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Subject: Request for the amendment and seeking clarification on IS 9968 (Part-1) related to PET braiding in Table-6.

Dear Sir/Madam,

Greetings for the day!

Indian Standard IS 9968 Part-1 (Specification for Elastomer Insulated cables) covers elastomer insulated cables for fixed wiring, flexible cable and flexible cords for electric power and lighting for operation at voltage up to including 1100V.

As per the IS 9968 Part-1, Elastomer insulated cables include rubber silicon cables and allow braiding on cables. However, as per the standard; the use of silicon rubber cables is limited to single core and allowable braid material for silicon cable is limited to glass and fibre (*given in the table-4*) but the same is not allowed in **the Table-6** of the said standard (*Elastomer Insulated, Single-Core, Circular, Twin-Core, Three Core and Four Core Elastomer Sheathed Flexible Cords*). Hence, we are requesting to allow the above on the said cables because it has several advantages over traditional cables. These cables are made with a combination of elastic materials and braiding techniques, providing unique advantages that cater to specific needs. Some of the **benefits of braiding on the cable**:

- 1) **Flexibility and Durability:** Silicon insulated and braided cables are highly flexible, making them ideal for applications that involve frequent bending or movement. The braided design also adds to their durability, reducing the risk of cable damage due to wear and tear.
- 2) **Tangle Resistance:** These cables help prevent tangling, making them easier to handle and manage. This feature is especially beneficial for headphones, chargers, and other devices that often end up tangled when not in use.
- 3) **Enhanced Strength:** Silicon insulated and braided cables have a higher tensile strength compared to standard cables. This means they are less prone to breaking or snapping under strain, making them suitable for more demanding environments or heavy-duty applications.



- 4) **Improved Protection:** The braided outer layer provides an additional layer of protection against abrasion, impact, and other external factors. This shielding enhances the cable's resistance to damage and extends its lifespan.
- 5) **Reduced Electromagnetic Interference (EMI):** The braided shielding can act as a barrier against electromagnetic interference, reducing the chances of signal disruptions or noise in data and power transmission.
- 6) **Heat Resistance:** Elastomer materials used in these cables are often more heat-resistant than conventional cable materials, ensuring better performance and safety in high-temperature environments.
- 7) **Lighter Weight:** Compared to some heavy-duty cables like metal-armoured ones, elastomer braided cables offer similar levels of protection but with significantly lower weight, making them more convenient for everyday use.
- 8) **Longevity:** The combination of flexibility, durability, and protection against various environmental factors contributes to the longevity of elastomer braided cables, making them a cost-effective choice in the long run.
- 9) **Environmental Considerations:** Some elastomers used in these cables are more environmentally friendly than traditional plastic materials, making them a more sustainable option for eco-conscious consumers.

We would like to propose the following amendments to Table-6 of the following standard i.e. IS 9968 (Part-1) in order to meet the aforementioned requirements:

- 1) Allow braiding for Multi-Core Silicon Rubber cables.
- 2) PET polyester be added to allowable braiding material in Table-6 of IS 9968 Part-1. Also, IS 9968 Part-1 refers to IS 6380 which covers heat resisting insulation. Since silicon natural rubber is a heat resisting insulation, this may be clearly spelt out in table-6 to avoid any ambiguity.
- 3) PET braiding to be considered as textile braid which is allowed in IS 9968-1 for Single core silicon rubber cables.

Clause 7.1 of IS 9968 specifies: Textile Braid - The textile braid shall consist of textile material (natural or synthetic), such as cotton, artificial Silk mercerized or rayon (excluding Jute or hemp). It does not include PET polyester. Though Pet polyester is a form of Synthetic fabric material, it is basically made of Plastic (Made from petroleum).



These amendments would enable the production of elastomer braided cables that align with the benefits and advantages outlined previously. Furthermore, we have taken the global reference from the different standard where the PET Braiding and silicon rubber insulation jacket is allowed (*refer Image-1*).

Image-1: Global reference from the different standard where the PET Braiding and silicon rubber insulation jacket is allowed.

Std No.	Cable Construction	INS/JKT material	Conductor size	Nominal Ins. Thickness (mm)	Nominal JKT. Thickness (mm)	Braided	Overall Diameter (mm)
EN 50525-2-83	H05SST-F (multiple cores)	Silicone Rubber	3x0.75mm ²	0.6	0.9	Braided (PET)	7.2-9.1
IS 9968	Table 4 (single core)	Silicone rubber (IE5)	1x0.75mm ²	1.0	No JKT	Braided	/
IS 9968	Table 6 (multiple cores)	Nature/synthetic rubber (IE1/2,SE1/3)	3x0.75mm ²	0.6	0.9	No braid	≤9.4
IS 9968	Table 10 (multiple cores)	Nature/synthetic rubber (IE1,SE1)	3x0.75mm ²	0.8	1.4	Cotton braided being semi-embedded in sheath	≤12.4

We hope our proposal for an amendment and confirmation for incorporation of reference in IS 9968 Part-1 may be considered at the earliest in the interest of consumer safety and technological advancement. We request you to direct ETD 14 to take up this matter on priority.

For information, We, '**Whitewater Solutions India Private Limited**' are representing numerous manufacturers and brands as their Authorised Indian Representatives (AIR) in India. Our technology partners consist of global regulatory bodies, elite manufacturers and fortune 500 brands.

Thanks & Regards,

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