SPECIFICATION FOR
"IBSB & IBSB-R" INSULATED BRAIDED POWER CONDUCTORS
or engineering approved equivalent per the specification below

1. SUMMARY

This specification covers the technical requirements of the IBSB/IBSB-R insulated braided power conductors for use in low-voltage power applications where electrical connections between live parts are required.

2. COMPLIANCE REQUIREMENTS

a. ANSI/UL67 "Panelboards" (listed by Underwriters Laboratories under this category)
b. ANSI/UL758 "Appliance Wiring" (listed by Underwriters Laboratories under this category and style file 10531 and 11343)
c. CSA® certified as appliance wiring material for a maximum of 1000 volts
d. IEC 61439-1 "Low-voltage switchgear and controlgear assemblies"
e. GOST certificate or Customs Union certificate
f. ABS® American Bureau of Shipping certificate category "Marine & Offshore Applications - Low Voltage Industrial Power Distribution and Control, including Switchboards, Motor Control Centers, Panelboards, Industrial Control Panels, Power Supplies, Drive Units, Transformers, Electrical Machinery, HVAC Chiller Controls, Power Converters, and Busbar Systems."
g. RoHS 2002/95/EC Compliant

3. PRODUCT COMPOSITION

a. Braids

The braids must be made with electrolytic copper Cu-ETP according to EN13602 and with purity of minimum 99.9%. The wire diameter must be 0.15mm and may or may be tinned (see section 7.a for details). The maximum resistivity at 20°C shall be 0.017241 $\Omega.mm^2/m$.

b. Terminal

The braids must be manufactured using a process which provides a reliable electrical connection and superior tensile strength by not relying on the addition of a crimped lug or terminal at the end of the braid but rather by providing an integral palm at the end of the braid. A hole should be punched in the terminal.

The 25mm2 braid should have a terminal width of 12mm. The 50mm2 and 70mm2 braid should have a terminal width of 20mm. The 100mm2 braid should have a terminal width of 24mm. The 120mm2, 185mm2 and 240mm2 braids should have a terminal width of 32mm.

c. Insulating Sleeve

The insulating sleeve should be made of PVC. The PVC should have an elongation performance of 300% and a dielectric strength of 20kV for 1mm of insulation. The PVC should be self-

extinguishable and be rated to class V0 according to UL94. It should have a thickness of 1.8mm minimum.

The insulating sleeve should be compliant with Chapter 8.4.4 – Protection by total insulation of the IEC 61439-1 standard (Class II conductor)

The insulating sleeve should be marked with a traceability code.

4. PRODUCT CHARACTERISTICS

a. Physical

The braids shall be having a rectangular cross section with pre-punched holes on both ends and an insulating sleeve around the braid, not overlapping the braid terminal.

The thickness of the integral palm shall be less than that of the braid but sufficient enough to meet the size of the cross-section indicated in the supplier datasheet.

The braids shall rely on no crimped lugs, forged lugs or metal tubes to comply with section 2.

Visible red copper (non-tinned) inside the surface of the connecting hole and on the ends of the palm is allowed. The tin plated electrical contact surface is mandatory.

Tolerances for hole position according NF C20-130.

b. Environmental

The minimum working temperature of -25°C and maximum working temperature of 105°C.

c. Performance

The tensile strength and tightening torque of the braid must exceed the requirements of NF C 20-130.

5. MANUFACTURER'S QUALIFICATION AND QUALITY CONTROL

a. Manufacturer shall be ISO9001:2008 certified and manufacturing and quality control be done accordingly.
b. Manufacturer shall be following a health & safety program at least as stringent as the United States Occupational Health & Safety Administration program.