 BHOPAL	INSULATION SKETCH	IN.SK. 46044
	INSULATION SYSTEMS ENGINEERING	Rev. No.: 03
	GUIDELINES FOR TAPING BARE RECTANGULAR COPPER CONDUCTOR FOR H-COMPACT DESIGNS	Rev. Dt.: 11/04/2016
		Sht. 1 of 2 shts.

INSULATION CLASS - F

1. GENERAL

This Insulation sketch gives the details for taping bare rectangular copper conductors to **AA-12030**. The insulated conductor will be used for manufacturing stator coils for H-Compact designs. This sketch is applicable for coils with voltage per turn ≤ 250 volts. The insulated conductor has temperature index of at least 155°C .

2. INSULATION

2.1 H-1 Covering (For Normal/ Parallel Coils)

The conductors shall be taped with one half lap layer of Polyester Film Backed Epoxy Resin Bonded Mica Paper Tape to **BP 25185** (0.09 thk. x 12 wide). The lapping of the tape shall be between 42% to 50% (lapping more than 50% is not allowed). Taping shall be done such that the polyester side of the tape faces outside.

Maximum increase in dimension after insulation shall be **0.5 mm**.

Compressed dimension for slot build-up calculation = **0.35 mm**.

2.2 H-2 Covering (For Series Coils)

The conductor shall be taped with polyester film tape followed by mica paper tape having polyester film as support foil. Both the tapes shall be applied in the same direction. The method of taping is given below:


1. The conductors shall be taped with one half lap layer of Polyester Film Non-adhesive Tape to **BP 22887** (0.019 thk. x 12 wide). The lapping of the tape shall be between 42% to 50% (lapping more than 50% is not allowed).
2. The above shall be followed with one half lap layer of Polyester Film Backed Epoxy Resin Bonded Mica Paper Tape to **BP 25185** (0.09 thk. x 12 wide). The lapping of the tape shall be between 42% to 50% (lapping more than 50% is not allowed). Taping shall be done such that the polyester side of the tape faces outside.

Maximum increase in dimension after insulation shall be **0.55 mm**.

Compressed dimension for slot build-up calculation = **0.4 mm**.

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ALL DIMENSIONS ARE IN MM UNLESS OTHERWISE STATED

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3. DIMENSIONAL CHECK

The dimensions of the bare copper conductor and taped copper conductor shall be measured and recorded on the copper drums.

4. ELECTRICAL STRENGTH (BDV) OF INSULATED CONDUCTOR AT ROOM TEMP.

Type of Covering	BDV (kV)
H-1	3.0 (Min.)
H-2	3.5 (Min.)

Refer BP 28189 for method of testing.

5. OTHER TESTS AND REQUIREMENTS

The hardness, stiffness and all other requirements of the taped conductor shall be as per BP-28189.

6. CHANGES DUE TO REVISION

Insulation sketch updated.