

TECHNICAL SPECIFICATION FOR SAFETY BELT

1. SCOPE :

This belt should be suitable for use by electricians and servicemen engaged in the erection, installation and maintenance of electric line poles. This belt shall consist of a waist belt and a pole strap with a special type of freely moving buckle. The waist belt and the pole strap belt shall both have fastening buckles with the provision for adjustments. The pole strap should be fastened around the pole by means of the freely moving buckle which shall be secured firmly and shall provide greater grip in the event of the user falling. The stress and the weight of the user should help to hold the pole strap more securely. The safety belt shall comply with I.S.3521-1989/1990 or latest version.

2.0 MATERIALS:

2.1 WEBBING:

All belts and harnesses shall be made from nylon or other synthetic materials such as polyester. The material shall have a uniform thickness and uniform width. The waist belt, pole straps of safety belts and harnesses shall be made from nylon/ polyester webbing which shall not break under a minimum tensile load of 2000 KG. (19.6 KN). The test specimen shall be of entire cross section whose width and thickness should be 44 mm and 3 mm (Tolerance of +/- 0.5 mm) respectively.

2.2 THREADS FOR SEWING:

Threading (nylon/polyester) for sewing load bearing components shall have similar physical and chemical properties to the materials being sewn.

2.3 RIVETS AND WASHERS:

All rivets and washers used for joining the various sections shall be made from copper.

2.4 LIFE LINE/SAFETY LINE:

Only nylon or polyester or synthetic fibre shall be used. It shall not break under a minimum tensile load of 2000KG.(19.6KN). The minimum diameter of the test specimen should be 10 mm.

2.5 METAL COMOPONENTS:

All metal components shall be solid or forged in such manner that the joints are not visible and the joined part of the metal does not impair the strength or quality. The surface should be smooth finished and free from any manufacturing defect, burrs or uneven surface. In order to protect all metal fittings against corrosion and/ or other chemical reaction, it is necessary that all the fittings should be chromium plated (or plated with any other protective coating) and the coating of the chromium should be of ample thickness to provide use/storage of the safety belt for a minimum period of 3 years. Care should also be taken that the part of metal fittings mating with the webbing shall be smoothly finished, rounded and designed to prevent damage to the web etc.

2.6 Hooks, clamps or other fastening and holding devices shall be of similar quality and properly treated or plated. The designs of the hooks shall be self closing type and care shall be taken to ensure that if pressure is exerted accidentally on the tongue or ensure that if pressure is exerted accidentally on the tongue or latch, they shall not disengage.

2.7 If any springs are used, then they shall be so arranged and loaded that when the hooks are closed, the springs rest in position and are free from any movement until pressure is applied to release or to engage.

3.0 REQUIREMENTS:

3.1 STRENGTH:

Hooks and main load bearing metal parts and fittings shall not break under the test load of 2000KG (19.6 KN). The load shall be applied as closely as practicable in a manner in which the component is stressed in service. Aluminium magnesium or titanium metals or alloys thereof shall not be used. All the materials used in the production of safety belts including webbing and rope shall pass the flammability resistance tests as given in Annexure A of I.S. 3521-1990.

3.2 ATTACHMENT MANUFACTURE:

The attachment of metal parts and load bearing components and the making of splices and joints shall be such that finished assembly

shall pass the performance test as given in Annexure B of I.S.3521-1990.

NOTE: The complete assembled safety belts, when subjected to performance test, shall be destroyed to avoid its reuse.

4.0 PACKING AND MARKING:

4.1 PACKING:

The safety belts and straps shall be suitably packed.

4.2 MARKING ON BELTS AND HARNESSSES:

Safety belts and harnesses shall be clearly and indelibly marked or permanently labelled by any suitable method not having a harmful effect with the following information:

- a) Name of the manufacturer or trade mark.
- b) Year of manufacture
- c) Words in lettering "MAXIMUM SAFE DROP _____".
- d) Lot / Batch number
- e) EMBOSS: 'BESCOM' shall be embossed on all the safety belts.

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