

## Data sheet

### Durethan AKV320ZH2.0 900116

PA 66, 20 % glass fibers, blow molding, improved impact strength, heat-aging stabilized

ISO Shortname: ISO 16396-PA 66,GF20,BHR,S14-060

| Property                                              | Test Condition                          | Unit   | Standard             | guide value |       |
|-------------------------------------------------------|-----------------------------------------|--------|----------------------|-------------|-------|
|                                                       |                                         |        |                      | d.a.m.      | cond. |
| Rheological properties                                |                                         |        |                      |             |       |
| Molding shrinkage, parallel                           | 150x105x3; 290 °C / MT 80 °C; 500 % bar |        | acc. ISO 2577        | 0.67        |       |
| Molding shrinkage, transverse                         | 150x105x3; 290 °C / MT 80 °C; 500 % bar |        | acc. ISO 2577        | 1.04        |       |
| Post- shrinkage, parallel                             | 150x105x3; 120 °C; 4 h                  | %      | acc. ISO 2577        | 0.03        |       |
| Post- shrinkage, transverse                           | 150x105x3; 120 °C; 4 h                  | %      | acc. ISO 2577        | 0.01        |       |
| Mechanical properties (23 °C/50 % r. h.)              |                                         |        |                      |             |       |
| C Tensile modulus                                     | 1 mm/min                                | MPa    | ISO 527-1,-2         | 6400        | 3500  |
| C Tensile Stress at break                             | 5 mm/min                                | MPa    | ISO 527-1,-2         | 120         | 75    |
| C Tensile Strain at break                             | 5 mm/min                                | %      | ISO 527-1,-2         | 4.9         | 17.6  |
| C Charpy impact strength                              | 23 °C                                   | kJ/m²  | ISO 179-1eU          | 85          | 115   |
| C Charpy impact strength                              | -30 °C                                  | kJ/m²  | ISO 179-1eU          | 95          | 115   |
| C Charpy notched impact strength                      | 23 °C                                   | kJ/m²  | ISO 179-1eA          | 15          | 30    |
| C Charpy notched impact strength                      | -30 °C                                  | kJ/m²  | ISO 179-1eA          | <10         | <10   |
| Izod impact strength                                  | 23 °C                                   | kJ/m²  | ISO 180-1U           | 70          | 100   |
| Izod impact strength                                  | -30 °C                                  | kJ/m²  | ISO 180-1U           | 75          | 65    |
| Izod notched impact strength                          | 23 °C                                   | kJ/m²  | ISO 180-1A           | 15          | 30    |
| Izod notched impact strength                          | -30 °C                                  | kJ/m²  | ISO 180-1A           | <10         | <10   |
| Flexural modulus                                      | 2 mm/min                                | MPa    | ISO 178-A            | 5400        | 3000  |
| Flexural strength                                     | 2 mm/min                                | MPa    | ISO 178-A            | 190         | 105   |
| Flexural strain at flexural strength                  | 2 mm/min                                | %      | ISO 178-A            | 5.9         | 7     |
| Flexural stress at 3.5 % strain                       | 2 mm/min                                | MPa    | ISO 178-A            | 165         | 80    |
| C Puncture maximum force                              | 23 °C                                   | N      | ISO 6603-2           | 1000        | 2100  |
| C Puncture maximum force                              | -30 °C                                  | N      | ISO 6603-2           | 700         | 850   |
| C Puncture energy                                     | 23 °C                                   | J      | ISO 6603-2           | 4.6         | 11.2  |
| C Puncture energy                                     | -30 °C                                  | J      | ISO 6603-2           | 3.2         | 3.7   |
| Thermal properties                                    |                                         |        |                      |             |       |
| C Melting temperature                                 | 10 °C/min                               | °C     | ISO 11357-1,-3       | 259         |       |
| C Temperature of deflection under load                | 1.80 MPa                                | °C     | ISO 75-1,-2          | 221         |       |
| C Temperature of deflection under load                | 0.45 MPa                                | °C     | ISO 75-1,-2          | 250         |       |
| Vicat softening temperature                           | 50 N; 120 °C/h                          | °C     | ISO 306              | 240         |       |
| C Coefficient of linear thermal expansion, parallel   | 23 to 55 °C                             | 10-4/K | ISO 11359-1,-2       | 1.2         |       |
| C Coefficient of linear thermal expansion, transverse | 23 to 55 °C                             | 10-4/K | ISO 11359-1,-2       | 0.3         |       |
| Other properties (23 °C)                              |                                         |        |                      |             |       |
| C Water absorption (Saturation value)                 | Water at 23 °C                          | %      | ISO 62               | 7.0         |       |
| C Water absorption (Equilibrium value)                | 23 °C; 50 % RH                          | %      | ISO 62               | 2.0         |       |
| C Density                                             |                                         | kg/m³  | ISO 1183             | 1246        |       |
| Processing conditions for test specimens              |                                         |        |                      |             |       |
| C Injection molding-Melt temperature                  |                                         | °C     | ISO 294              | 290         |       |
| C Injection molding-Mold temperature                  |                                         | °C     | ISO 294              | 80          |       |
| moisture content                                      |                                         | %      | Acc. to Karl Fischer | 0.03-0.12   |       |
| Processing recommendations                            |                                         |        |                      |             |       |
| Drying temperature dry air dryer                      |                                         | °C     | -                    | 80          |       |
| Drying time dry air dryer                             |                                         | h      | -                    | 2-6         |       |
| Residual moisture content                             |                                         | %      | Acc. to Karl Fischer | 0.00-0.06   |       |
| 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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Property data is provided as general information only. Property values are approximate and are not part of the product specifications.

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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.

LANXESS Corporation | Pittsburgh, PA 15275

Date: 01.05.2019



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