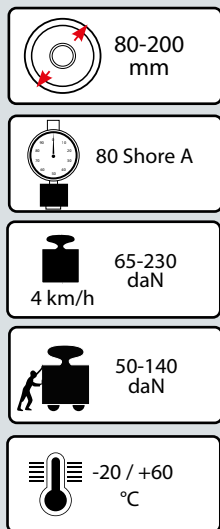


## GREY NON-MARKING RUBBER WHEELS WITH PRESSED STEEL DISCS



### Description

Tyre: grey non-marking standard rubber, hardness 80 Shore A

Centre: electrolytically galvanised steel plate, made of two riveted discs.

Hub with polyamide self-lubricating plain bore.

Cylindrical roller bearing hub with plastic cage.

### Uses

Suitable for trolleys with light-duty loads, also in presence of obstacles and for indoor-outdoor use.

The grey non-marking rubber tyre makes them suitable for use on fragile floors as well as in domestic/institutional environments.

Examples of recommended applications: luggage trolleys, tool trolleys, small mobile scaffoldings, waste bin containers.

### Environments of use

Suitable for industrial and institutional environments, also in presence of humidity and oils. Not suitable in presence of aggressive chemical agents.

|              |  |              |  |
|--------------|--|--------------|--|
| 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 all types of floors, even outdoors.

They facilitate the overcoming of obstacles.

They do not damage or mark floors.



### Force required to push or tow a wheel

|   | 50 kg | 100 kg | 150 kg | 200 kg | 230 kg |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|--------|--------|--------|--------|
| 80 mm                                                                                                                                                               | 5     | ----   | ----   | ----   | ----   |
| 100 mm                                                                                                                                                              | 3     | ----   | ----   | ----   | ----   |
| 125 mm                                                                                                                                                              | 2.5   | 6      | ----   | ----   | ----   |
| 140 mm                                                                                                                                                              | 2.2   | 5.5    | 9      | ----   | ----   |
| 150 mm                                                                                                                                                              | 2     | 5      | 8.5    | ----   | ----   |
| 160 mm                                                                                                                                                              | 1.5   | 3.5    | 7.5    | ----   | ----   |
| 200 mm                                                                                                                                                              | 1     | 3      | 5.5    | 8.5    | 11     |

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.

### Fittings with brackets



#### Standard-duty brackets NL

Maximum carrying capacity 230 daN - available diameters 80-200 mm  
Top plate and bolt hole fittings. Available with front brake.

### Options available to order:

The series 23 wheels are also available with assembled thread guards. To order them add the "PF" suffix to the product code. To order loose thread guards see the Accessories section.



Wheels  
with SL brackets  
d. 80-125 mm

## GREY NON-MARKING RUBBER WHEELS WITH PRESSED STEEL DISCS

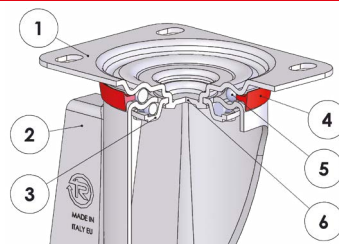


|  |  |  |  |  |  |  |  |            |  |  |  |  |  |  |  |
|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------------|--|--|--|--|--|--|--|
| mm                                                                                | mm                                                                                | kg                                                                                | CODE                                                                              | mm                                                                                | mm                                                                                | daN                                                                               | daN                                                                               | daN        |  |  |  |  |  |  |  |
| 80                                                                                | 25                                                                                | 0.17                                                                              | 231121                                                                            | 12                                                                                | 39                                                                                | <b>260</b>                                                                        | <b>50</b>                                                                         | <b>65</b>  |  |  |  |  |  |  |  |
| 100                                                                               | 30                                                                                | 0.28                                                                              | 231122                                                                            | 12                                                                                | 44                                                                                | <b>300</b>                                                                        | <b>75</b>                                                                         | <b>80</b>  |  |  |  |  |  |  |  |
| 125                                                                               | 37.5                                                                              | 0.51                                                                              | 231103                                                                            | 15                                                                                | 44                                                                                | <b>330</b>                                                                        | <b>85</b>                                                                         | <b>130</b> |  |  |  |  |  |  |  |
| 140                                                                               | 37.5                                                                              | 0.64                                                                              | 231104                                                                            | 15                                                                                | 44                                                                                | <b>340</b>                                                                        | <b>95</b>                                                                         | <b>150</b> |  |  |  |  |  |  |  |
| 150                                                                               | 40                                                                                | 0.73                                                                              | 231111                                                                            | 15                                                                                | 44                                                                                | <b>350</b>                                                                        | <b>100</b>                                                                        | <b>170</b> |  |  |  |  |  |  |  |
| 160                                                                               | 40                                                                                | 1.00                                                                              | 231110                                                                            | 20                                                                                | 58                                                                                | <b>370</b>                                                                        | <b>120</b>                                                                        | <b>180</b> |  |  |  |  |  |  |  |
| 200                                                                               | 50                                                                                | 1.75                                                                              | 231106                                                                            | 20                                                                                | 58                                                                                | <b>410</b>                                                                        | <b>140</b>                                                                        | <b>230</b> |  |  |  |  |  |  |  |



|  |  |  |  |  |  |  |  |            |  |  |  |  |  |  |  |
|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|------------|--|--|--|--|--|--|--|
| mm                                                                                  | mm                                                                                  | kg                                                                                  | CODE                                                                                | mm                                                                                  | mm                                                                                  | daN                                                                                 | daN                                                                                 | daN        |  |  |  |  |  |  |  |
| 80                                                                                  | 25                                                                                  | 0.19                                                                                | 233121                                                                              | 12                                                                                  | 39                                                                                  | <b>260</b>                                                                          | <b>50</b>                                                                           | <b>65</b>  |  |  |  |  |  |  |  |
| 100                                                                                 | 30                                                                                  | 0.31                                                                                | 233122                                                                              | 12                                                                                  | 44                                                                                  | <b>300</b>                                                                          | <b>75</b>                                                                           | <b>80</b>  |  |  |  |  |  |  |  |
| 125                                                                                 | 37.5                                                                                | 0.54                                                                                | 233103                                                                              | 15                                                                                  | 44                                                                                  | <b>330</b>                                                                          | <b>85</b>                                                                           | <b>130</b> |  |  |  |  |  |  |  |
| 140                                                                                 | 37.5                                                                                | 0.66                                                                                | 233104                                                                              | 15                                                                                  | 44                                                                                  | <b>340</b>                                                                          | <b>95</b>                                                                           | <b>150</b> |  |  |  |  |  |  |  |
| 150                                                                                 | 40                                                                                  | 0.76                                                                                | 233111                                                                              | 15                                                                                  | 44                                                                                  | <b>350</b>                                                                          | <b>100</b>                                                                          | <b>170</b> |  |  |  |  |  |  |  |
| 160                                                                                 | 40                                                                                  | 1.07                                                                                | 233110                                                                              | 20                                                                                  | 58                                                                                  | <b>370</b>                                                                          | <b>120</b>                                                                          | <b>180</b> |  |  |  |  |  |  |  |
| 200                                                                                 | 50                                                                                  | 1.81                                                                                | 233106                                                                              | 20                                                                                  | 58                                                                                  | <b>410</b>                                                                          | <b>140</b>                                                                          | <b>230</b> |  |  |  |  |  |  |  |

Standard-duty brackets NL - max carrying capacity 230 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                                                                                | CODE                                                                              | kg                                                                                | CODE                                                                              | kg                                                                                | CODE                                                                              | mm                                                                                | mm                                                                                | mm                                                                                 | mm                                                                                  | mm                                                                                  | mm                                                                                  | mm                                                                                  | daN                                                                                 |  |
| 80                                                                               | 25                                                                                | 0.69                                                                              | 234401                                                                            | 0.49                                                                              | 235701                                                                            | 0.87                                                                              | 235201                                                                            | 107                                                                               | 100x85                                                                            | 80x60                                                                              | 9                                                                                   | 40                                                                                  | 120                                                                                 | <b>65</b>                                                                           |                                                                                     |  |
| 100                                                                              | 30                                                                                | 0.82                                                                              | 234402                                                                            | 0.62                                                                              | 235702                                                                            | 1.00                                                                              | 235202                                                                            | 128                                                                               | 100x85                                                                            | 80x60                                                                              | 9                                                                                   | 35                                                                                  | 120                                                                                 | <b>80</b>                                                                           |                                                                                     |  |
| 125                                                                              | 37.5                                                                              | 1.18                                                                              | 234403                                                                            | 0.92                                                                              | 235703                                                                            | 1.30                                                                              | 235203                                                                            | 156                                                                               | 100x85                                                                            | 80x60                                                                              | 9                                                                                   | 37                                                                                  | 120                                                                                 | <b>130</b>                                                                          |                                                                                     |  |
| 140                                                                              | 37.5                                                                              | 1.31                                                                              | 234404                                                                            | 0.93                                                                              | 235704                                                                            | 1.46                                                                              | 235204                                                                            | 177                                                                               | 100x85                                                                            | 80x60                                                                              | 9                                                                                   | 34                                                                                  | 120                                                                                 | <b>150</b>                                                                          |                                                                                     |  |
| 150                                                                              | 40                                                                                | 1.42                                                                              | 234411                                                                            | 1.04                                                                              | 235711                                                                            | 1.57                                                                              | 235211                                                                            | 182                                                                               | 100x85                                                                            | 80x60                                                                              | 9                                                                                   | 34                                                                                  | 120                                                                                 | <b>170</b>                                                                          |                                                                                     |  |
| 160                                                                              | 40                                                                                | 2.44                                                                              | 234410                                                                            | 2.07                                                                              | 235710                                                                            | 2.69                                                                              | 235210                                                                            | 199                                                                               | 140x110                                                                           | 105x80                                                                             | 11                                                                                  | 56                                                                                  | 156                                                                                 | <b>180</b>                                                                          |                                                                                     |  |
| 200                                                                              | 50                                                                                | 3.25                                                                              | 234406                                                                            | 2.89                                                                              | 235706                                                                            | 3.39                                                                              | 235206                                                                            | 240                                                                               | 140x110                                                                           | 105x80                                                                             | 11                                                                                  | 56                                                                                  | 156                                                                                 | <b>230</b>                                                                          |                                                                                     |  |

|     |      |      |        |      |        |      |        |     |         |        |    |    |     |            |  |  |
|-----|------|------|--------|------|--------|------|--------|-----|---------|--------|----|----|-----|------------|--|--|
| 80  | 25   | 0.70 | 234601 | 0.51 | 235901 | 0.89 | 235221 | 107 | 100x85  | 80x60  | 9  | 40 | 120 | <b>65</b>  |  |  |
| 100 | 30   | 0.84 | 234602 | 0.65 | 235902 | 1.03 | 235222 | 128 | 100x85  | 80x60  | 9  | 35 | 120 | <b>80</b>  |  |  |
| 125 | 37.5 | 1.21 | 234603 | 0.95 | 235903 | 1.33 | 235223 | 156 | 100x85  | 80x60  | 9  | 34 | 120 | <b>130</b> |  |  |
| 140 | 37.5 | 1.34 | 234604 | 0.96 | 235904 | 1.49 | 235224 | 177 | 100x85  | 80x60  | 9  | 34 | 120 | <b>150</b> |  |  |
| 150 | 40   | 1.45 | 234611 | 1.07 | 235911 | 1.60 | 235231 | 182 | 100x85  | 80x60  | 9  | 37 | 120 | <b>170</b> |  |  |
| 160 | 40   | 2.50 | 234610 | 2.13 | 235910 | 2.75 | 235230 | 199 | 140x110 | 105x80 | 11 | 56 | 156 | <b>180</b> |  |  |
| 200 | 50   | 3.31 | 234606 | 3.05 | 235906 | 3.45 | 235226 | 240 | 140x110 | 105x80 | 11 | 56 | 156 | <b>230</b> |  |  |

Options available to order:



Bracket  
with rear  
brake  
d. 150-200 mm



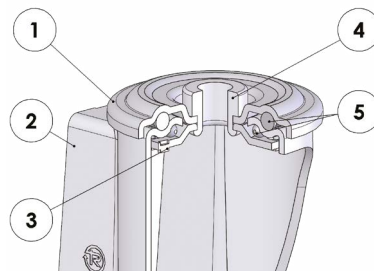
Bracket  
with directional  
lock  
d. 80-125 mm



Directional lock  
for brackets  
d. 150-200 mm

## GREY NON-MARKING RUBBER WHEELS WITH PRESSED STEEL DISCS

Standard-duty brackets NL - max carrying capacity 230 daN



- 1) Plate: electrolytically galvanised steel plate
  - 2) Fork: electrolytically galvanised steel plate
  - 3) Ball race ring: electrolytically galvanised steel plate
  - 4) King pin: bushing in electrolytically galvanised steel
  - 5) Swivel actions: double ball ring with grease lubrication
- Available with total front foot brake

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|--|--|--|--|
| mm                                                                               | mm                                                                                | kg                                                                                | CODE                                                                              | kg                                                                                | CODE                                                                              | mm                                                                                | mm                                                                                | mm                                                                                | mm                                                                                | mm                                                                                  | daN                                                                                 |  |  |  |  |
| 80                                                                               | 25                                                                                | 0.61                                                                              | 237701                                                                            | 0.79                                                                              | 235601                                                                            | 107                                                                               | 73                                                                                | 12                                                                                | 40                                                                                | 120                                                                                 | <b>65</b>                                                                           |  |  |  |  |
| 100                                                                              | 30                                                                                | 0.74                                                                              | 237702                                                                            | 0.94                                                                              | 235602                                                                            | 128                                                                               | 73                                                                                | 12                                                                                | 35                                                                                | 120                                                                                 | <b>80</b>                                                                           |  |  |  |  |
| 125                                                                              | 37.5                                                                              | 1.09                                                                              | 237703                                                                            | 1.24                                                                              | 235603                                                                            | 156                                                                               | 73                                                                                | 12                                                                                | 37                                                                                | 120                                                                                 | <b>130</b>                                                                          |  |  |  |  |
| 140                                                                              | 37.5                                                                              | 1.23                                                                              | 237704                                                                            | 1.38                                                                              | 235604                                                                            | 177                                                                               | 73                                                                                | 12                                                                                | 34                                                                                | 120                                                                                 | <b>150</b>                                                                          |  |  |  |  |
| 150                                                                              | 40                                                                                | 1.35                                                                              | 237711                                                                            | 1.49                                                                              | 235611                                                                            | 182                                                                               | 73                                                                                | 12                                                                                | 34                                                                                | 120                                                                                 | <b>170</b>                                                                          |  |  |  |  |
| 160                                                                              | 40                                                                                | 1.78                                                                              | 237710                                                                            | 2.04                                                                              | 235610                                                                            | 193                                                                               | 102                                                                               | 20                                                                                | 56                                                                                | 156                                                                                 | <b>180</b>                                                                          |  |  |  |  |
| 200                                                                              | 50                                                                                | 3.16                                                                              | 237706                                                                            | 3.29                                                                              | 235606                                                                            | 236                                                                               | 102                                                                               | 20                                                                                | 56                                                                                | 156                                                                                 | <b>230</b>                                                                          |  |  |  |  |

|     |      |      |        |      |        |     |     |    |    |     |            |  |  |  |  |
|-----|------|------|--------|------|--------|-----|-----|----|----|-----|------------|--|--|--|--|
| 80  | 25   | 0.63 | 237901 | 0.80 | 235621 | 107 | 73  | 12 | 40 | 120 | <b>65</b>  |  |  |  |  |
| 100 | 30   | 0.76 | 237902 | 0.96 | 235622 | 128 | 73  | 12 | 35 | 120 | <b>80</b>  |  |  |  |  |
| 125 | 37.5 | 1.12 | 237903 | 1.27 | 235623 | 156 | 73  | 12 | 37 | 120 | <b>130</b> |  |  |  |  |
| 140 | 37.5 | 1.26 | 237904 | 1.41 | 235624 | 177 | 73  | 12 | 34 | 120 | <b>150</b> |  |  |  |  |
| 150 | 40   | 1.38 | 237911 | 1.52 | 235631 | 182 | 73  | 12 | 34 | 120 | <b>170</b> |  |  |  |  |
| 160 | 40   | 1.85 | 237910 | 2.10 | 235630 | 193 | 102 | 20 | 56 | 156 | <b>180</b> |  |  |  |  |
| 200 | 50   | 3.22 | 237906 | 3.35 | 235626 | 236 | 102 | 20 | 56 | 156 | <b>230</b> |  |  |  |  |

Options available to order:



Fitting  
with stem  
in Zamak  
alloy  
d. 80-125 mm