

Datasheet AS PVC-U

AS PVC-U is fire resistant, extremely chemical resistant and tends to low stress cracking build-up. It has high stiffness, strength and hardness. It can be bonded and welded. Norm impact strength to ISO11833-1.

(1): Data of the resin only.

(2): Made by a pin/rotating disc test according DIN ISO 7148-2 under following conditions: Ra = 0.35 – 0.45 µm (steel disc), v = 0.3 m/s, p = 3 N/mm² and time T>16h.

Dry: Dried at 80 °C and 1 mbar until weight is constant (moisture content less than 0.2%).

Moist: After storage in a standard atmosphere of 23 °C and 50% relative humidity (DIN 50014) until saturation.

Availability*: In stock.

Availability **: Not in stock.

| Material | |
|----------|-------|
| Material | PVC-U |
| Color | - |

| Availability** | Unit | Value |
|-----------------|------|-------|
| Rod diameter | mm | - |
| Tube O.D. | mm | - |
| Sheet thickness | mm | - |

| Physical Properties | Test Standard | Unit | Condition of Specimen | Value |
|--|---------------|-------------------|-----------------------|-------|
| Mass density (method D and E) | ISO 1183 | g/cm ³ | Dry | 1.44 |
| Moisture absorption at 23 °C and 50% RH (saturation) | ISO 62 | % | | - |
| Water absorption at 23 °C (saturation) | ISO 62 | % | | 0.2 |

| Mechanical Properties | Test Standard | Unit | Condition of Specimen | Value |
|---|---------------|-------------------|-----------------------|-------|
| Tensile strength at break | ISO 527 | MPa | Dry | 30 |
| Tensile strength at break | ISO 527 | MPa | Moist | - |
| Elongation at break | ISO 527 | % | Dry | 15 |
| Elongation at break | ISO 527 | % | Moist | - |
| Modulus of elasticity in tension | ISO 527 | MPa | Dry | - |
| Modulus of elasticity in tension | ISO 527 | MPa | Moist | - |
| Charpy impact strength (+23 °C) | ISO 179/IeU | kJ/m ² | Dry | o.B. |
| Charpy impact strength (-40 °C) | ISO 179/IeU | kJ/m ² | Dry | - |
| Charpy impact strength (notched) | ISO 179/IeA | kJ/m ² | Dry | 4 |
| Charpy impact strength (notched) | | kJ/m ² | Moist | - |
| Hardness shore scale D | ISO 868 | | Dry | 82 |
| Time yield limit σ 1/1000 (23 °C/50% RH) | ISO 899 | MPa | Moist | 58 |
| Time yield limit σ 1/1000 (100 °C) | ISO 899 | MPa | Dry | 3 |
| Apparent modulus E C/1000 20 (23 °C/50% RH) | ISO 899 | MPa | Moist | - |

| Electrical Properties | Test Standard | Unit | Condition of Specimen | Value |
|--|---------------|--------------------------|-----------------------|-----------|
| Dielectric constant 1 MHz | IEC 250 | | Dry | - |
| Dielectric constant | IEC 250 | | Moist | - |
| Dissipation factor $\tan \delta$ (1 MHz) | IEC 250 | | Dry | - |
| Dissipation factor $\tan \delta$ | IEC 250 | | Moist | - |
| Dielectric strength | IEC 243 | kV/mm | Dry | 39 |
| Dielectric strength | IEC 243 | kV/mm | Moist | - |
| Volume resistivity | IEC 93 | $\Omega \cdot \text{cm}$ | Dry | - |
| Volume resistivity | IEC 93 | $\Omega \cdot \text{cm}$ | Moist | - |
| Surface resistivity ROA | IEC 93 | Ω | Dry | 10^{13} |
| Surface resistivity ROA | IEC 93 | Ω | Moist | - |
| Resistance to tracking (KA/KB method) | IEC 112 | | Dry/Moist | - |
| Resistance to tracking (KC method) | IEC 112 | | Dry/Moist | - |

| Thermal Properties | Test Standard | Unit | Condition of Specimen | Value |
|---|---------------|--------------------------------------|-----------------------|-------|
| Heat distortion temperature (method A) | ISO 75 | $^{\circ}\text{C}$ | Dry | - |
| Heat distortion temperature (method B) | ISO 75 | $^{\circ}\text{C}$ | Dry | - |
| Melting point (method A) | ISO 3146 | $^{\circ}\text{C}$ | | - |
| Max. service temperature for few hours operation | | $^{\circ}\text{C}$ | | - |
| TEP 5.000 hours (50% of tensile strength) ⁽¹⁾ | IEC 216 | $^{\circ}\text{C}$ | | - |
| TEP 20.000 hours (50% of tensile strength) ⁽¹⁾ | IEC 216 | $^{\circ}\text{C}$ | | - |
| Thermal coefficient of linear expansion | DIN 53752 | $1/\text{K} \cdot 10^{-5}$ | Dry | 0.8 |
| Thermal conductivity (method A) | | $\text{W}/(\text{K} \cdot \text{m})$ | Dry | - |
| Specific heat | IEC 1006 | $\text{J}/(\text{g} \cdot \text{K})$ | Dry | - |
| Fire performance (flameability according VDE) | VDE 0304 | | Dry | - |
| Fire performance (flameability of interior materials in passenger cars $h > 1 \text{ mm}$) | FMVSS 302 | mm/min | Moist | - |
| Fire performance (flameability according UL standards, thickness of specimen 1.6 mm) | UL 94 | | | - |

| Friction Properties | Test Standard | Unit | Condition of Specimen | Value |
|-----------------------------------|---------------|-------------------------|-----------------------|-------|
| Resistance to wear ⁽²⁾ | ISO 7148-2 | $\mu\text{m}/\text{km}$ | Dry | - |