“ESD” POLYURETHANE WHEELS
WITH ELECTRICAL RESISTANCE <10^9 Ω

Designed for:

- dispersing the **accumulation of electrostatic charges**, in environments where these can cause problems to equipment, materials or put at risk the safety of the place
- handling **medium and heavy duty loads**
- maintaining the excellent physical/chemical features of “TR” polyurethane and “TR-Roll” elastic polyurethane.

SERIES 62ESD

Tyre: **very thick ESD TR-Roll polyurethane, light-grey non-marking colour, electrical resistance <10^9 Ω (=<1GOhm), hardness 75 Shore A**. Centre: made of cast aluminium.
Hub with shielded ball bearings with interference assembly in the seats obtained by centre moulding; also available without bearings.
Uses: the excellent rolling resistance allows an easy handling of high loads; wear-resistant, silent, they can absorb shocks and vibrations. Combined with suitable brackets, they have excellent performance for mechanical handling.

They can be used on all types of industrial flooring, and also outdoor.

SERIES 65ESD

Tyre: **ESD TR polyurethane, dark-grey non-marking colour, electrical resistance <10^9 Ω (=<1GOhm), hardness 90 Shore A**. Centre: made of cast aluminium.
Hub with shielded ball bearings with interference assembly in the seats obtained by centre moulding; also available without bearings.
Uses: Suitable for applications with medium/heavy-duty loads, also with mechanical handling, with speed up to 6 km/h.
Suitable for indoor use, on regular flooring.

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SOLUTIONS WITH SPECIFIC CONDUCTIVE ELECTRICAL RESISTANCE

Plastic materials, rubbers and elastomers commonly used for wheels and castors are generally isolating and therefore non-conducting.

Therefore, they do not allow the electric charges that could possibly generate on on the trolley or equipment to be conducted to the ground.
The built up static can potentially compromise the functionality of sensitive electrical equipment transported on the trolley and potentially trigger explosions in environments at risk.

Hence, wheels and castors made of those materials may not be fit for potentially explosive areas and for ESD sensitive environments.

Tellure Rôta proposes standard and customised castor solutions with modified electrical resistance values, following **ISO 22878:2004 standard**.

SERIES 53AS 	Black conductive rubber wheels with pressed steel discs.	R <10^5 Ω 80-200 mm 80 Shore A 65-230 daN 4 km/h
SERIES 62ESD 	ESD elastic polyurethane wheels, light grey colour, high thickness, aluminium centre.	R <10^9 Ω 100-200 mm 75 Shore A 225-560 daN 4 km/h
SERIES 65ESD 	ESD polyurethane wheels, dark grey colour, aluminium centre.	R <10^9 Ω 80-200 mm 90 Shore A 170-680 daN 4 km/h
SOLUTION UPON REQUEST 	Conductive polyamide 6 solid wheels	R < 10^5 Ω on request 70 Shore D

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USE AND MAINTENANCE SUGGESTIONS

1. The user must ascertain the suitability of the wheels for use in ESD environments or in environments at risk of explosion (ATEX), in accordance with national or community legislation or with the technical standards of the sector for which it is intended (Directive 2014/34/EC, Directive 1999/92/EC, CEI EN 61340-5-1:2016, and similar).

2. Electrical resistance values indicated in Tellure Rôta documentation are measured in the temperature range prescribed by the ISO 22878: 2004 standard (18-25 ° C). As wheels may vary their electrical resistance according to the temperature, for environments with operating temperatures below 10 ° C please contact Tellure Rôta.

3. When realising trolleys, chairs and furniture, it is not recommended to rely on a single conductive wheel. Because of the fact that the equipment may not rest on all wheels at the same time, an adequate number of conductive wheels must be used to ensure, in all conditions, the possibility of discharge the built up static to the ground.

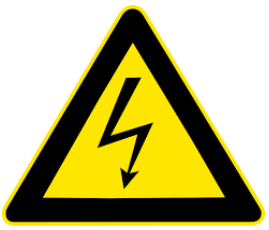
4. It is forbidden to make changes to the product that could compromise its conductivity or performance.

5. Before use, make sure that the product is clean; the presence of dust or dirt could compromise the conductivity of the wheel. During cleaning, make sure you do not use products that create insulating films.

6. Check the wear of the tread and the cleanliness of the wheel at least quarterly, and in any case with appropriate frequency considering the environment, the use and the type of application, the conductivity.

7. Follow the maintenance instructions given in the user guide in the general catalogue.

8. Grease the components using products with conductivity and use characteristics suitable for the type of application.



The main norms of reference for wheels and castors with specific electrical resistance are:
• ISO 22878:2004 which defines the methods of measuring the electrical resistance of wheels;
• ISO 22883:2004 which defines the range of the electrical resistance.

The reference standards for ATEX and ESD environments can be considered:
• Directive 1999/92/EC minimum requirements for improving the protection of the safety and health of workers who may be exposed to the risk of explosive atmospheres
• Directive 2014/34/EC on the harmonization of the laws of the Member States relating to equipment and protective systems intended for use in potentially explosive atmospheres
• CEI EN 61340-5-1:2016 Electrostatics Part 5-1 general requirements for the protection of electronic devices from electrostatic phenomena.

It is recommended to check any regulation on health and safety on the workplace or on specific application sector in force in the country where the product will be used.

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