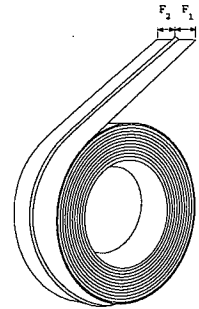
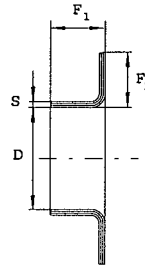
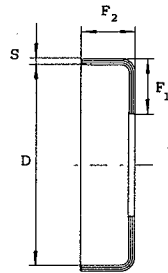
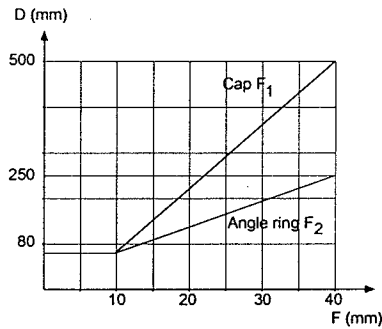


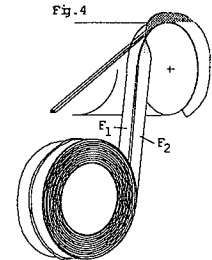
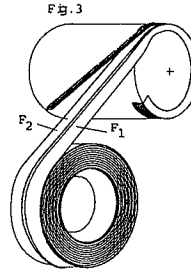
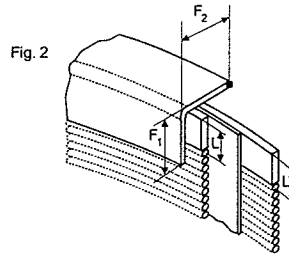
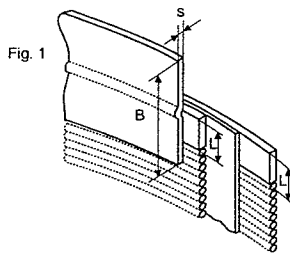
FLEXIBLE CREPE-PAPER ANGLE RINGS AND CAPS FOR APPLICATION IN DISTRIBUTION TRANSFORMERS

1. Composition

The laminated crepe-paper angle rings are flexible and are composed of 4 layers of crepe paper. A special glue is used for the lamination of these layers. From straight, grooved strips angle rings and caps can be made with minimum diameters depending on the flange width F according to the following diagram:



2. Application



Before starting the winding operation the pre-grooved strip has to be fixed to the winding mandrel. It may encompass either the whole or a determined part of the circumference (Fig. 1). The width L of the edge strip can be minimized down to a couple of millimeters.

After completion of the winding the strip is bent to a "flange". This way, the strip can be adapted to any winding diameter. (Fig. 2)

Depending on the position of the take-off reel, either caps (Fig. 3) or angle rings (Fig. 4) can be wrapped.

3. Tests

3.1 Glue:

The resin-based glue is resistant to oil up to 120 °C .

3.2 Electrical tests:

Loss factor $\tan \delta$ (‰) IEC 250		Breakdown voltage IEC 243-1, short-time, in oil, temperature 23 °C	
23 °C	90 °C	Thickness mm	Measured value (kV)
6.3	11	1.49	38.7

4. Availability

Standard dimensions:

Width B	Flange F ₁ x F ₂	Thickness S:
18 mm	10 x 10 mm	1.5 ± 0.2 mm
30 mm	16 x 16 mm	
48 mm	25 x 25 mm	
78 mm	40 x 40 mm	

Alternate dimensions as well as asymmetrical grooving upon request.

FLEXIBLE LAMINATED CREPE-PAPER ANGLE RINGS	D 15 - 1 E (2)
---	---------------------------