

# ForTii® Ace WX53-FC

## PPA-GF50

50% Glass Reinforced, PA4T, Food Contact Quality, Drinking Water Grade

ForTii® Ace WX53-FC has best in class high temperature and wet mechanical performance, weldline strength and weldline strength retention in hot water and steam. For detailed statements and information regarding food contact and water contact approvals please contact your DSM representative.

| Properties                    | Typical Data  | Unit | Test Method  |
|-------------------------------|---------------|------|--------------|
| <b>Rheological properties</b> |               |      |              |
|                               | dry / cond    |      |              |
| Molding shrinkage (parallel)  | 0.3 / *       | %    | ISO 294-4    |
| Molding shrinkage (normal)    | 0.8 / *       | %    | ISO 294-4    |
| <b>Mechanical properties</b>  |               |      |              |
|                               | dry / cond    |      |              |
| Tensile modulus               | 18000 / 18500 | MPa  | ISO 527-1/-2 |
| Tensile modulus (-40°C)       | 19000 / -     | MPa  | ISO 527-1/-2 |
| Tensile modulus (40°C)        | 17500 / -     | MPa  | ISO 527-1/-2 |
| Tensile modulus (80°C)        | 17200 / -     | MPa  | ISO 527-1/-2 |
| Tensile modulus (100°C)       | 17000 / -     | MPa  | ISO 527-1/-2 |
| Tensile modulus (120°C)       | 16000 / -     | MPa  | ISO 527-1/-2 |
| Tensile modulus (150°C)       | 8500          | MPa  | ISO 527-1/-2 |
| Tensile modulus (160°C)       | 7600          | MPa  | ISO 527-1/-2 |
| Tensile modulus (180°C)       | 6800          | MPa  | ISO 527-1/-2 |
| Tensile modulus (200°C)       | 6300          | MPa  | ISO 527-1/-2 |
| Stress at break               | 280 / 260     | MPa  | ISO 527-1/-2 |
| Stress at break (-40°C)       | 340 / -       | MPa  | ISO 527-1/-2 |
| Stress at break (40°C)        | 270 / -       | MPa  | ISO 527-1/-2 |
| Stress at break (80°C)        | 230 / -       | MPa  | ISO 527-1/-2 |
| Stress at break (100°C)       | 210 / -       | MPa  | ISO 527-1/-2 |
| Stress at break (120°C)       | 180 / -       | MPa  | ISO 527-1/-2 |



ForTii<sup>®</sup> Ace WX53-FC

| Properties                             | Typical Data  | Unit              | Test Method  |
|----------------------------------------|---------------|-------------------|--------------|
| Stress at break (150°C)                | 110           | MPa               | ISO 527-1/-2 |
| Stress at break (160°C)                | 100           | MPa               | ISO 527-1/-2 |
| Stress at break (180°C)                | 83            | MPa               | ISO 527-1/-2 |
| Stress at break (200°C)                | 71            | MPa               | ISO 527-1/-2 |
| Strain at break                        | 2.3 / 2.2     | %                 | ISO 527-1/-2 |
| Strain at break (-40°C)                | 2.5 / -       | %                 | ISO 527-1/-2 |
| Strain at break (40°C)                 | 2.3 / -       | %                 | ISO 527-1/-2 |
| Strain at break (80°C)                 | 2.1 / -       | %                 | ISO 527-1/-2 |
| Strain at break (100°C)                | 2.2 / -       | %                 | ISO 527-1/-2 |
| Strain at break (120°C)                | 2.3 / -       | %                 | ISO 527-1/-2 |
| Strain at break (150°C)                | 4.2           | %                 | ISO 527-1/-2 |
| Strain at break (160°C)                | 4.3           | %                 | ISO 527-1/-2 |
| Strain at break (180°C)                | 4.6           | %                 | ISO 527-1/-2 |
| Strain at break (200°C)                | 4.4           | %                 | ISO 527-1/-2 |
| Flexural modulus                       | 17500 / 18000 | MPa               | ISO 178      |
| Flexural strength                      | 420 / 380     | MPa               | ISO 178      |
| Flexural modulus (120°C)               | 16700         | MPa               | ISO 178      |
| Flexural modulus (160°C)               | 8300          | MPa               | ISO 178      |
| Flexural modulus (180°C)               | 7100          | MPa               | ISO 178      |
| Flexural modulus (200°C)               | 6600          | MPa               | ISO 178      |
| Charpy impact strength (+23°C)         | 100 / 90      | kJ/m <sup>2</sup> | ISO 179/1eU  |
| Charpy impact strength (-30°C)         | 90 / 75       | kJ/m <sup>2</sup> | ISO 179/1eU  |
| Charpy notched impact strength (+23°C) | 14.5 / 13.5   | kJ/m <sup>2</sup> | ISO 179/1eA  |
| Charpy notched impact strength (-30°C) | 15.5 / 14     | kJ/m <sup>2</sup> | ISO 179/1eA  |

## Thermal properties

dry / cond

|                                           |         |    |                |
|-------------------------------------------|---------|----|----------------|
| Melting temperature (10°C/min)            | 333 / * | °C | ISO 11357-1/-3 |
| Temp. of deflection under load (1.80 MPa) | 305 / * | °C | ISO 75-1/-2    |

## Electrical properties

dry / cond



Property Data (Provisional)

# ForTii<sup>®</sup> Ace WX53-FC

| Properties          | Typical Data | Unit              | Test Method    |
|---------------------|--------------|-------------------|----------------|
| Electric strength   | 43 / -       | kV/mm             | IEC 60243-1    |
| Other properties    | dry / cond   |                   |                |
| Humidity absorption | 1.5 / *      | %                 | Sim. to ISO 62 |
| Density             | 1660 / -     | kg/m <sup>3</sup> | ISO 1183       |

