

APOLLO TYRES TRUCK AND BUS

# TECHNICAL DATA BOOK



apollo



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# EXPERTS ON THE PITCH



# EXPERTS ON THE ROAD

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# CONTENTS

|                |                             |
|----------------|-----------------------------|
| <b>Page 4</b>  | About Apollo Tyres          |
| <b>Page 7</b>  | Segmentation                |
| <b>Page 10</b> | Endu™Race RA and RD         |
| <b>Page 11</b> | Endu™Race R Front and RT    |
| <b>Page 12</b> | Endu™Trax MA and MD         |
| <b>Page 14</b> | Technical data              |
| <b>Page 16</b> | Load index and speed symbol |
| <b>Page 18</b> | Regrooving                  |
| <b>Page 22</b> | Sidewall markings           |
| <b>Page 24</b> | Construction and dimensions |
| <b>Page 26</b> | EU Tyre regulations         |

# APOLLO AT A GLANCE

We are Apollo, one of the fastest growing tyre brands in the world. Today, our worldwide family exports to over 100 countries, backed by a global workforce of over 16,000 employees, with two major brands: Apollo and Vredestein.

Apollo is already a market leader for truck and bus tyres in India. Almost 50 per cent of our global revenue is derived from Truck and Bus Radial (TBR) sales, and we support the full gamut of TBR applications; from Long Haul, Coach, Regional, Mixed, Urban and Speciality, from 17.5" to 24" tyres.

## TECHNOLOGY DRIVES QUALITY

Apollo's TBR tyres have been designed especially for European conditions and developed by our R&D team based in the Netherlands. Prior to launch, almost 2,500 tyres had been extensively tested over 250 million kilometres in six European countries, under genuine conditions by our partner test fleets.

Our TBR portfolio is the culmination of a five-year testing and development programme across Europe and multimillion Euro investment in R&D - and the results are impressive. In tests, Apollo TBR tyres achieved 90 - 110 per cent mileage versus the best-in-class tyres, and our 50 test fleets and driver partners were so impressed that over four out of five users now intend to buy Apollo tyres.

Our customer satisfaction is underpinned by the quality of our products. Quality that derives from our significant investment in R&D across four global centres and state-of-the-art manufacturing facilities. The reliability and performance of our tyres is central to our company values and success.





# OUR SEGMENTATION

## WHAT IS A PRODUCT SEGMENT?

A segment defines our product offer for customers with similar usage requirements; it is a combination of both road conditions and tyre features.

All Apollo truck and bus radial tyre names start with **-Endu™**. This reflects both the endurance and durability of our high-mileage performance tyres.

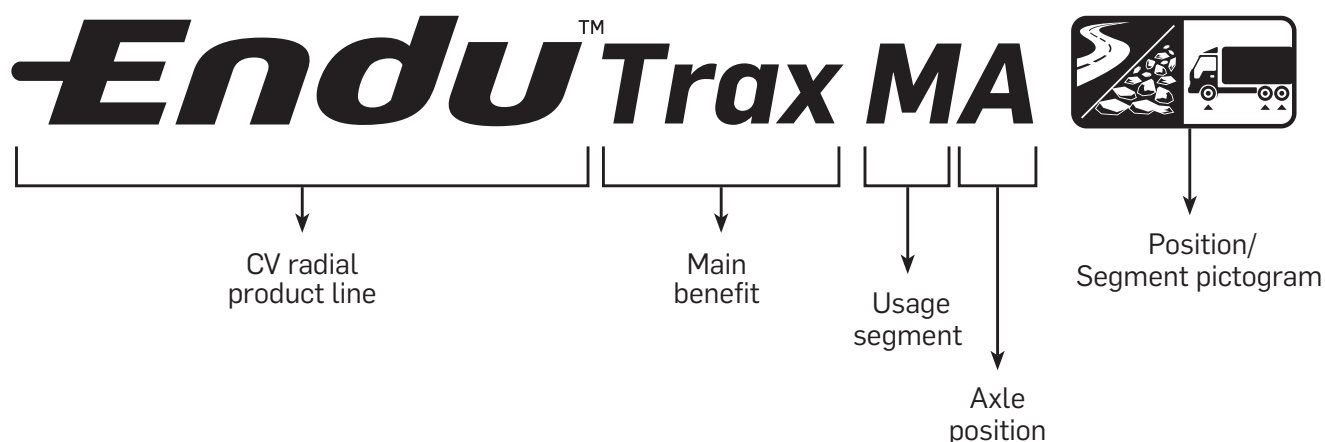
Apollo has defined six segments for addressing specific customer requirements

**R** = Regional  
**M** = Mixed  
**LH** = Long haul  
**U** = Urban  
**C** = Coach  
**W** = Winter

We develop different patterns to address all axle positions:

**A** = All wheel  
**F** = Front  
**D** = Drive  
**T** = Trailer

## ILLUSTRATION





|           | REGIONAL                                                                                                                                                                         | MIXED                                                                                                             | LONG HAUL                                                                                 |
|-----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------|
| Front     | 385/55 R 22.5 Endu™Race R Front<br>385/65 R 22.5 Endu™Race R Front                                                                                                               |                                                                                                                   | 385/55 R 22.5 Endu™Race R Front<br>385/65 R 22.5 Endu™Race R Front                        |
| All Wheel | 215/75 R 17.5 Endu™Race RA<br>225/75 R 17.5 Endu™Race RA<br>235/75 R 17.5 Endu™Race RA<br>295/80 R 22.5 Endu™Race RA<br>315/70 R 22.5 Endu™Race RA<br>315/80 R 22.5 Endu™Race RA | 13R22.5 Endu™Trax MA<br>295/80 R 22.5 Endu™Trax MA<br>315/80 R 22.5 Endu™Trax MA<br>385/65 R 22.5 Endu™Trax MA HD | 295/80 R 22.5 Endu™Race RA<br>315/70 R 22.5 Endu™Race RA<br>315/80 R 22.5 Endu™Race RA    |
| Drive     | 215/75 R 17.5 Endu™Race RD<br>225/75 R 17.5 Endu™Race RD<br>235/75 R 17.5 Endu™Race RD<br>295/80 R 22.5 Endu™Race RD<br>315/70 R 22.5 Endu™Race RD<br>315/80 R 22.5 Endu™Race RD | 13R22.5 Endu™Trax MD<br>295/80 R 22.5 Endu™Trax MD<br>315/80 R 22.5 Endu™Trax MD                                  | 295/80 R 22.5 Endu™Race RD<br>315/70 R 22.5 Endu™Race RD<br>315/80 R 22.5 Endu™Race RD    |
| Trailer   | 235/75 R 17.5 Endu™Race RT<br>385/55 R 22.5 Endu™Race RT<br>385/65 R 22.5 Endu™Race RT HD                                                                                        |                                                                                                                   | 235/75 R 17.5 Endu™Race RT<br>385/55 R 22.5 Endu™Race RT<br>385/65 R 22.5 Endu™Race RT HD |



|  | COACH                                                    | URBAN                                                                                  | WINTER |
|--|----------------------------------------------------------|----------------------------------------------------------------------------------------|--------|
|  |                                                          |                                                                                        |        |
|  | 295/80 R 22.5 Endu™Race RA<br>315/80 R 22.5 Endu™Race RA | 215/75 R 17.5 Endu™Race RA<br>225/75 R 17.5 Endu™Race RA<br>235/75 R 17.5 Endu™Race RA |        |
|  | 295/80 R 22.5 Endu™Race RA<br>315/80 R 22.5 Endu™Race RA | 215/75 R 17.5 Endu™Race RD<br>225/75 R 17.5 Endu™Race RD<br>235/75 R 17.5 Endu™Race RD |        |
|  |                                                          |                                                                                        |        |

These tyres are also suitable for additional segments

# REGIONAL SEGMENT



## ENDU™RACE RA LONG-LIFE, ALL-WHEEL TYRE

The Endu™Race RA is a long-life all-wheel tyre with multiple retread potential; perfect for regional and distribution transport.

| TYRE SIZE     | PR | LOAD INDEX | SPEED SYMBOL |   |   |       |
|---------------|----|------------|--------------|---|---|-------|
| 215/75 R 17.5 | 14 | 126/124    | M            | D | C | 70 dB |
| 225/75 R 17.5 | 14 | 129/127    | M            | D | C | 70 dB |
| 235/75 R 17.5 | 14 | 132/130    | M            | D | B | 70 dB |



## ENDU™RACE RA LONG-LIFE, ALL-WHEEL TYRE

The Endu™Race RA is a long-life all-wheel tyre developed for regional and distribution transport. It is also suitable for coach and long distance transport.

| TYRE SIZE     | PR | LOAD INDEX | SPEED SYMBOL |   |   |       |
|---------------|----|------------|--------------|---|---|-------|
| 295/80 R 22.5 | 16 | 152/148    | M            | D | B | 73 dB |
| 315/70 R 22.5 | 18 | 156/150    | L            | C | A | 73 dB |
| 315/80 R 22.5 | 18 | 156/150    | L            | C | B | 72 dB |



## ENDU™RACE RD LONG-LIFE DRIVE TYRE WITH EXCELLENT TRACTION

The Endu™Race RD is a long-life drive tyre with optimum traction, developed for regional and distribution transport. It is also suitable for long distance transport.

| TYRE SIZE     | PR | LOAD INDEX | SPEED SYMBOL |   |   |       |
|---------------|----|------------|--------------|---|---|-------|
| 215/75 R 17.5 | 14 | 126/124    | M            | E | C | 71 dB |
| 225/75 R 17.5 | 14 | 129/127    | M            | D | C | 71 dB |
| 235/75 R 17.5 | 14 | 132/130    | M            | D | C | 71 dB |



## ENDU™RACE RD

### LONG-LIFE DRIVE TYRE WITH EXCELLENT TRACTION

The Endu™Race RD is a long-life drive tyre with optimum traction, developed for regional and distribution transport. It is also suitable for long distance transport.

| TYRE SIZE     | PR | LOAD INDEX | SPEED SYMBOL |  |  |        |
|---------------|----|------------|--------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 295/80 R 22.5 | 16 | 152/148    | M            | E                                                                                 | B                                                                                 | 75 dB  |
| 315/70 R 22.5 | 18 | 154/150    | L            | E                                                                                 | B                                                                                 | 75 dB  |
| 315/80 R22.5  | 18 | 156/150    | L            | D                                                                                 | B                                                                                 | 75 dB  |



## ENDU™RACE R FRONT

### HIGH-MILEAGE STEER TYRE FOR PRECISE HANDLING

The Endu™Race R Front is exclusively designed for your steer axle, providing excellent mileage with precise handling characteristics.

| TYRE SIZE     | PR | LOAD INDEX | SPEED SYMBOL |  |  |        |
|---------------|----|------------|--------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------|
| 385/55 R 22.5 | 20 | 160        | K            | C                                                                                   | B                                                                                   | 73 dB  |
| 385/65 R 22.5 | 20 | 160        | K            | C                                                                                   | B                                                                                   | 73 dB  |



## ENDU™RACE RT

### HIGH PERFORMANCE FIT-AND-FORGET TRAILER TYRE

The Endu™Race RT is a high-mileage, free-rolling trailer tyre with high scrub resistance and multiple retread potential.

| TYRE SIZE     | PR | LOAD INDEX | SPEED SYMBOL |  |  |        |
|---------------|----|------------|--------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------|
| 235/75 R 17.5 | 16 | 143/141    | J            | D                                                                                   | A                                                                                   | 71 dB  |
| 385/55 R 22.5 | 20 | 160        | K            | C                                                                                   | B                                                                                   | 73 dB  |



## ENDU™RACE RT HD

### HIGH PERFORMANCE FIT-AND-FORGET TRAILER TYRE

The Endu™Race RT HD is a high-mileage, free-rolling trailer tyre with high scrub resistance and multiple retread potential.

| TYRE SIZE     | PR | LOAD INDEX | SPEED SYMBOL |  |  |        |
|---------------|----|------------|--------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------|
| 385/65 R 22.5 | 20 | 164        | K            | C                                                                                   | A                                                                                   | 73 dB  |



# MIXED SEGMENT



## ENDU™TRAX MA & MA HD ROBUST ALL-WHEEL TYRE FOR HIGH MILEAGE

The Endu™Trax MA& MA HD, specifically designed for mixed on- and off-road usage, is a robust all-wheel and trailer tyre with excellent grip and high uptime.

| TYRE SIZE        | PR | LOAD INDEX | SPEED SYMBOL |   |   |       |
|------------------|----|------------|--------------|---|---|-------|
| 13 R 22.5        | 18 | 156/150    | K            | D | B | 74 dB |
| 295/80 R 22.5    | 16 | 154/149    | K            | D | B | 74 dB |
| 315/80 R 22.5    | 18 | 156/150    | K            | D | A | 74 dB |
| 385/65 R 22.5 HD | 22 | 164        | K            | C | B | 74 dB |



## ENDU™TRAX MD ROBUST DRIVE TYRE WITH EXCELLENT TRACTION

The Endu™Trax MD is specifically designed for mixed on- and off-road usage; a robust drive tyre with outstanding traction and high impact resistance.

| TYRE SIZE     | PR | LOAD INDEX | SPEED SYMBOL |   |   |       |
|---------------|----|------------|--------------|---|---|-------|
| 13 R 22.5     | 18 | 156/150    | K            | D | B | 74 dB |
| 295/80 R 22.5 | 16 | 152/148    | K            | E | B | 74 dB |
| 315/80 R 22.5 | 18 | 156/150    | K            | E | A | 74 dB |





# TECHNICAL DATA

Guidelines according to rim size and axle position

| TYRE DESCRIPTION & MARKINGS |               |           |                   |            |              |            |     |       |   | TYRE DIMENSIONS            |                       |                           |                            |                  |
|-----------------------------|---------------|-----------|-------------------|------------|--------------|------------|-----|-------|---|----------------------------|-----------------------|---------------------------|----------------------------|------------------|
| Size                        | Usage segment | Tyre Name | Tyre position     | Load Index | Speed Symbol | Ply Rating | M+S | 3PMSF |   | Overall Section Width (mm) | Overall Diameter (mm) | Static Loaded Radius (mm) | Rolling Circumference (mm) | Tread Depth (mm) |
| 17.5" Rim                   | 215/75 R 17.5 | Regional  | Endu™Race RA      | All Wheel  | 126/124      | M          | 14  | ✓     | X | 213                        | 769                   | 360                       | 2341                       | 12.5             |
|                             | 215/75 R 17.5 | Regional  | Endu™Race RD      | Drive      | 126/124      | M          | 14  | ✓     | X | 213                        | 769                   | 360                       | 2341                       | 14.8             |
|                             | 225/75 R 17.5 | Regional  | Endu™Race RA      | All Wheel  | 129/127      | M          | 14  | ✓     | X | 228                        | 783                   | 366                       | 2388                       | 14.0             |
|                             | 225/75 R 17.5 | Regional  | Endu™Race RD      | Drive      | 129/127      | M          | 14  | ✓     | X | 228                        | 785                   | 366                       | 2388                       | 15.0             |
|                             | 235/75 R 17.5 | Regional  | Endu™Race RA      | All Wheel  | 132/130      | M          | 14  | ✓     | X | 238                        | 803                   | 372                       | 2432                       | 14.2             |
|                             | 235/75 R 17.5 | Regional  | Endu™Race RD      | Drive      | 132/130      | M          | 14  | ✓     | X | 238                        | 803                   | 372                       | 2432                       | 15.0             |
|                             | 235/75 R 17.5 | Regional  | Endu™Race RT      | Trailer    | 143/141      | J          | 16  | ✓     | ✓ | 238                        | 800                   | 372                       | 2432                       | 13.1             |
| 22.5" Rim                   | 13 R 22.5     | Mixed     | Endu™Trax MA      | All Wheel  | 156/150      | K          | 18  | ✓     | X | 325                        | 1120                  | 521                       | 3429                       | 17.7             |
|                             | 13 R 22.5     | Mixed     | Endu™Trax MD      | Drive      | 156/150      | K          | 18  | ✓     | X | 325                        | 1129                  | 521                       | 3429                       | 21.7             |
|                             | 295/80 R 22.5 | Regional  | Endu™Race RA      | All Wheel  | 152/148      | M          | 16  | ✓     | X | 300                        | 1050                  | 486.6                     | 3184.2                     | 16.5             |
|                             | 295/80 R 22.5 | Regional  | Endu™Race RD      | Drive      | 152/148      | M          | 16  | ✓     | X | 300                        | 1059                  | 487                       | 3184                       | 21.0             |
|                             | 295/80 R 22.5 | Mixed     | Endu™Trax MA      | All Wheel  | 154/149      | K          | 16  | ✓     | X | 300                        | 1052                  | 487                       | 3184                       | 17.8             |
|                             | 295/80 R 22.5 | Mixed     | Endu™Trax MD      | Drive      | 152/148      | K          | 16  | ✓     | X | 300                        | 1056                  | 487                       | 3184                       | 19.8             |
|                             | 315/70 R 22.5 | Regional  | Endu™Race RA      | All Wheel  | 156/150      | L          | 18  | ✓     | X | 312                        | 1014                  | 473                       | 3090                       | 16.5             |
|                             | 315/70 R 22.5 | Regional  | Endu™Race RD      | Drive      | 154/150      | L          | 18  | ✓     | ✓ | 312                        | 1021                  | 473                       | 3090                       | 20.0             |
|                             | 315/80 R 22.5 | Regional  | Endu™Race RA      | All Wheel  | 156/150      | L          | 18  | ✓     | X | 312                        | 1081                  | 500                       | 3282                       | 15.8             |
|                             | 315/80 R 22.5 | Regional  | Endu™Race RD      | Drive      | 156/150      | L          | 18  | ✓     | ✓ | 315                        | 1087                  | 500                       | 3282                       | 21.0             |
|                             | 315/80 R 22.5 | Mixed     | Endu™Trax MA      | All Wheel  | 156/150      | K          | 18  | ✓     | X | 312                        | 1080                  | 500                       | 3282                       | 16.7             |
|                             | 315/80 R 22.5 | Mixed     | Endu™Trax MD      | Drive      | 156/150      | K          | 18  | ✓     | X | 312                        | 1094                  | 500                       | 3282                       | 23.6             |
|                             | 385/55 R 22.5 | Regional  | Endu™Race R Front | Front      | 160          | K          | 20  | ✓     | X | 381                        | 994                   | 466                       | 3018                       | 14.0             |
|                             | 385/55 R 22.5 | Regional  | Endu™Race RT      | Trailer    | 160          | K          | 20  | ✓     | X | 381                        | 994                   | 466                       | 3018                       | 14.0             |
|                             | 385/65 R 22.5 | Regional  | Endu™Race R Front | Front      | 160          | K          | 20  | ✓     | X | 384                        | 1068                  | 499                       | 3248                       | 15.0             |
|                             | 385/65 R 22.5 | Regional  | Endu™Race RT HD   | Trailer    | 164          | K          | 22  | ✓     | X | 384                        | 1073                  | 499                       | 3248                       | 17.3             |
|                             | 385/65 R 22.5 | Mixed     | Endu™Trax MA HD   | All Wheel  | 164          | K          | 22  | ✓     | X | 384                        | 1073                  | 499                       | 3248                       | 17.3             |

| RIM DATA                     |                              |                           | LOAD CAPACITY PER AXLE (KG) @PRESSURE |     |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |
|------------------------------|------------------------------|---------------------------|---------------------------------------|-----|------|------|------|------|------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Recommended RIM width (inch) | Alternative RIM width (inch) | Minimal Dual Spacing (mm) | Single /Dual Fitment                  | Bar | 5.00 | 5.25 | 5.50 | 5.75 | 6.00 | 6.25 | 6.50  | 6.75  | 7.00  | 7.25  | 7.50  | 7.75  | 8.00  | 8.25  | 8.50  | 8.75  | 9.00  |
|                              |                              |                           |                                       | Kpa | 500  | 525  | 550  | 575  | 600  | 625  | 650   | 675   | 700   | 725   | 750   | 775   | 800   | 825   | 850   | 875   | 900   |
|                              |                              |                           |                                       | Psi | 73   | 76   | 80   | 83   | 87   | 91   | 94    | 98    | 102   | 105   | 109   | 112   | 116   | 120   | 123   | 127   | 131   |
| 6.00                         | 6.75                         | 239                       | S                                     |     |      | 2701 | 2803 | 2905 | 3006 | 3105 | 3204  | 3303  | 3400  |       |       |       |       |       |       |       |       |
|                              |                              |                           | D                                     |     |      | 5084 | 5277 | 5468 | 5657 | 5845 | 6032  | 6216  | 6400  |       |       |       |       |       |       |       |       |
| 6.00                         | 6.75                         | 239                       | D                                     |     |      | 5084 | 5277 | 5468 | 5657 | 5845 | 6032  | 6216  | 6400  |       |       |       |       |       |       |       |       |
| 6.75                         | 6.00                         | 254                       | S                                     |     |      |      | 2966 | 3074 | 3180 | 3286 | 3390  | 3494  | 3598  | 3700  |       |       |       |       |       |       |       |
|                              |                              |                           | D                                     |     |      |      | 5612 | 5815 | 6017 | 6216 | 6414  | 6611  | 6806  | 7000  |       |       |       |       |       |       |       |
| 6.75                         | 6.00                         | 254                       | D                                     |     |      |      | 5612 | 5815 | 6017 | 6216 | 6414  | 6611  | 6806  | 7000  |       |       |       |       |       |       |       |
| 6.75                         | 7.50                         | 262                       | S                                     |     |      |      |      |      | 3259 | 3368 | 3475  | 3581  | 3687  | 3792  | 3896  | 4000  |       |       |       |       |       |
|                              |                              |                           | D                                     |     |      |      |      |      | 6193 | 6398 | 6602  | 6805  | 7006  | 7205  | 7403  | 7600  |       |       |       |       |       |
| 6.75                         | 7.50                         | 262                       | D                                     |     |      |      |      |      | 6193 | 6398 | 6602  | 6805  | 7006  | 7205  | 7403  | 7600  |       |       |       |       |       |
| 6.75                         | 7.50                         | 262                       | S                                     |     |      |      |      |      |      |      |       | 4428  | 4559  | 4689  | 4818  | 4946  | 5073  | 5199  | 5325  | 5450  |       |
|                              |                              |                           | D                                     |     |      |      |      |      |      |      |       | 8369  | 8616  | 8861  | 9105  | 9347  | 9587  | 9826  | 10064 | 10300 |       |
| 9.75                         | 9.00                         | 360                       | S                                     |     |      |      |      |      |      |      |       | 6500  | 6692  | 6883  | 7072  | 7260  | 7447  | 7632  | 7817  | 8000  |       |
|                              |                              |                           | D                                     |     |      |      |      |      |      |      |       | 10888 | 11209 | 11528 | 11845 | 12160 | 12473 | 12784 | 13093 | 13400 |       |
| 9.75                         | 9.00                         | 360                       | D                                     |     |      |      |      |      |      |      |       | 10888 | 11209 | 11528 | 11845 | 12160 | 12473 | 12784 | 13093 | 13400 |       |
| 9.00                         | 8.25                         | 335                       | S                                     |     |      |      |      |      |      |      | 5729  | 5904  | 6079  | 6252  | 6424  | 6594  | 6764  | 6932  | 7100  |       |       |
|                              |                              |                           | D                                     |     |      |      |      |      |      |      | 10166 | 10478 | 10787 | 11094 | 11399 | 11702 | 12003 | 12303 | 12600 |       |       |
| 9.00                         | 8.25                         | 335                       | D                                     |     |      |      |      |      |      |      | 10166 | 10478 | 10787 | 11094 | 11399 | 11702 | 12003 | 12303 | 12600 |       |       |
| 9.00                         | 8.25                         | 335                       | S                                     |     |      |      |      |      |      |      | 6051  | 6237  | 6421  | 6604  | 6785  | 6966  | 7145  | 7323  | 7500  |       |       |
|                              |                              |                           | D                                     |     |      |      |      |      |      |      | 10489 | 10811 | 11130 | 11447 | 11761 | 12074 | 12385 | 12693 | 13000 |       |       |
| 9.00                         | 8.25                         | 335                       | D                                     |     |      |      |      |      |      |      | 10166 | 10478 | 10787 | 11094 | 11399 | 11702 | 12003 | 12303 | 12600 |       |       |
| 9.00                         | 9.75                         | 351                       | S                                     |     |      |      |      |      |      |      |       | 6355  | 6543  | 6729  | 6914  | 7098  | 7281  | 7462  | 7642  | 7822  | 8000  |
|                              |                              |                           | D                                     |     |      |      |      |      |      |      |       | 10645 | 10959 | 11271 | 11581 | 11889 | 12195 | 12499 | 12801 | 13101 | 13400 |
| 9.00                         | 9.75                         | 351                       | D                                     |     |      |      |      |      |      |      |       | 10645 | 10959 | 11271 | 11581 | 11889 | 12195 | 12499 | 12801 | 13101 | 13400 |
| 9.00                         | 9.75                         | 351                       | S                                     |     |      |      |      |      |      |      | 6455  | 6653  | 6849  | 7044  | 7238  | 7430  | 7621  | 7811  | 8000  |       |       |
|                              |                              |                           | D                                     |     |      |      |      |      |      |      | 10812 | 11143 | 11472 | 11799 | 12123 | 12445 | 12766 | 13084 | 13400 |       |       |
| 9.00                         | 9.75                         | 351                       | D                                     |     |      |      |      |      |      |      | 10812 | 11143 | 11472 | 11799 | 12123 | 12445 | 12766 | 13084 | 13400 |       |       |
| 9.00                         | 9.75                         | 351                       | S                                     |     |      |      |      |      |      |      | 6455  | 6653  | 6849  | 7044  | 7238  | 7430  | 7621  | 7811  | 8000  |       |       |
|                              |                              |                           | D                                     |     |      |      |      |      |      |      | 10812 | 11143 | 11472 | 11799 | 12123 | 12445 | 12766 | 13084 | 13400 |       |       |
| 9.00                         | 9.75                         | 351                       | D                                     |     |      |      |      |      |      |      | 10812 | 11143 | 11472 | 11799 | 12123 | 12445 | 12766 | 13084 | 13400 |       |       |
| 12.25                        | 11.75                        | -                         | S                                     |     |      |      |      |      |      |      |       | 7150  | 7361  | 7570  | 7779  | 7985  | 8191  | 8395  | 8598  | 8799  | 9000  |
| 12.25                        | 11.75                        | -                         | S                                     |     |      |      |      |      |      |      |       | 7150  | 7361  | 7570  | 7779  | 7985  | 8191  | 8395  | 8598  | 8799  | 9000  |
| 11.75                        | 12.25                        | -                         | S                                     |     |      |      |      |      |      |      |       | 7150  | 7361  | 7570  | 7779  | 7985  | 8191  | 8395  | 8598  | 8799  | 9000  |
| 11.75                        | 12.25                        | -                         | S                                     |     |      |      |      |      |      |      |       | 7944  | 8179  | 8412  | 8643  | 8873  | 9101  | 9328  | 9553  | 9777  | 10000 |
| 11.75                        | 12.25                        | -                         | S                                     |     |      |      |      |      |      |      |       | 7944  | 8179  | 8412  | 8643  | 8873  | 9101  | 9328  | 9553  | 9777  | 10000 |

# LOAD TABLE

Conversion of Load indexes (LI) into load capacities per tyre (kg and lbs)

| LI  | KG   | LBS  |
|-----|------|------|
| 80  | 450  | 990  |
| 81  | 462  | 1020 |
| 82  | 475  | 1045 |
| 83  | 487  | 1075 |
| 84  | 500  | 1100 |
| 85  | 515  | 1135 |
| 86  | 530  | 1170 |
| 87  | 545  | 1200 |
| 88  | 560  | 1235 |
| 89  | 580  | 1280 |
| 90  | 600  | 1325 |
| 91  | 615  | 1355 |
| 92  | 630  | 1390 |
| 93  | 650  | 1435 |
| 94  | 670  | 1475 |
| 95  | 690  | 1520 |
| 96  | 710  | 1565 |
| 97  | 730  | 1610 |
| 98  | 750  | 1655 |
| 99  | 775  | 1710 |
| 100 | 800  | 1765 |
| 101 | 825  | 1820 |
| 102 | 850  | 1875 |
| 103 | 875  | 1930 |
| 104 | 900  | 1965 |
| 105 | 925  | 2040 |
| 106 | 950  | 2095 |
| 107 | 975  | 2150 |
| 108 | 1000 | 2205 |
| 109 | 1030 | 2270 |
| 110 | 1060 | 2335 |
| 111 | 1090 | 2405 |
| 112 | 1120 | 2470 |
| 113 | 1150 | 2535 |
| 114 | 1180 | 2600 |
| 115 | 1215 | 2680 |
| 116 | 1250 | 2755 |
| 117 | 1285 | 2835 |
| 118 | 1320 | 2910 |
| 119 | 1360 | 3000 |
| 120 | 1400 | 3085 |
| 121 | 1450 | 3195 |
| 122 | 1500 | 3305 |
| 123 | 1550 | 3415 |
| 124 | 1600 | 3525 |
| 125 | 1650 | 3640 |

| LI  | KG   | LBS   |
|-----|------|-------|
| 126 | 1700 | 3750  |
| 127 | 1750 | 3860  |
| 128 | 1800 | 3970  |
| 129 | 1850 | 4080  |
| 130 | 1900 | 4190  |
| 131 | 1950 | 4300  |
| 132 | 2000 | 4410  |
| 133 | 2060 | 4540  |
| 134 | 2120 | 4675  |
| 135 | 2180 | 4805  |
| 136 | 2240 | 4940  |
| 137 | 2300 | 5070  |
| 138 | 2360 | 5205  |
| 139 | 2430 | 5355  |
| 140 | 2500 | 5510  |
| 141 | 2575 | 5675  |
| 142 | 2650 | 5840  |
| 143 | 2725 | 6010  |
| 144 | 2800 | 6175  |
| 145 | 2900 | 6395  |
| 146 | 3000 | 6615  |
| 147 | 3075 | 6780  |
| 148 | 3150 | 6945  |
| 149 | 3250 | 7165  |
| 150 | 3350 | 7385  |
| 151 | 3450 | 7605  |
| 152 | 3550 | 7825  |
| 153 | 3650 | 8045  |
| 154 | 3750 | 8265  |
| 155 | 3875 | 8545  |
| 156 | 4000 | 8820  |
| 157 | 4125 | 9095  |
| 158 | 4250 | 9370  |
| 159 | 4375 | 9645  |
| 160 | 4500 | 9920  |
| 161 | 4625 | 10195 |
| 162 | 4750 | 10470 |
| 163 | 4875 | 10745 |
| 164 | 5000 | 11025 |
| 165 | 5150 | 11355 |
| 166 | 5300 | 11685 |
| 167 | 5450 | 12015 |
| 168 | 5600 | 12345 |
| 169 | 5800 | 12785 |
| 170 | 6000 | 13230 |

# SPEED TABLE

Speed symbols (km/h and mph)

| SYMBOL | E  | F  | G  | J   | K   | L   | M   | N   | P   | Q   | R   | S   | T   |
|--------|----|----|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| km/h   | 70 | 80 | 90 | 100 | 110 | 120 | 130 | 140 | 150 | 160 | 170 | 180 | 190 |
| mph    | 43 | 50 | 56 | 62  | 68  | 75  | 81  | 87  | 93  | 99  | 106 | 112 | 118 |



# REGROOVING

## REGROOVING GUIDELINES

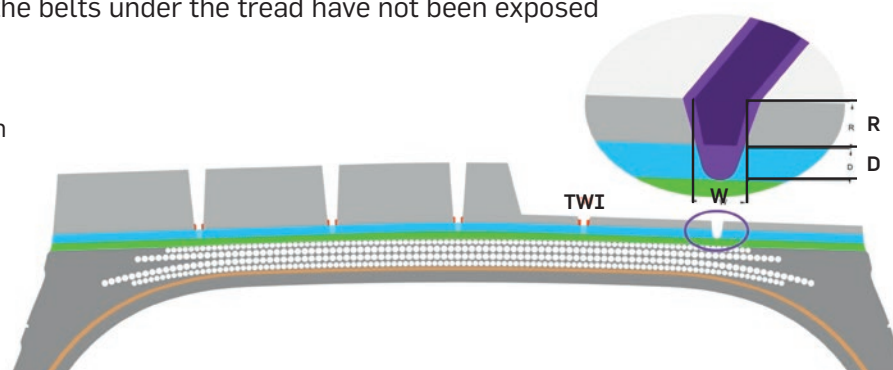
Subject to usage conditions and regular tyre maintenance, Apollo's highly durable casings can provide multiple tyre lives. Regrooving and retreading ensures longer serviceability of tyres, and helps Apollo Tyres customers to lower their operating costs.

- Regrooving is done on either new or retreaded tyre on which the tread pattern has been renewed by cutting into the tread deeper than the original moulded groove depth
- The regrooving of truck tyres should be entrusted solely to fully trained operators
- Only genuine certified regrooving tools with electrically heated blades should be used
- A minimum depth of 3mm remaining undertread rubber is essential to avoid damage at the top breaker belt
- Particular care should be taken while selecting tyres for regrooving and if heavily damaged in the tread area, the tyres should be retreaded instead of regrooved
- Under no circumstances should a tyre be regrooved if it is not marked as "regroovable" on the sidewall area by the tyre manufacturer

## REGROOVING

- It is strongly recommended to maintain a minimum remaining tread depth of 3mm before regrooving
- Measure the remaining groove depth at the lowest point of tread depth
- Ensure that you regroove your Apollo truck and bus radial tyres to the patterns, depths and widths recommended in Apollo tyres truck & bus technical data book
- After regrooving, check that your tyre is free from defects. It is very important to ensure that the belts under the tread have not been exposed

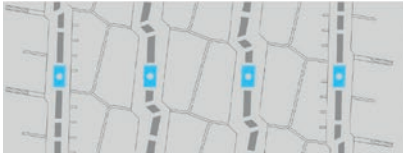
**R:** Remaining Tread Depth  
**D:** Nominal re-grooving Depth  
**W:** Regrooving Width  
**TWI:** Tread Wear Indicator



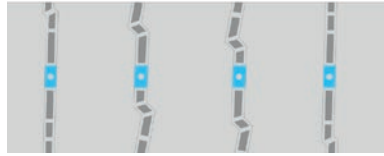


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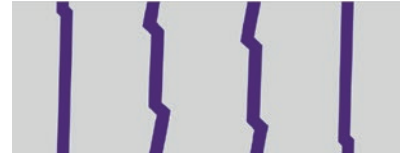
## ***Endu***<sup>TM</sup>**Race RA** on 17.5" rims



New tyre tread



80% worn



Regrooved tyre

Maximum regrooving depth 3 mm and regrooving width 7-8 mm

---

## ***Endu***<sup>TM</sup>**Race RD** on 17.5" rims



New tyre tread



80% worn

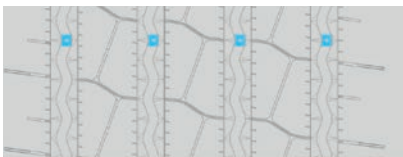


Regrooved tyre

Maximum regrooving depth 3 mm and regrooving width 7-8 mm

---

## ***Endu***<sup>TM</sup>**Race RA** on 22.5" rims



New tyre tread



80% worn



Regrooved tyre

Maximum regrooving depth 3 mm and regrooving width 8-10 mm

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## ***Endu***<sup>TM</sup>**Race RD** on 22.5" rims



New tyre tread



80% worn



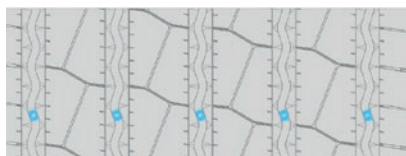
Regrooved tyre

Maximum regrooving depth 3 mm and regrooving width 8-10 mm

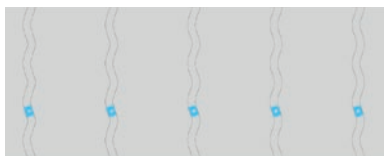
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## ***-Endu™ Race R front***



New tyre tread



80% worn

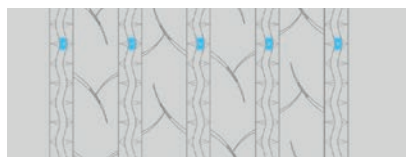


Regrooved tyre

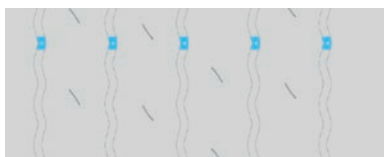
Maximum regrooving depth 3 mm and regrooving width 8-10 mm

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## ***-Endu™ Race RT***



New tyre tread



80% worn



Regrooved tyre

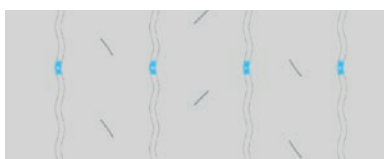
Maximum regrooving depth 3 mm and regrooving width 8-10 mm

---

## ***-Endu™ Race RT HD***



New tyre tread



80% worn

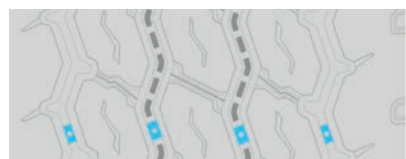


Regrooved tyre

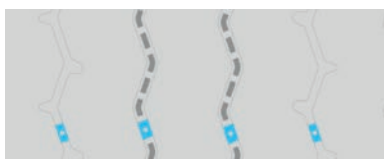
Maximum regrooving depth 3 mm and regrooving width 8-10 mm

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## ***-Endu™ Trax MA & MA HD***



New tyre tread



80% worn

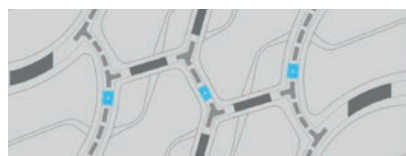


Regrooved tyre

Maximum regrooving depth 3 mm and regrooving width 8-10 mm

---

## ***-Endu™ Trax MD***



New tyre tread



80% worn

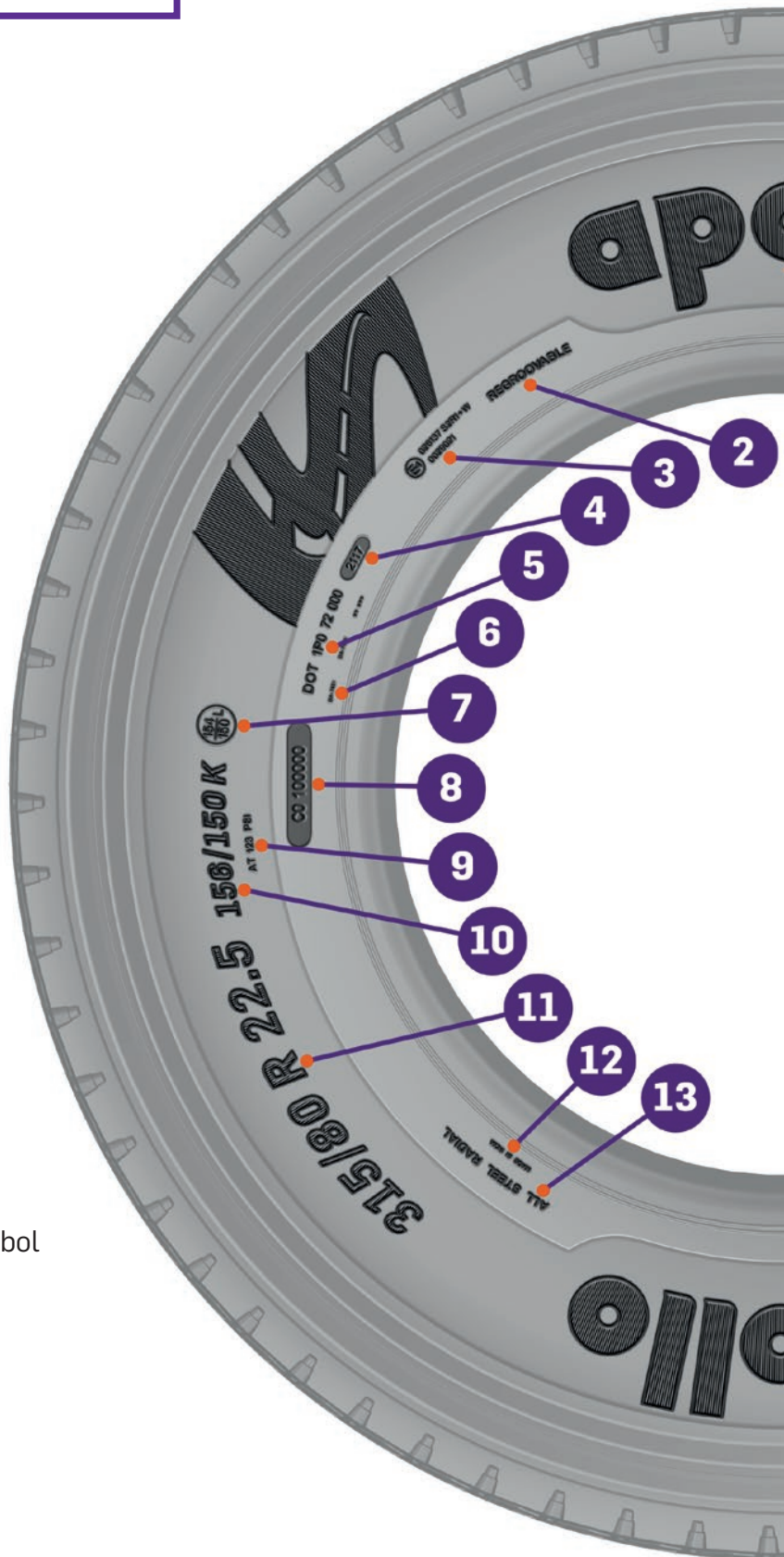


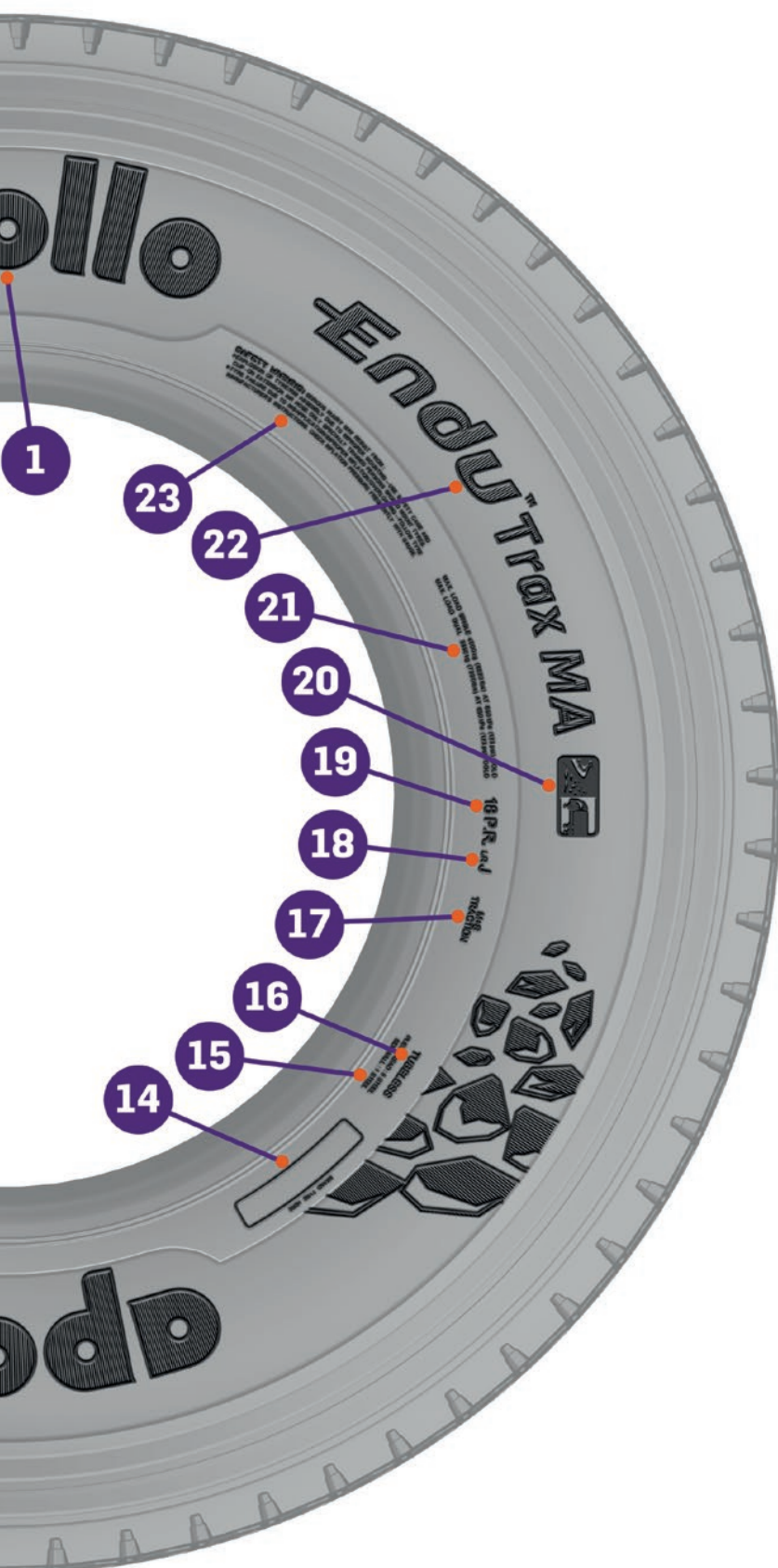
Regrooved tyre

Maximum regrooving depth 3 mm and regrooving width 8-10 mm

# SIDEWALL MARKINGS

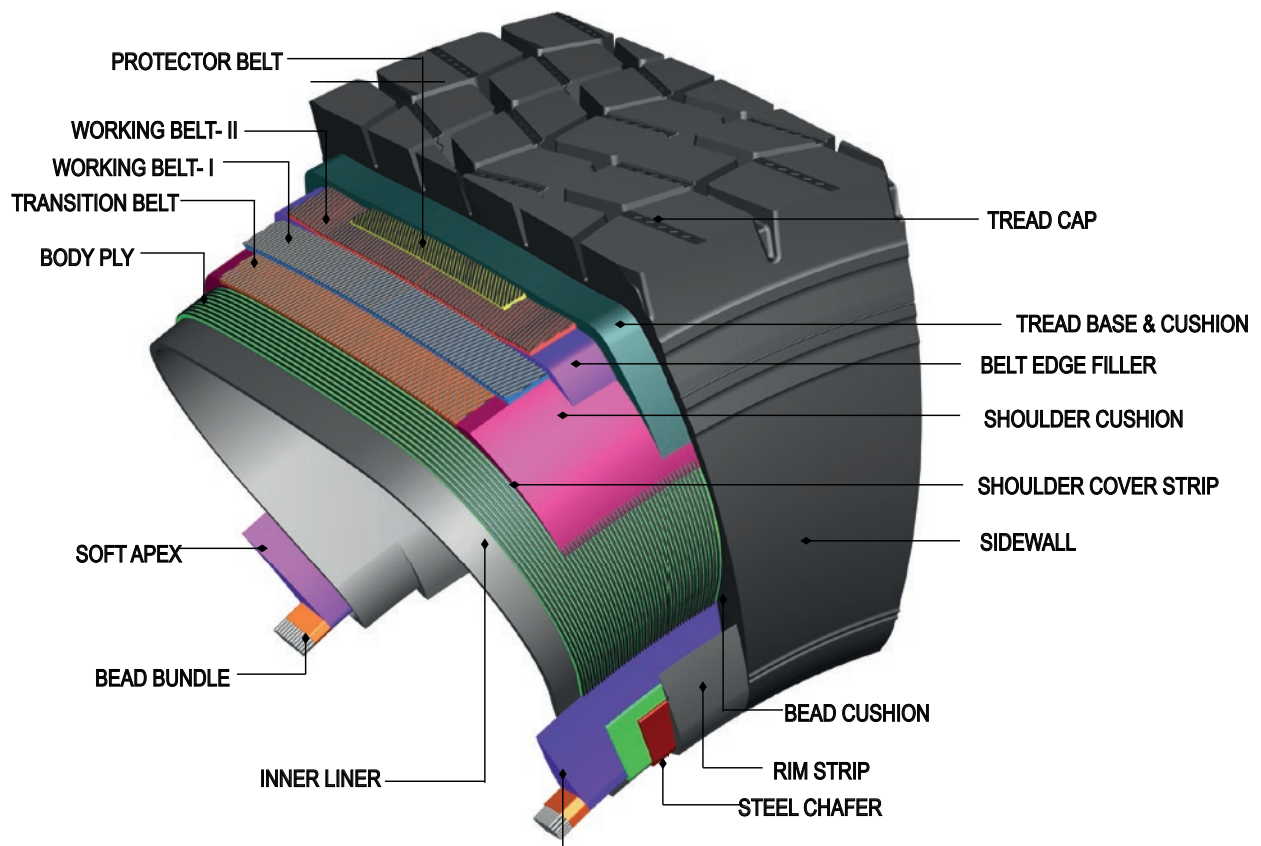
1. Manufacturer's name
2. Regroovable
3. Ece marking
4. Week and year code
5. Dot marking
6. Mould reference number
7. Supplementary service description
8. Serial number
9. Test inflation pressure
10. Nominal load index and speed symbol
11. Size marking
12. Country of origin
13. All steel radial





- 14. Provision for hot branding
- 15. Construction details
- 16. Tubeless
- 17. M+S/traction marking
- 18. Load range
- 19. Ply rating
- 20. Recommended segment and axle position
- 21. Load and speed details
- 22. Product name
- 23. Safety warning

# TYRE CONSTRUCTION AND DIMENSIONS



## Tread:

Tread comes in direct contact with the road and provides traction required to manoeuvre the vehicle. The design of the tread varies with the application type and axle position in the vehicle. The tread base helps in minimising the temperature.

## Belts:

Steel belts stabilise the tread, minimise distortion of the tyre surface contacting the ground and provide puncture resistance. Steel belts restrict case growing during use and increase the tyre's structural strength.

## Body ply:

These plies give the tyre its structural strength, ability to contain air pressure, its deflection characteristics and provides sidewall impact resistance. They transmit all load, driving, braking and steering forces between the wheel and tyre tread.

## Belt edge filler:

Rubber skim is placed at the ends of working belts. This aims to reduce the shear forces acting on the belt ends during the tyre use.

### Shoulder cushion:

Shoulder cushions are contoured rubber strips placed on the body ply under the belt ends. They help provide belt contouring and insulate the body ply from belt edges.

### Sidewall:

The sidewall flexing enables ride comfort and lateral stability. The surface of the sidewall is engraved with all information relating to the loading and speed capacity, inflation pressure, and brand/product name.

### Bead bundle:

Bead bundles are continuous rubber-coated high tensile wires wound to form a high-strength unit to the specific diameter that fits the inflated tyre perfectly on a wheel rim. They are the anchor that maintains the carcass seated on the rim, and resists the pull force of carcass cords tensioned by inflation pressure.

### Inner liner:

This is made from a compound with very low permeability. It prevents the diffusion of air and moisture through the tyre structure.

### Rim strip:

This is the rubber layer between body ply and wheel rim. It is in direct contact with the wheel rim and is designed to undergo the rigour of mounting and demounting.

### Apex:

The apex is a rubber profile placed above the bead bundle, which provides a smooth transition from the stiff bead area to the flexible sidewall.

### Chafer:

The chafer is a strip of wire placed around the body ply cord in the bead area. Its purpose is to protect the bead area from damage during mounting/demounting and reduce the effects of chafing between the wheel and tyre bead.

## TYRE DIMENSIONS

### 1. Section width

The linear distance between the outside of the sidewalls of an inflated tyre, excluding the elevations due to labelling, decorations and protective bands or ribs

### 2. Tread width

The linear distance between the edges of the tread design area of an inflated tyre

### 3. Section height

The distance from the bead seat to the outer tread design area of an inflated tyre

### 4. Loaded section width

The width of the loaded cross section

### 5. Overall diameter

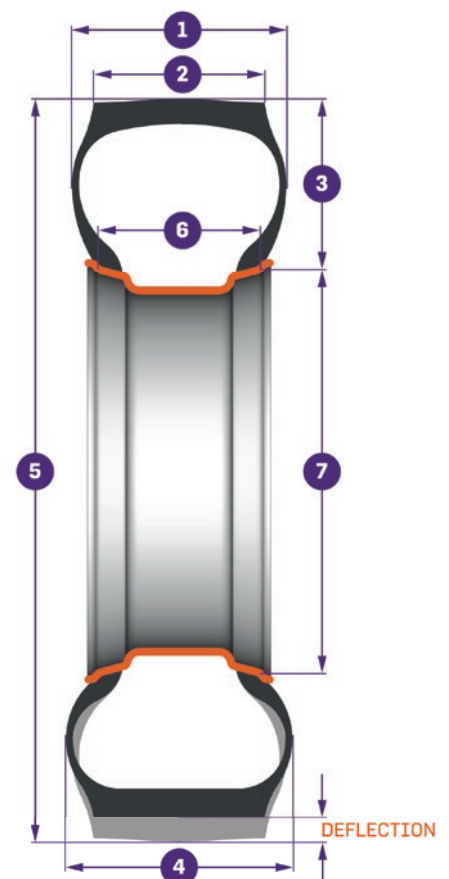
The diameter of an inflated tyre at the outermost surface of the tread

### 6. Rim width

The width of the rim measured from flange to flange

### 7. Nominal rim diameter

The diameter of the rim measured from seat to seat



# EUROPEAN TYRE LABELLING

New European tyre label regulations (EC no. 1222/2009) came into force from 1st November 2012. These tyre labels indicate performance in three categories: rolling resistance, braking in wet conditions and exterior noise.



## FUEL EFFICIENCY

Lower rolling resistance saves fuel. The values A to G indicate the effect on fuel consumption, from low to high. The black arrow next to the letter class indicates the product's performance level, although the effect may vary depending on the vehicle and driving conditions.



## WET GRIP

In the category "grip on a wet road surface", the classifications A to G indicate the relative braking distances – from short to long – on a wet road surface, although the effect may vary depending on the vehicle and driving conditions.



## EXTERIOR NOISE LEVELS

The exterior noise levels are measured in decibels (dBs), divided into three classes. Tyres with a low noise level cause less noise pollution.



Tyre with a low exterior noise level. The rolling noise emission of this tyre is at least 3 dB below the European Regulation.

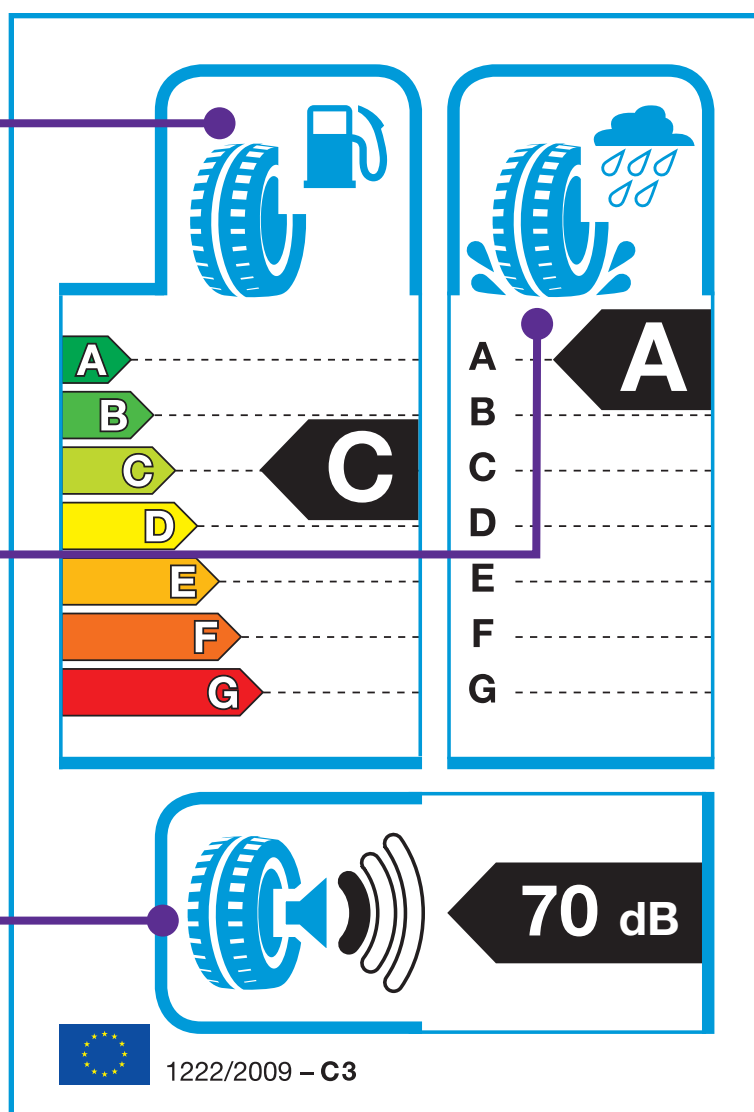


Tyre with an average exterior noise level. The rolling noise emission of the tyre falls within the new limit, and represents the European Regulation.



Tyre with a high exterior noise level. This no longer meets the European Regulation.

By ensuring that your tyres are at the right pressure and regularly checking for optimum fuel efficiency and maximum wet grip, you can have a major influence on fuel savings and road safety. An efficient driving style also has a significant effect on the fuel consumption while making sure that you have sufficient braking distance can be crucial. It is also worth remembering that the three label criteria, although important, are not the only performance parameters.



- FRT** (Free Rolling Tyre) - a tyre which may only be fitted on trailer or tag axles, and not on drive or front axles.
- M+S** (Mud and Snow) - this relates to the tyre's grip and braking performance in mud and fresh/melting snow.
- 3PMSF** (Three Peak Mountain Snowflake) - tyres with these markings have passed snow acceleration tests in winter conditions (as defined in the UNECE regulations 117.02 and the UNECE 109) which makes them suitable for use on snowy or icy roads.



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