

TECHNICAL DATA SHEET

# High performance plastic type SV

**General notes:**

- » **PVDF** polyvinylidene fluoride carbon fibre reinforced
- » excellent mechanical strength and toughness
- » smooth surface
- » heat stabilized, high heat capability, continuous use temperature up to 150°C
- » high purity (clean room and medical devices approved, low extraction value)
- » excellent chemical resistance to most aggressive substances (mineral and organic acid) and solvents (hydrocarbons, alcohols, halogenated), resistant to halogens
- » outstanding resistance to hydrofluoric acid (40% conc., 90°C), nitric acid (50% conc., 90°C), hydrochloric acid (36% conc., 90°C)
- » high abrasion resistant
- » resistant to UV and nuclear radiation (sterilisation)
- » ESD safe material, (avoid powder attraction, sparks generation, ignition sources)
- » typical applications include handling of very scratch- and contamination-sensitive components, cleaning and etching processes

## Mechanical properties

Flexural modulus +23°C	<b>7500 MPa</b>	<i>ASTM D 790</i>
Tensile modulus +23°C	<b>8000 MPa</b>	<i>ASTM D638</i>
Tensile strength +23°C	<b>120 MPa</b>	<i>ASTM D638</i>
Flexural strength +23°C	<b>150 MPa</b>	<i>ASTM D790</i>
Shore D hardness	<b>82</b>	<i>ASTM D 2240</i>
Izod-Impact strength (notched) +23°C	<b>110 J/m</b>	<i>ASTM D 256</i>

## Thermal properties

Temp. of defl. under load (1.80 MPa)	<b>158 °C</b>	<i>ASTM D648</i>
Temp. of defl. under load (0.45 MPa)	<b>170 °C</b>	<i>ASTM D648</i>
Vicat softening temperature (50°C/h 50N)	<b>172 °C</b>	<i>ISO 306</i>
Coef. of lin. therm expansion, normal	<b>7.00 E-5/°C</b>	<i>ASTM D 696</i>
Continuous Use Temperature	<b>150°C</b>	<i>20'000 h</i>
Short Time Temperature	<b>200°C</b>	

## Electrical properties

Surface resistivity	<b>&lt;1.0E5 Ohm</b>	<i>ASTM D257</i>
Volume resistivity	<b>&lt;1.0E3 Ohm.cm</b>	<i>ASTM D257</i>

## Other properties

Density	<b>1.37 g/ccm</b>	<i>ISO 1183</i>
Water absorption in water 23°C (24h)	<b>0.65%</b>	<i>ISO 62</i>

This document contains information based on average values as obtained from the results of laboratory tests and observations made on the material. Ideal-tek SA declines all responsibility from an improper use of the product described in this document.