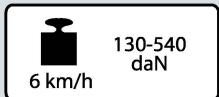
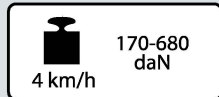


## ESD "TR" POLYURETHANE WHEELS, ELECTRICAL RESISTANCE <math><10^9 \Omega</math> WITH ALUMINIUM CENTRE



### Description

Tyre: ESD TR polyurethane, dark-grey non-marking colour, hardness 90 Shore A, with excellent rolling resistance and elasticity and good resistance to wear and tear.

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 medium-heavy duty application, in those environments where, for safety reasons or for the correct functioning of the equipment, an electro static discharge is required, also with mechanical handling, with speed up to 6 km/h. .

The excellent rolling resistance allows an easy handling of heavy loads even with wheels of small diameter.

### Environments of use

Designed for industrial environments, even in presence of alcohols, glycols, hydrocarbons. Not recommended in areas with organic acids and mineral acids, base solutions and saturated vapour.

WEAK ACIDS		WEAK BASES	
STRONG ACIDS		STRONG BASES	
WATER		HYDROCARBONS	
ALCOHOL		SOLVENTS	

*For information on the compatibility of the component wheel materials with specific aggressive chemical substances, see table at page 40.*



### Floors

Suitable for tiles and cement-resin.

Not suitable if large obstacles are present.



### Force required to push or tow a wheel

 	150 kg	250 kg	350 kg	450 kg	550 kg	650 kg
80 mm	3,2	---	---	---	---	---
100 mm	2,3	5,2	---	---	---	---
125 mm	1,7	4,5	6,5	---	---	---
150 mm	1,2	3,8	6	7	8	---
160 mm	<1	3,3	5	6,5	8	---
200 mm	<1	3	4,9	6	7,8	9

For each load and diameter, the table indicates the force (in daN) needed to push or tow a single wheel at the constant speed of 4 km/h on smooth flooring. For manual handling of a 4-wheeled trolley we recommend diameters that have values < 5 daN, for frequent handling we recommend diameters with values < 3 daN.

### Available with brackets :



#### Standard-duty brackets NL

Maximum carrying capacity 300 daN - available diameters 80-200 mm  
Top plate and bolt hole fittings. Available with the front brake.



#### Medium-duty brackets M

Maximum carrying capacity 500 daN - available diameters 150-200 mm  
Top plate fitting. Available with adjustable front brake.



#### Medium-heavy duty brackets P

Maximum carrying capacity 680 daN - available diameters 100-200 mm  
Top plate fitting. Available with front brake and adjustable rear brake.



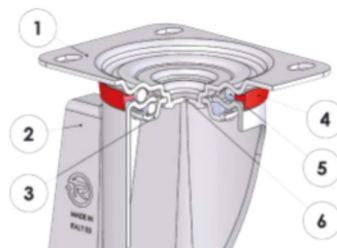
#### Heavy-duty PT brackets with hardened ball race grooves

Maximum carrying capacity 680 daN - available diameters 150-200 mm  
Top plate fitting. Available with adjustable rear brake.



mm	mm	kg	COD.	kg	COD.	mm	mm.	mm	mm	daN	daN	daN	daN
80	25	0,20	652101ESD	0,15	654101ESD	12	30	28	8	<b>220</b>	<b>150</b>	<b>170</b>	<b>130</b>
100	30	0,34	652102ESD	0,25	654102ESD	12	40	32	10	<b>280</b>	<b>225</b>	<b>200</b>	<b>160</b>
125	35	0,50	652103ESD	0,41	654103ESD	12	40	32	10	<b>400</b>	<b>280</b>	<b>320</b>	<b>250</b>
150	40	0,91	651104ESD	0,66	653104ESD	20	50	47	14	<b>680</b>	<b>330</b>	<b>480</b>	<b>380</b>
160	50	1,25	652114ESD	0,99	654114ESD	20	58	47	14	<b>750</b>	<b>350</b>	<b>640</b>	<b>510</b>
200	50	1,47	651106ESD	1,16	653106ESD	20	55	52	15	<b>800</b>	<b>360</b>	<b>680</b>	<b>540</b>

### Standard-duty brackets NL - max carrying capacity 300 daN



- 1) Plate: electrolytically galvanised steel plate
  - 2) Fork: electrolytically galvanised steel plate
  - 3) Ball race ring: electrolytically galvanised steel plate
  - 4) Dust seal: orange polyethylene
  - 5) Swivel actions: double ball ring with grease lubrication
  - 6) King pin: integrated with the plate and cold-riveted
- Available with total front foot brake

mm	mm	kg	COD.	kg	COD.	kg	COD.	mm	mm	mm	mm	mm	mm	mm	daN
80	25	0,72	659301ESD	0,52	658201ESD	0,91	656501ESD	107	100x85	80x60	9	37	120	<b>170</b>	
100	30	0,94	659302ESD	0,69	658202ESD	1,08	656502ESD	128	100x85	80x60	9	35	120	<b>200</b>	
125	35	1,14	659303ESD	0,89	658203ESD	1,28	656503ESD	156	100x85	80x60	9	37	120	<b>220</b>	
150	40	2,34	659304ESD	2,04	658104ESD	2,63	656504ESD	194	140x110	105x80	11	56	156	<b>300</b>	
160	50	2,68	659514ESD	2,38	658114ESD	2,97	656514ESD	198	140x110	105x80	11	56	156	<b>300</b>	
200	50	3,05	659306ESD	2,76	658106ESD	3,25	656506ESD	240	140x110	105x80	11	56	156	<b>300</b>	

### Options available to order:

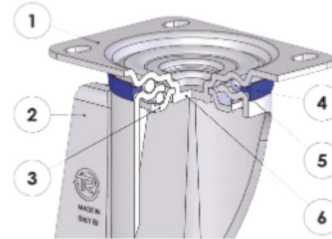


Directional lock for brackets d. 150-200 mm



Footguard for brackets NL-M-P-PT

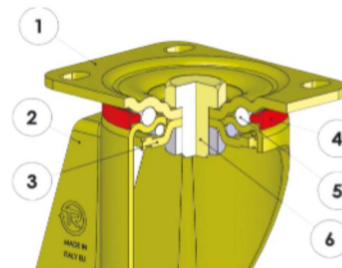
**Medium-duty brackets M - max carrying capacity 500 daN**



- 1) Plate: electrolytically galvanised steel plate
  - 2) Fork: electrolytically galvanised steel plate
  - 3) Ball race ring: electrolytically galvanised steel plate
  - 4) Dust seal: blue polyethylene
  - 5) Swivel actions: double ball ring with grease lubrication
  - 6) King pin: integrated with the plate and cold-riveted
- Available with adjustable total front foot brake

mm	mm	kg	COD.	kg	COD.	kg	COD.	mm	mm	mm	mm	mm	mm	daN
150	40	2,68	659604ESD	2,04	658104ESD	3,16	659704ESD	194	140x110	105x80	11	58	178	480
160	50	3,03	659614ESD	2,38	658114ESD	3,49	659714ESD	199	140x110	105x80	11	58	178	500
200	50	3,44	659606ESD	2,76	658106ESD	3,80	659706ESD	240	140x110	105x80	11	50	178	500

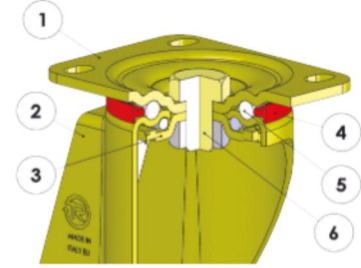
**Heavy duty brackets P - max carrying capacity 680 daN**



- 1) Plate: galvanised colonial steel plate
  - 2) Fork: galvanised colonial steel plate
  - 3) Ball race ring: galvanised colonial steel plate
  - 4) Dust seal: orange polyamide
  - 5) Swivel actions: double ball ring with grease lubrication
  - 6) King pin: steel bolt in grade 8.8 steel and steel nut
- Available with total front foot brake

mm	mm	kg	COD.	kg	COD.	kg	COD.	mm	mm	mm	mm	mm	mm	daN	daN
100	30	1,20	657602ESD	0,82	658602ESD	1,35	656602ESD	138	100x85	80x60	9	46	123	200	160
125	35	1,39	657603ESD	0,97	658603ESD	1,54	656603ESD	161	100x85	80x60	9	44	123	320	250

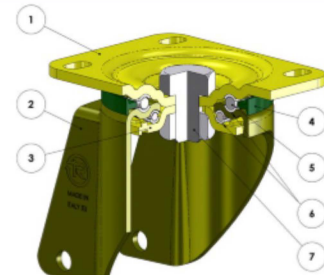
Medium-heavy duty brackets P - max carrying capacity 680 daN



- 1) Plate: galvanised colonial steel plate
  - 2) Fork: galvanised colonial steel plate
  - 3) Ball race ring: galvanised colonial steel plate
  - 4) Dust seal: orange polyamide
  - 5) Swivel actions: double ball ring with grease lubrication
  - 6) King pin: steel bolt in grade 8.8 steel and steel nut
- Available with adjustable total rear foot brake

mm		kg		COD.		kg		COD.		mm		mm		mm		mm		daN	
150	40	3,18	657604ESD	2,19	658604ESD	3,75	656604ESD	200	140x110	105x80	11	70	126	480	250				
160	50	3,52	657514ESD	2,53	658614ESD	4,09	656614ESD	205	140x110	105x80	11	70	126	640	380				
200	50	3,94	657606ESD	2,48	658606ESD	4,51	656606ESD	250	140x110	105x80	11	70	126	680	510				

Heavy-duty PT brackets with hardened ball race grooves - max carrying capacity 680 daN



- 1) Top Plate: electrolytically galvanised steel plate
  - 2) Fork: electrolytically galvanised steel plate
  - 3) Ball Race Ring: electrolytically galvanised steel plate
  - 4) Dust Seal: dark green polyamide 6
  - 5) Swivel actions: double ball ring with grease lubrication
  - 6) Ball race: hardened carbon steel grooves
  - 7) King pin: steel screw, class 8.8 and stainless steel nut
- Available with rear adjustable brake

mm		kg		COD.		kg		COD.		mm		mm		mm		mm		daN	
150	40	3,18	657544ESD	2,19	658604ESD	3,66	656674ESD	200	140x110	105x80	11	70	126	480	250				
160	50	3,52	657554ESD	2,53	658614ESD	4,09	656684ESD	205	140x110	105x80	11	70	126	640	380				
200	50	3,94	657546ESD	2,48	658606ESD	4,41	656676ESD	250	140x110	105x80	11	70	126	680	510				