SEGLWA

Product Division 2

Insulating Materials Based On Mica

Semicavolt-Tubes

SEMICAVOLT-tubes are manufactured of selected mica papers impregnated with special highgrade binders. They are mechanically wound and cured afterwards.

When pressed in moulds also profiled tubes (e.g. square, rectangular) can be manufactured.

Due to the excellent bond SEMICAVOLT-tubes show good mechanical strenght and rigidness. Glass fabric reinforced tubes meet extremely high mechanical requirements. Depending on the type SEMICAVOLT-tubes remain solid from 155°C (class F) to 800°C (Class C). Due to the good dielectric strength of all types extremely high electrical requirements can be fulfilled. SEMICAVOLT-tubes are also resistant against glow discharge.

Compared with the usual mica tubes (micafolio tubes) SEMICAVOLT-tubes can easily be machined. Due to the mechanical strength they can be sanded, drilled, milled and sawed without any splitting.

SEMICAVOLT-tubes can be used instead of paper based or glass fabric based tubes if a higher resistance against permanent temperatures, short-time overheating or discharge on the surface is required.

SEMICAVOLT-tubes are preferably used in the construction of electric machines, electrical apparatus and transformers.

Main applications: Support of resistance wires of heating elements.
Insulation of bolts in high loaded resistors.
In connecting links of slip-ring rotors,
induction heatings,
thermostatic chambers.

SEMICAVOLT-TUBES

Tubes based on mica paper [1]

Grade		RFE 27 445	RGE 27 457	ROS 27 470	ROS 27 570	ROA 27 5X0
Technical data						
Supplied in						
Max. outside-Ø 130 mm [2]						
Min. Inside Ø	mm	8.0	8.0	3.0 - 4.9 mm IØ: length 300 mm 5.0 - 7.9 mm IØ: length 600 mm		8.0
Max. length	mm	1000	1000	≥ 8.0 mm IØ: length 1000 mm		1000
Tolerances, unsanded [3]						
Inside Ø	mm	± 0.2	± 0.2	± 0.2	± 0.2	± 0.2
Outside Ø ≤ 30 mm	mm	± 0.3	± 0.3	± 0.3	± 0.3	± 0.3
Ø > 30 mm	mm	± 0.4	± 0.4	± 0.4	± 0.4	± 0.4
Composition						
Type of mica			muscovite			phlogopite
Reinforcement		PET-film	glass fabric	---	---	---
Binder		epoxy	epoxy	silicone	silicone	inorganic
Content of mica (weight parts)	approx. %	50	50	80	80	90
Mechanical properties						
Density	g/cm³	1.3 - 1.5	1.5 - 1.7	1.4 - 1.6	1.8 - 2.0	1.8 - 2.0
Compressive strength acc. to DIN 53 454 (axial load)						
Determined at tubes 17 x 19 mm Ø	N/mm²	50	60	30	35	10
20 x 23 mm Ø	N/mm²	55	85	35	40	10
21 x 26 mm Ø	N/mm²	55	85	35	40	10
Thermal properties						
Suitable for thermal classification		F(155°C)	F (155°C)	H (180°C)	H (180°C)	C (>180°C)
Solid up to	°C	250	250	500	700	800
Electric properties						
Electric strength acc. to IEC 243						
Determined at tubes 17 x 19 mm Ø	kV	25	15	15	15	15
20 x 23 mm Ø	kV	35	22	22	22	22
21 x 26 mm Ø	kV	55	35	35	35	35

[1] Tubes manufactured of mica splittings, splitting micafolio and tubes with special shapes (e.g. rectangular, coil) on request.
[2] Larger outer diameters on request.
[3] Smaller tolerances in sanded finish on request.

All data represent standard values.
Alterations according to the latest technical knowledge are reserved.