

## Data sheet

### Durethan ACF30XH2.0EF 901510

PA 66, 30 % glass fibers/carbon fibers, injection molding, improved flowability, heat-aging stabilized, improved electrical conductivity

**ISO Shortname:** ISO 16396-PA 66,(GF+CF)30,GHR,S14-120

| Property                                              | Test Condition                      | Unit    | Standard             | guide value |       |
|-------------------------------------------------------|-------------------------------------|---------|----------------------|-------------|-------|
|                                                       |                                     |         |                      | d.a.m.      | cond. |
| Rheological properties                                |                                     |         |                      |             |       |
| C Molding shrinkage, parallel                         | 60x60x2; 290 °C / MT 80 °C; 600 bar | %       | ISO 294-4            | 0.3         |       |
| C Molding shrinkage, transverse                       | 60x60x2; 290 °C / MT 80 °C; 600 bar | %       | ISO 294-4            | 0.8         |       |
| Post- shrinkage, parallel                             | 60x60x2; 120 °C; 4 h                | %       | ISO 294-4            | 0.02        |       |
| Post- shrinkage, transverse                           | 60x60x2; 120 °C; 4 h                | %       | ISO 294-4            | 0.05        |       |
| Mechanical properties (23 °C/50 % r. h.)              |                                     |         |                      |             |       |
| C Tensile modulus                                     | 1 mm/min                            | MPa     | ISO 527-1,-2         | 12000       | 7400  |
| C Tensile Stress at break                             | 5 mm/min                            | MPa     | ISO 527-1,-2         | 170         | 110   |
| C Tensile Strain at break                             | 5 mm/min                            | %       | ISO 527-1,-2         | 2.5         | 4.5   |
| C Charpy impact strength                              | 23 °C                               | kJ/m²   | ISO 179-1eU          | 60          | 65    |
| C Charpy impact strength                              | -30 °C                              | kJ/m²   | ISO 179-1eU          | 60          | 55    |
| C Charpy notched impact strength                      | 23 °C                               | kJ/m²   | ISO 179-1eA          | <10         | 15    |
| C Charpy notched impact strength                      | -30 °C                              | kJ/m²   | ISO 179-1eA          | <10         | <10   |
| Izod impact strength                                  | 23 °C                               | kJ/m²   | ISO 180-1U           | 55          | 65    |
| Izod impact strength                                  | -30 °C                              | kJ/m²   | ISO 180-1U           | 55          | 50    |
| Izod notched impact strength                          | 23 °C                               | kJ/m²   | ISO 180-1A           | 10          | 15    |
| Izod notched impact strength                          | -30 °C                              | kJ/m²   | ISO 180-1A           | <10         | <10   |
| Flexural modulus                                      | 2 mm/min                            | MPa     | ISO 178-A            | 11400       | 7000  |
| Flexural strength                                     | 2 mm/min                            | MPa     | ISO 178-A            | 255         | 170   |
| Flexural strain at flexural strength                  | 2 mm/min                            | %       | ISO 178-A            | 3           | 4.5   |
| Flexural stress at 3.5 % strain                       | 2 mm/min                            | MPa     | ISO 178-A            |             | 160   |
| C Puncture maximum force                              | 23 °C                               | N       | ISO 6603-2           | 840         |       |
| C Puncture maximum force                              | -30 °C                              | N       | ISO 6603-2           | 700         |       |
| C Puncture energy                                     | 23 °C                               | J       | ISO 6603-2           | 3.1         |       |
| C Puncture energy                                     | -30 °C                              | J       | ISO 6603-2           | 2.3         |       |
| Thermal properties                                    |                                     |         |                      |             |       |
| C Melting temperature                                 | 10 °C/min                           | °C      | ISO 11357-1,-3       | 261         |       |
| C Temperature of deflection under load                | 1.80 MPa                            | °C      | ISO 75-1,-2          | 240         |       |
| C Temperature of deflection under load                | 0.45 MPa                            | °C      | ISO 75-1,-2          | 250         |       |
| C Coefficient of linear thermal expansion, parallel   | 23 to 55 °C                         | 10-4/K  | ISO 11359-1,-2       | 0.1         |       |
| C Coefficient of linear thermal expansion, transverse | 23 to 55 °C                         | 10-4/K  | ISO 11359-1,-2       | 1           |       |
| Electrical properties (23 °C/50 % r. h.)              |                                     |         |                      |             |       |
| C Volume resistivity                                  |                                     | Ohm · m | IEC 60093            | 1E+03       |       |
| Surface resistivity                                   |                                     | Ohm     | IEC 60167            | 1E+04       |       |
| Other properties (23 °C)                              |                                     |         |                      |             |       |
| C Water absorption (Saturation value)                 | Water at 23 °C                      | %       | ISO 62               | 5           |       |
| C Water absorption (Equilibrium value)                | 23 °C; 50 % RH                      | %       | ISO 62               | 1.7         |       |
| C Density                                             |                                     | kg/m³   | ISO 1183             | 1300        |       |
| Bulk density                                          |                                     | kg/m³   | ISO 60               | 700         |       |
| Processing conditions for test specimens              |                                     |         |                      |             |       |
| C Injection molding-Melt temperature                  |                                     | °C      | ISO 294              | 290         |       |
| C Injection molding-Mold temperature                  |                                     | °C      | ISO 294              | 80          |       |
| Processing recommendations                            |                                     |         |                      |             |       |
| Drying temperature dry air dryer                      |                                     | °C      | -                    | 80          |       |
| Drying time dry air dryer                             |                                     | h       | -                    | 2-6         |       |
| Residual moisture content                             |                                     | %       | Acc. to Karl Fischer | 0.03-0.07   |       |
| Melt temperature (Tmin - Tmax)                        |                                     | °C      | -                    | 280-300     |       |
| Mold temperature                                      |                                     | °C      | -                    | 80-120      |       |

**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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**Typical Properties**

Property data is provided as general information only. Property values are approximate and are not part of the product specifications.

**Flammability**

Flammability results are based on small-scale laboratory tests for purposes of relative comparison and are not intended to reflect the hazards presented by this or any other material under actual fire conditions.

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**Color and Visual Effects**

Type and quantity of pigments or additives used to obtain certain colors and special visual effects can affect mechanical properties.

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