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Data sheet: Aramide

Introduction:

Aramide belongs to the latest group of chemical fibres. Its special capabilities are a high strength, a high modulus, a low density as well as a good acceptance to work. That's why Aramide is excellent to use in different fields of industry, as already used in fibre compound materials of highly demanded parts for aviation and astronautics, for vehicle-, electric- and sports article-industry, as well as for ballistic protection.

General Properties:

- low weight
- very high modulus
- excellent tenacity after repeated stress
- good resistance to signs of fatigue
- good properties to absorb vibrations
- resistent to draft-expansion
- slight thermal shrinkage as well as low conductivity
- the most important properties at room temperature will not be changed, even material will be exposed to temperatures of – 70°C to + 180°C
- flame-resistant, self-extinguishing, not melting
- slight evolution of smoke
- excellent resistant to most of chemicals like fuel, lubricants, washing powders and salt-water
- korrosive resistent
- excellent electrical properties; very low conductivity and slight dielectric constant
- suitable for conventional tissue textile manufacture

Physical Properties:

Elongation at break [%]	2,70 – 2,90
Breaking tenacity [Mpa]	2951 - 3154
Breaking strength [N]	285 – 1740
Modulus [GPa]	99 – 108
Flammability (LOI) [%]	29
Hot air shrinkage (15 minutes at 190°C) [%]	0,1
Heat resistance (residual strength after 48 hours at 200°C) [%]	90
Decomposition temperature [°C]	> 450*
Coefficient of thermal expansion (linear) [10^{-6}/K]	-3,5
Density [g/cm^3]	1.44

*based on thermogravimetric analysis at 40 K/Min.

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