



## COMPOSITES

### Mechanical Properties

| Property             | Value | Units             | Standard                                      |
|----------------------|-------|-------------------|---|
| Colour               | Black | -                 | visual  |
| Hardness             | 84    | Shore D           | according to ISO 868: 2003                    |
| Density              | 1.29  | g/cm <sup>3</sup> | according to BS EN ISO 1183-1: 2012, Method A |
| Flexural Strength    | 186   | MPa               | according to ISO 178: 2010                    |
| Flexural Modulus     | 21.0  | GPa               | according to ISO 178: 2010                    |
| Tensile Strength     | 153   | MPa               | according to BS EN ISO 527-2: 2012            |
| Compressive Strength | 285   | MPa               | according to BS EN ISO 604: 2003              |
| Compressive Modulus  | 19.6  | GPa               | according to BS EN ISO 604: 2003              |

The full 2019 Intertek report containing these mean test results is available upon request

### Thermal Stability - 100 Cycles Oven Data

Product: 360 - raw format i.e. not sealed/released/treated/machined.  
Test Description: Cycle material in oven set and stabilized to 180°c.  
Frequency of: Test piece to spend 60 minutes in the oven, then 60 minutes out of oven cooling down.  
Measurement: Measured cold in four areas each morning before first oven cycle test of the day.  
Test piece size (mm): 250 mm x 95 mm x 20 mm (length x width x thickness).  
Test apparatus: SNOL 13/1100 LHM01 furnace with an in date calibration certificate.  
Measurement tool: Mitutoyo 150 mm Digital Caliper 0.01 mm, Metric with an UKAS in date calibration certificate.

|        | Start Thickness | 20 Cycles | 40 Cycles | 60 Cycles | 80 Cycles | 100 Cycles |
|--------|-----------------|-----------|-----------|-----------|-----------|------------|
| Area 1 | 20.91           | 21.09     | 21.16     | 21.25     | 21.25     | 21.30      |
| Area 2 | 21.03           | 21.01     | 21.08     | 21.18     | 20.96     | 21.20      |
| Area 3 | 21.06           | 21.07     | 21.19     | 21.25     | 21.10     | 21.34      |
| Area 4 | 21.12           | 21.26     | 21.26     | 21.35     | 21.27     | 21.45      |

**From cycle 1 → 100 the material only altered dimensionally by 0.8066 percent (mean average).**

The full 100 cycle data is available upon request.