

# Akulon® S223-DH

## PA66

Low/Medium Viscosity, Nucleated, Heat Stabilized

| Properties                                   | Typical Data | Unit              | Test Method     |
|----------------------------------------------|--------------|-------------------|-----------------|
| <b>Rheological properties</b>                |              |                   |                 |
|                                              | dry / cond   |                   |                 |
| Molding shrinkage (parallel)                 | 0.95 / *     | %                 | ISO 294-4       |
| Molding shrinkage (normal)                   | 0.95 / *     | %                 | ISO 294-4       |
| <b>Mechanical properties</b>                 |              |                   |                 |
|                                              | dry / cond   |                   |                 |
| Tensile modulus                              | 3600 / 1500  | MPa               | ISO 527-1/-2    |
| Nominal strain at break                      | 10 / >50     | %                 | ISO 527-1/-2    |
| Yield stress                                 | 95 / 60      | MPa               | ISO 527-1/-2    |
| Yield strain                                 | 3.5 / 20     | %                 | ISO 527-1/-2    |
| Flexural modulus                             | 2800 / -     | MPa               | ISO 178         |
| Flexural strength                            | 125 / -      | MPa               | ISO 178         |
| Charpy impact strength (+23°C)               | N / N        | kJ/m <sup>2</sup> | ISO 179/1eU     |
| Charpy impact strength (-30°C)               | N / N        | kJ/m <sup>2</sup> | ISO 179/1eU     |
| Charpy notched impact strength (+23°C)       | 6 / 12       | kJ/m <sup>2</sup> | ISO 179/1eA     |
| Charpy notched impact strength (-30°C)       | 6 / 6        | kJ/m <sup>2</sup> | ISO 179/1eA     |
| <b>Thermal properties</b>                    |              |                   |                 |
|                                              | dry / cond   |                   |                 |
| Melting temperature (10°C/min)               | 260 / *      | °C                | ISO 11357-1/-3  |
| Temp. of deflection under load (1.80 MPa)    | 85 / *       | °C                | ISO 75-1/-2     |
| Temp. of deflection under load (0.45 MPa)    | 215 / *      | °C                | ISO 75-1/-2     |
| Coeff. of linear therm. expansion (parallel) | 1 / *        | E-4/°C            | ISO 11359-1/-2  |
| Coeff. of linear therm. expansion (normal)   | 1 / *        | E-4/°C            | ISO 11359-1/-2  |
| Burning Behav. at 1.5 mm nom. thickn.        | V-2 / *      | class             | IEC 60695-11-10 |
| Thickness tested                             | 1.5 / *      | mm                | IEC 60695-11-10 |



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| Properties                             | Typical Data | Unit  | Test Method     |
|----------------------------------------|--------------|-------|-----------------|
| Burning Behav. at 3.0 mm nom. thickn.  | V-2 / *      | class | IEC 60695-11-10 |
| Thickness tested                       | 3 / *        | mm    | IEC 60695-11-10 |
| Burning Behav. at 0.75 mm nom. thickn. | V-2 / *      | class | IEC 60695-11-10 |
| Thickness tested                       | 0.75 / *     | mm    | IEC 60695-11-10 |

## Electrical properties

dry / cond

|                               |             |       |               |
|-------------------------------|-------------|-------|---------------|
| Relative permittivity (100Hz) | 3.2 / 15    | -     | IEC 62631-2-1 |
| Relative permittivity (1 MHz) | 3 / 4.3     | -     | IEC 62631-2-1 |
| Dissipation factor (100 Hz)   | 60 / 2400   | E-4   | IEC 62631-2-1 |
| Dissipation factor (1 MHz)    | 170 / 1200  | E-4   | IEC 62631-2-1 |
| Volume resistivity            | 1E12 / 1E10 | Ohm*m | IEC 62631-3-1 |
| Surface resistivity           | - / 1E13    | Ohm   | IEC 62631-3-2 |
| Electric strength             | 30 / 25     | kV/mm | IEC 60243-1   |
| Comparative tracking index    | 600 / 600   | V     | IEC 60112     |

## Other properties

dry / cond

|                     |          |                   |                |
|---------------------|----------|-------------------|----------------|
| Water absorption    | 8.5 / *  | %                 | Sim. to ISO 62 |
| Humidity absorption | 2.3 / *  | %                 | Sim. to ISO 62 |
| Density             | 1140 / - | kg/m <sup>3</sup> | ISO 1183       |

