30.1 Crepe paper

30.1.1 General

30.1.1.1 Structure

Our insulating crepe papers are made from high-voltage cable Kraft papers. They consist of 100% pure sulfate cellulose.

30.1.1.2 Application

Insulating crepe papers are used mainly as wide tapes or cut narrow rolls for insulate of the parts of the high voltage electrical apparatus. The degree of creping matches to individual requirements enables a manual or machine application and a close connection between layers.

30.1.1.3 Advantages

The fineness, elasticity and high strength of the used base paper results in a high dielectric strength of the creped end products. It also guarantees a 100% oil-impregnation within a short time period. The controll of the initial materials together with the inspection of the finished product enables insulating crepe papers to be used in high-voltage transformers at areas with high field stress, as well as in converters, cables and other equipment where stresses are high. The finely-corrugated creping enables a high degree of filling of active materials and thus higher electrical load capacity of the insulated equipment.

30.1.1.4 Quality

Our insulating crepe paper is available in a variety of types. Base papers of 36 - 100 g/m^2 are processed to produce crepe papers with 50 - 200% elongation.

30.1.1.5 Delivery forms

Original rolls:	Width 750 / 1500 mm, weight approx. 60 / 120 kg
	Internal diameter 70 mm, external diameter approx. 540 mm
Narrow rolls:	Widths from 20 mm
	Internal diameter 50 mm, external diameter 135 mm - 300 mm
	Internal diameter, coreless: 50 mm, 70 mm and 76 mm
	External diameter up to 300 mm

30.1.2 Standard types — 60/90, 60/120, 60/170 g/m²

Type		Base paper	60/90	60/120	60/170	g/m²
Thickness		0.07 - 0.08	0.29	0.35	0.45	mm
Thickness tolerance			± 0.02	± 0.03	± 0.04	mm
Density		0.7 - 0.8	0.34	0.35	0.42	g/cm³
Basic weight		55 - 65	85 - 95	119 - 126	161 - 178	g/m²
Tensile strength		5.4- 7.4	> 3.4	> 3	> 3	kN/m
Elongation	MD/ CMD	1.5 - 2.5	45 - 55	90 - 110	153 - 187	%
Ash content		< 1.0	< 1.0	< 1.0	< 1.0	%
Conductivity	Aqueous extract	< 4	< 4	< 4	< 4	mS/m
pH-value	Aqueous extract	6.0 - 8.0	6.0 - 8.0	6.0 - 8.0	6.0 - 8.0	
Oil absorption			50	50	50	%
El. strength in oil (10 Layers)	80 % stretched		25	23	21	kV/mm
Loss factor tan δ in oil	20 °C 90 °C	0.005 0.006	0.0023 0.0073	0.0020 0.0084	0.0018 0.0080	

Above values are average values of current productions, tested in WEIDMANN laboratories according to IEC 60243, 60250 and 60554.

Measurement of thickness: Measuring area ∅ 15 mm, measuring force 5.5 N/cm².

30.1.3 Standard types 67/100, 67/130 g/m²

Type		Base paper	67/100	67/130	g/m²
Thickness		0.08 - 0.09	0.39	0.40	mm
Thickness tolerance			0.04	0.04	mm
Density		0.7 - 0.8	0.31	0.39	g/cm³
Basic weight		62 - 72	95 - 105	124 - 136	g/m²
Tensile strength		6.7- 8.7	> 3.4	> 3.4	kN/m
Elongation	MD/CMD	1.5 - 2.5	45 - 55	90 - 110	%
Ash content		< 1.0	< 1.0	< 1.0	%
Conductivity	Aqueous extract	< 4	< 4	< 4	mS/m
pH-value	Aqueous extract	6.0 - 8.0	6.0 - 8.0	6.0 - 8.0	
Oil absorption			50	50	%
El. strength in oil (10 Layers)	80 % stretched		25	23	kV/mm
Loss factor tan δ in oil	20 °C 90 °C	0.003 0.004	0.0023 0.0073	0.0020 0.0084	

Above values are average values of current productions, tested in WEIDMANN laboratories according to IEC 60243, 60250 and 60554.

Measurement of thickness: Measuring area ∅ 15 mm, measuring force 5.5 N/cm².

30.1.4 Standard types — 80/120, 80/160 g/m²

Type		Base paper	80/120	80/160	g/m²
Thickness		0.086 - 0.100	0.36	0.47	mm
Thickness tolerance			0.03	0.04	mm
Density		0.7 - 0.8	0.38	0.44	g/cm³
Basic weight		74 - 86	114 - 126	152 - 168	g/m²
Tensile strength		7.4 - 9.4	> 4	> 3.4	kN/m
Elongation	MD/CMD	1.5 - 2.5	45 - 55	90 - 110	%
Ash content		< 1.0	< 1.0	< 1.0	%
Conductivity	Aqueous extract	< 4	< 4	< 4	mS/m
pH-value	Aqueous extract	6.0 - 8.0	6.0 - 8.0	6.0 - 8.0	
Oil absorption			49	44	%
El. strength in oil (10 Layers)	80 % stretched		26	24	kV/mm
Loss factor tan δ in oil	20 °C 90 °C	0.003 0.004	0.0020 0.0095	0.0024 0.0092	

Above values are average values of current productions, tested in WEIDMANN laboratories according to IEC 60243, 60250 and 60554.

Measurement of thickness: Measuring area ∅ 15 mm, measuring force 5.5 N/cm².

30.1.5 Standard types — 100/150, 100/200 g/m²

Type		Base paper	100/150	100/200	g/m²
Thickness		0.12 - 0.14	0.46	0.55	mm
Thickness tolerance			0.04	0.05	mm
Density		0.7 - 0.8	0.38	0.43	g/cm³
Basic weight		90 - 110	144 - 156	190 - 210	g/m²
Tensile strength		8.7 - 11.4	> 5	> 5	kN/m
Elongation	MD/CMD	1.5 - 2.5	45 - 55	90 - 110	%
Ash content		< 1.0	< 1.0	< 1.0	%
Conductivity	Aqueous extract	< 4	< 4	< 4	mS/m
pH-value	Aqueous extract	6.0 - 8.0	6.0 - 8.0	6.0 - 8.0	
Oil absorption			50	50	%
El. strength in oil (10 Layers)	80 % stretched		24	22	kV/mm
Loss factor tan δ in oil	20 °C 90 °C	0.004 0.005	0.0021 0.0051	0.0021 0.0045	

Above values are average values of current productions, tested in WEIDMANN laboratories according to IEC 60243, 60250 and 60554.

Measurement of thickness: Measuring area ∅ 15 mm, measuring force 5.5 N/cm².