 5 mm/min                               | %                         | ISO 527-1,-2   | 2.5                      |
| C Charpy impact strength                              | 23 °C                                  | kJ/m <sup>2</sup>         | ISO 179-1eU    | 45                       |
| C Charpy impact strength                              | -30 °C                                 | kJ/m <sup>2</sup>         | ISO 179-1eU    | 40                       |
| C Charpy notched impact strength                      | 23 °C                                  | kJ/m <sup>2</sup>         | ISO 179-1eA    | < 10                     |
| C Charpy notched impact strength                      | -30 °C                                 | kJ/m <sup>2</sup>         | ISO 179-1eA    | < 10                     |
| Izod impact strength                                  | 23 °C                                  | kJ/m <sup>2</sup>         | ISO 180-1U     | 40                       |
| Izod impact strength                                  | -30 °C                                 | kJ/m <sup>2</sup>         | ISO 180-1U     | 35                       |
| Izod notched impact strength                          | -30 °C                                 | kJ/m <sup>2</sup>         | ISO 180-1A     | < 10                     |
| Izod notched impact strength                          | -40 °C                                 | kJ/m <sup>2</sup>         | ISO 180-1A     | < 10                     |
| Flexural modulus                                      | 2 mm/min                               | MPa                       | ISO 178-A      | 8100                     |
| Flexural strength                                     | 2 mm/min                               | MPa                       | ISO 178-A      | 180                      |
| Flexural strain at flexural strength                  | 2 mm/min                               | %                         | ISO 178-A      | 3.1                      |
| Ball indentation hardness                             |  | N/mm <sup>2</sup>         | ISO 2039-1     | 200                      |
| <b>Thermal properties</b>                             |  |                           |                |                          |
| C Melting temperature                                 | 10 °C/min                              | °C                        | ISO 11357-1,-3 | 225                      |
| C Temperature of deflection under load                | 1.80 MPa                               | °C                        | ISO 75-1,-2    | 200                      |
| C Temperature of deflection under load                | 0.45 MPa                               | °C                        | ISO 75-1,-2    | 220                      |
| Vicat softening temperature                           | 50 N; 120 °C/h                         | °C                        | ISO 306        | 205                      |
| C Coefficient of linear thermal expansion, parallel   | 23 to 55 °C                            | 10 <sup>-4</sup> /K       | ISO 11359-1,-2 | 0.3                      |
| C Coefficient of linear thermal expansion, transverse | 23 to 55 °C                            | 10 <sup>-4</sup> /K       | ISO 11359-1,-2 | 1.0                      |
| C Burning behavior UL 94                              | 1.5 mm                                 | Class                     | UL 94          | V-0                      |
| C Burning behavior UL 94                              | 0.4 mm                                 | Class                     | UL 94          | V-0                      |
| Thermal conductivity                                  | 23 °C                                  | W/(m·K)                   | ISO 8302       | 0.23                     |
| Resistance to heat (ball pressure test)               |  | °C                        | IEC 60695-10-2 | 215                      |
| Temperature index (Tensile strength)                  | 20000 h                                | °C                        | IEC 60216-1    | 140                      |

# Datasheet

## Pocan BF4225 00000

| Property   | Test Condition | Unit               | Standard             | guide value <sup>1</sup> |
|--|----------------|--------------------|----------------------|--------------------------|
| Halving interval (Tensile strength)                  |                | °C                 | IEC 60216-1          | 11.7                     |
| Relative temperature index (Tensile strength)        |                | °C                 | UL 746B              | 140                      |
| Temperature index (Tensile impact strength)          | 20000 h        | °C                 | IEC 60216-1          | 135                      |
| Halving interval (Tensile impact strength)           |                | °C                 | IEC 60216-1          | 9.2                      |
| Relative temperature index (Tensile impact strength) |                | °C                 | UL 746B              | 130                      |
| Temperature index (Electric strength)                | 20000 h        | °C                 | IEC 60216-1          | 145                      |
| Halving interval (Electric strength)                 |                | °C                 | IEC 60216-1          | 12.4                     |
| Relative temperature index (Electric strength)       |                | °C                 | UL 746B              | 130                      |
| Glow wire test (GWFI)                                | 0.75 mm        | °C                 | IEC 60695-2-12       | 960                      |
| Glow wire test (GWFI)                                | 1.5 mm         | °C                 | IEC 60695-2-12       | 960                      |
| Glow wire test (GWFI)                                | 3.0 mm         | °C                 | IEC 60695-2-12       | 960                      |
| Glow wire test (GWIT)                                | 0.75 mm        | °C                 | IEC 60695-2-13       | 725                      |
| Glow wire test (GWIT)                                | 1.5 mm         | °C                 | IEC 60695-2-13       | 725                      |
| Glow wire test (GWIT)                                | 3.0 mm         | °C                 | IEC 60695-2-13       | 725                      |
| <b>Electrical properties (23 °C/50 % r. h.)</b>      |                |                    |                      |                          |
| C Relative permittivity                              | 100 Hz         | -                  | IEC 60250            | 3.8                      |
| C Relative permittivity                              | 1 MHz          | -                  | IEC 60250            | 3.6                      |
| C Electric strength                                  | 1 mm           | kV/mm              | IEC 60243-1          | 29                       |
| C Comparative tracking index CTI                     | Solution A     | Rating             | IEC 60112            | 175                      |
| Comparative tracking index CTI                       | Solution A     | PLC                | UL 746A              | 2                        |
| <b>Other properties (23 °C)</b>                      |                |                    |                      |                          |
| C Density  |                | kg/m <sup>3</sup>  | ISO 1183             | 1595                     |
| Bulk density   |                | kg/m <sup>3</sup>  | ISO 60               | 700                      |
| <b>Material specific properties</b>                  |                |                    |                      |                          |
| C Viscosity number                                   |                | cm <sup>3</sup> /g | ISO 1628-5           | 97                       |
| <b>Processing conditions for test specimens</b>      |                |                    |                      |                          |
| C Injection molding-Melt temperature                 |                | °C                 | ISO 294              | 250                      |
| C Injection molding-Mold temperature                 |                | °C                 | ISO 294              | 80                       |
| <b>Processing recommendations</b>                    |                |                    |                      |                          |
| Drying temperature circulating air dryer             |                | °C                 | -                    | 120                      |
| Drying time circulating air dryer                    |                | h                  | -                    | 4-8                      |
| Residual moisture content                            |                | %                  | Acc. to Karl Fischer | 0.00-0.02                |
| Melt temperature (Tmin - Tmax)                       |                | °C                 | -                    | 240-260                  |
| Mold temperature                                     |                | °C                 | -                    | 80-100                   |

Notes

## Datasheet

### **Pocan BF4225 000000**

**1** Typical properties: these are not to be construed as specifications

**C** These property characteristics are taken from the CAMPUS plastics data bank and are based on the international catalogue of basic data for plastics according to ISO 10350.

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Test values

Unless specified to the contrary, the values given have been established on standardized test specimens at room temperature. The figures should be regarded as guide values only and not as binding minimum values. Kindly note that, under certain conditions, the properties can be affected to a considerable extent by the design of the mould/die, the processing conditions and the coloring.

Processing note

Under the recommended processing conditions small quantities of decomposition product may be given off during processing. To preclude any risk to the health and well-being of the machine operatives, tolerance limits for the work environment must be ensured by the provision of efficient exhaust ventilation and fresh air at the workplace in accordance with the Safety Data Sheet. In order to prevent the partial decomposition of the polymer and the generation of volatile decomposition products, the prescribed processing temperatures should not be substantially exceeded. Since excessively high temperatures are generally the result of operator error or defects in the heating system, special care and controls are essential in these areas.

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