

## **VOLTIS® Hp TU 21**

### Composition

VOLTIS® Hp TU 21 is a round rolled phenolic-paper tube of the type PF CP 21 according IEC 61212 as well as Hp 2065 according DIN 7735.

### Application

VOLTIS® Hp TU 21 is used for mechanical and electrical insulating parts in low voltage applications. It is distinguished by high mechanical strength and good electrical characteristics.

## Technical Data

Properties	Testmethod	Unit	Min. Value
Density	ISO 1183/A	g/cm <sup>3</sup>	approx. 1,2
Flexural strength perpendicular to laminations at 23°C	ISO 178	MPa	100
Compressive strength axial	ISO 604	MPa	100
Cohesion between layers	IEC 61212	MPa	70
Breakdown voltage (1' proof test) at 90°C in oil parallel to laminations <sup>1)</sup>	IEC243	kV	25
Electric strength (1' proof test) at 90°C in oil perpendicular to laminations (thickness 3,0 mm) <sup>1)</sup>	IEC243	kV/mm	8,3
Insulation resistance after immersion in water	IEC 167	Ω	10 <sup>5</sup>
Thermal endurance	IEC 216	T.I.	120
Water absorption	ISO 62 / 1	mg/cm <sup>2</sup>	≤10

<sup>1)</sup> after conditioning 4h/70°C

## Availability

inner diameter	length
8 – 12,5 mm	500 mm
10 – 16 mm	1000 mm
16,5 – 400 mm	1000 and 1200 mm

Wall thickness: minimum wall thickness depending on inner diameter.  
The maximum wall thickness is max 12 mm but max. 0,4 times the inner diameter. If this value is exceeded cracks between the layers can occur.

Tolerances: according IEC 61212

Surface: as produced or ground