

VOLTIS® LC 141 EPP24N**VOLTIS® LC 141 EPP24N/T****VOLTIS® LC 141 EPP24N/PP**

Composition

LC 141 EPP24N (/T, /PP) is a rubber-clad phenolic resin paper laminate (also with a PTFE of polypropylene coating).

The denomination 'LC' indicates an extremely low Cl-content. The paper laminate is in accordance with the following standards:

DIN 7735:	Hp 2061.6
IEC 60893:	PF-CP 203
NEMA LI1:	XX
JIS K 6912:	PL-PEM-P

VOLTIS® LC 141 EPP24N is composed of a phenolic resin paper laminate with a soft EPDM rubber cladding.

VOLTIS® LC 141 EPP24N/T has an additional PTFE coating.

VOLTIS® LC 141 EPP24N/PP has an additional polypropylene coating on the paper side.

Application

The high resistance of the components against temperature and solvents makes these products an excellent choice for use as end caps in electrolytic capacitors. The specially designed components fulfill the needs regarding corrosion and ageing for all types of electrolytes.

The additional polypropylene coating increases the safety against corrosion.

For extreme applications (2000 hr / 135°C) the PTFE coated type is recommended.

Punching temperature

120 - 190°C (with PP up to 150°C)

Shelf life

6 months after arrival date at max. 30°C and 50 ±15 % relative humidity.

Availability

Standard: 1,5 mm paper laminate / 1,0 mm rubber
 2,0 mm paper laminate / 1,0 mm rubber
 Other dimensions upon request.
 Minimum thickness of rubber: 0,8 mm
 Above mentioned laminates are also available with a teflon or PP coating.
 Thickness of the teflon coating: 0,1 mm
 Thickness of the PP-coating: 0,04 mm

Tolerance: $\pm 0,2$ mm for composite laminate
 $\pm 0,1$ mm for rubber

Standard sheet size: 1030 mm x 1030 mm (+30 / -0 mm)

Technical Data (mechanical values are the mean of both directions)

1. Paper Laminate

Properties	Testmethod	Unit	Value
Tensile strength 23°C	ISO 527	MPa	160
Flexural strength 23°C	ISO 178	MPa	220
Modulus of elasticity 23°C	ISO 178	MPa	14000
Water absorption (1mm thick)	ISO 62 / 1	mg	≤ 120
Resistance to solvents			
- DMF / 168 h / 85°C			
Flexural strength (23°C)	ISO 178	Mpa	130
Modulus of elasticity 23°C)	ISO 178	MPa	6000
-Glycol / 168 h / 85°C			
Flexural strength (23°C)	ISO 178	Mpa	150
Modulus of elasticity (23°C)	ISO 178	MPa	6000

2. Rubber (Type EPDM)

Properties	Testmethod	Unit	Value
Density	ISO 1183 / A	g/cm ³	1.25 - 130
Shore hardness A	DIN 53505		65 ± 5
Shore hardness A (168h/90 C°)	DIN 53505		65 +10/-3
Tensile strength	DIN 53504	MPa	> 10
Tensile strength (168h/90 C°)	DIN 53504	MPa	> 10
Elongation at break	DIN 53504	%	> 400
Elongation at break (168h/90 C°)	DIN 53504	%	> 300
Compression set (168 h / 85°C / 25 %)	DIN 53517	%	< 25
Insulation resistance as delivered	IEC 167	Ohm	≥ 10 ¹¹
Resistance to solvents (1000 h / 125°C)			
- Ethylene glycol Shore hardness A Weigh change		%	65 (+5 / -7) < 7
- Dimethylformamide Shore hardness A Weigh change		%	65 (+5 / -10) < 7
- γ-Butyro lactone Shore hardness A Weigh change		%	65 (+15 / -5) < 7

3.Composite

Properties	Testmethod	Unit	Value
Insulation resistance after immersion in water	IEC 167	Ohm	≥ 10 ⁹
Peel strength as delivered	IPN 115	N/mm	> 1.5
Chloride content	IPN 113	ppm	≤ 5
Sulfates content	ion chrom.	ppm	≤ 20