

# RADIAL RA08

*Specially Designed for Van & Transporter Tire.*



**Position radial for vans and transporters.**  
Specially Designed for Transporter's Requirement  
An increased tread contact ratio stabilizes the footprint shape  
and gives significant wet & dry handling performance.

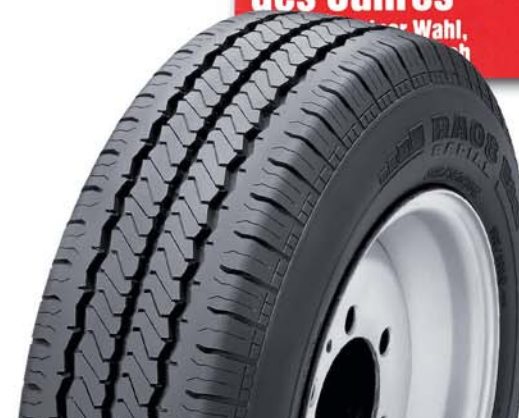
**Hankook**  
driving emotion

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*Specially Designed for Van & Transporter Tire.*



**Radial RA08**  
**"Very Good"!**



Promobil is a specialized magazine  
for caravan and light truck drivers in Germany.

**Hankook**  
driving emotion





It is not just wet and slippery roads but load issues that can lead caravans into critical thresholds. Tires with a good wet grip are therefore generally desirable. Load reserves exceeding the displayed weight limit start making sense once the vehicle is loaded to capacity-which happens quite often, as we all know.

The tire market offers answers to both problems: this is one of the findings of the promobil test of the popular tire size 215/70 R 15, suitable mainly for Fiat Ducato vehicles. Nine summer tires of that size were thoroughly tested on a FWD Hymer Exsis and the Ducato 15 transporter version. The tests were conducted at

Pirelli's test track near Milan, which is especially suited for wet and dry testing.

Test winner: the Conti Vanco-8. But the Hankook RA08, the Vredestein Comtrac, the newcomer Pirelli Camper L6 and the still-young old-timer Michelin XC Camping also appeared in good or even improved form. Furthermore, Michelin and Pirelli offer a

load-bearing bonus. Although their load index of 109 in this category refers to the same nominal load-bearing capacity as the other seven tested summer tires (109 = 1030 kg per wheel), Michelin and Pirelli actually offer a greater load reserve: new guidelines for caravan tires give it the desired platform that is activated by an increase in air

pressure of up to 5.5 bar (instead of 4.5 bar). This provides a safety buffer for those vehicles whose load-bearing capacity-mostly over the rear axle-is already at or past the threshold. With a motorbike on the rear or a fully loaded cargo, most of the load is carried by those poor rear tires. Increased load reserves promise better protection from

flat tires.

Visible proof of this is the acronym "CP" (Camping Pneu) instead of "C" following the measurements. The Pirelli already has it while the tested Michelin hasn't got it yet.

The fact that this weight bonus has its own guideline is reason enough for promobil to acknowledge it in the test: tires of this type receive a

bonus of 1 grade.

The Conti easily won the test despite lacking the weight bonus: it outshone all other test candidates in all tested categories in wet and dry conditions due to its balanced and secure handling. Just like the Michelin and the Pirelli, it counterbalances the rollover tendency of the tall caravan. This is another safety aspect that gains major points in the promobil test (see below and also on pages 76/77).

Neither the Pirelli Camper L6 with the tread of the former Citynet Plus model nor the Hankook RA08 are as balanced as the Conti but still show respectable performance in almost all tested categories. Of

the three available tire sizes (page 76), the Camper L6 is the preferred choice for the caravan over the Citynet L6 with the same tread. Two other sizes use the Camper variation L4 (with the Citynet L4 tread).

Since the last test in our 6/2002 edition (16 inch tire sizes), the Michelin XC Camping somewhat improved its steering and braking reliability on the wet track, probably due to an improved material compound. But still, it is not one of the tires with a better wet grip; especially in the aquaplaning test, the tread with only longitudinal grooves shows weaknesses. The critical speed for aquaplaning for this tire size and the exerted ▷

## HOW PROMOBIL CARRIES OUT ITS TESTS

**Wet :** The testers check the braking distance under full braking ten times on asphalt (from 80 km/h) and then check the remaining speed of the tires with a longer braking distance (see bar chart on p. 72). The attainable lateral acceleration on wet roads in the skid pad testing gives an indication of the gripping strength of the tire

(20% tire slip) on a flooded surface, i.e. the tires virtually lose contact with the road surface. The results of the curve measurements (lateral aquaplaning) refer to the maximum lateral acceleration (in m/s<sup>2</sup>). The steering ability of the transition to sliding is included in the grade on pages 76/77.

**Dry :** Testing included braking tests from 100 km/h, lane changes and noise level measurements at 80 km/h (outside and inside; inside including subjective measurement of whining, whistling and noise level). A further element in the grade is the driving comfort on uneven surfaces.



**High-tech inside the Ducato:** the cargo area holds the aquaplaning test device.

material compound. The handling test in the curves is first evaluated by time; subjective assessment of steering precision, traction, curve consistency, braking behavior and rollover tendency of the FWD Hymer Exsis (on a Ducato 15 chassis) are averaged in with the time grade. The longitudinal aquaplaning test reflects the speed at which near wheel spin occurs

aquaplaning 20%; lateral aquaplaning (objectively and subjectively) 10%.  
**Dry :** Brakes 30%; lane change/swerving 30%; inside noise level 15%; driving comfort on uneven surfaces 25%.  
The overall evaluation reflects the wet result at 50%, the dry result at 40% and the designated load reserve at 10%.



wheel loads is relatively high anyway, which is why promobil places less importance on the aquaplaning tests (longitudinal and lateral) than on the braking performance on wet roads. The XC Camping profits from this and its superior dry test performance in the overall evaluation: it gets the top grade (1).

Slightly better than the Conti is the Vredestein, which won the wet tests, but its dry



**Round and round** goes the lateral traction test. The driven time sheds light on the static friction of the tread material compound.

test results, including the important grades for swerving and lane changing, only place it in 8th position. Still, the overall evaluation is also the top grade (1).

The Maxxis UE-168 is distributed through the tire retailer "point S." Wet grip and steering behavior of the economical Taiwanese tire were the pleasant surprise of this test. Unfortunately, it shows weaknesses in its

braking and lane change performance on dry roads, so the overall evaluation is "only" 2.

Kléber CT 200 and Dunlop SP LT 30 master aquaplaning with excellence-the former in curves, the latter on straight roads. The Kléber only shows weaknesses when changing lanes; overall evaluation is 2. The Dunlop shows taut steering on dry roads and hardly makes the Exsis waver.



**Fast swerving** maneuvers may increase the lateral pressure on the caravan; the tires can either reduce the tendency to roll over-or increase it.

DIFFERENT SIZE?

**The desired tire model** is not always available in the right size. So simply switch models?

For Ducato 14/15 caravans, the 215/70 R 15 C size is largely standard. The smaller size, 205/70 R 15 C (not available as a CP tire) is only allowed in limited cases where the axle load is below 1900 kgs, corresponding to the 205/70 R 15 C's maximum load-bearing capacity. At a rear axle load of 2000 kgs, the 215/70 tires must be used.

The next larger size, 225/70 R 15 C, is not approved by Fiat for the Ducato's 6J steel wheel rim. It is also doubtful whether the higher and wider tires provide sufficient clearance for the wheel well.

Wet testing

**The wet braking test** separates the wheat from the chaff: The Dunlop comes to a standstill 4.2 meters later than the Hankook. Where the Hankook stops, the Dunlop still has a remaining speed of 27.7 km/h-an obstacle in the path of such a tall vehicle at this speed would mean quite a serious crash. The measured handling time supports the test drivers' subjective impression; the driven time and the driving impression are averaged with the time grade. The aquaplaning measurements with a new tread, here for the only lightly loaded Ducato, are also influenced by the wheel load: a higher wheel load slightly increases the aquaplaning speed, while lower tread depth decreases it.



BRAKING DISTANCE

80-0 km/h with ABS in meters (remaining speed at 30.9 meters)

|             |                  |
|-------------|------------------|
| Hankook     | 30.9 (0 km/h)    |
| Vredestein  | 31.0 (4.5 km/h)  |
| Conti       | 31.5 (11.0 km/h) |
| Maxxis      | 32.3 (16.7 km/h) |
| Michelin    | 33.3 (21.5 km/h) |
| Pirelli     | 34.0 (24.2 km/h) |
| Bridgestone | 34.6 (26.1 km/h) |
| Kléber      | 34.6 (26.1 km/h) |
| Dunlop      | 35.1 (27.7 km/h) |



LATERAL TRACTION

Round track (88 meters in diameter), lap time in seconds

|             |      |
|-------------|------|
| Vredestein  | 17.2 |
| Hankook     | 17.3 |
| Kléber      | 17.3 |
| Conti       | 17.4 |
| Maxxis      | 17.4 |
| Pirelli     | 17.6 |
| Michelin    | 17.6 |
| Dunlop      | 17.9 |
| Bridgestone | 18.0 |

Dry testing

**The dry tests** seem to promise the summer tires a walk in the park-but it's not that simple. Tire contours, tread and material compound can negatively impact the braking distance, just as in wet conditions. The field remains close together here: theMaxxis, which performs worst, is "only" 2.3 meters slower than the winner (Conti). The swerving and lane change test in the slalom track (as shown above) gives an indication about how the individual tires affect the caravan's tendency to roll over (see overall evaluation on pages 76/77). The inside noise level measurements take into account the sound pressure (bottom) and subjective disturbing frequencies, also included in the overall evaluation.



BRAKING DISTANCE

100-0 km/h with ABS in meters (remaining speed at 51.5 meters)

|             |                  |
|-------------|------------------|
| Conti       | 51.5 (0 km/h)    |
| Pirelli     | 51.6 (3.1 km/h)  |
| Hankook     | 52.2 (11.6 km/h) |
| Michelin    | 52.2 (11.6 km/h) |
| Vredestein  | 52.2 (11.6 km/h) |
| Bridgestone | 52.4 (13.1 km/h) |
| Kléber      | 52.7 (15.1 km/h) |
| Dunlop      | 53.7 (20.2 km/h) |
| Maxxis      | 53.8 (20.7 km/h) |



HANDLING

Curve track 1254 meters, averaged lap time in seconds

|             |      |
|-------------|------|
| Vredestein  | 71.5 |
| Hankook     | 73.2 |
| Maxxis      | 73.3 |
| Kléber      | 73.5 |
| Conti       | 73.8 |
| Pirelli     | 74.2 |
| Michelin    | 74.7 |
| Dunlop      | 75.8 |
| Bridgestone | 76.9 |



LONGITUDINAL AQUAPLANING

Critical speed for directional stability (at 20% tire slip), water depth 7 mm

|             |       |
|-------------|-------|
| Dunlop      | 114.9 |
| Maxxis      | 113.7 |
| Vredestein  | 113.7 |
| Pirelli     | 110.2 |
| Kléber      | 109.3 |
| Hankook     | 109.1 |
| Conti       | 108.4 |
| Bridgestone | 103.6 |
| Michelin    | 102.4 |



LATERAL AQUAPLANING

Maximum grip force in curves (lateral acceleration in m/s<sup>2</sup>), water depth 6 mm

|             |      |
|-------------|------|
| Kléber      | 4.05 |
| Conti       | 3.80 |
| Hankook     | 3.80 |
| Pirelli     | 3.75 |
| Maxxis      | 3.65 |
| Vredestein  | 3.60 |
| Dunlop      | 3.45 |
| Michelin    | 3.40 |
| Bridgestone | 3.25 |



INSIDE NOISE LEVEL

Maximum rolling noise (with motor turned off) in dB(A) from 80 km/h

|             |      |
|-------------|------|
| Dunlop      | 70.3 |
| Hankook     | 70.3 |
| Maxxis      | 70.4 |
| Pirelli     | 70.4 |
| Kléber      | 70.6 |
| Vredestein  | 70.8 |
| Conti       | 71.0 |
| Michelin    | 71.1 |
| Bridgestone | 71.7 |



OUTSIDE NOISE LEVEL

Tires/driving noise (with motor turned off) at 80 km/h in dB(A)

|             |      |
|-------------|------|
| Michelin    | 73.1 |
| Pirelli     | 73.1 |
| Maxxis      | 73.3 |
| Hankook     | 73.4 |
| Conti       | 74.3 |
| Vredestein  | 74.6 |
| Kléber      | 75.2 |
| Bridgestone | 75.3 |

\* environmental evaluation on ISO standard road surface; no influence on overall evaluation (p. 76); Dunlop: delivered too late, therefore no measurements



**Cracks, cobblestones, lateral ridges:** the uneven track provides all these "niceties"

But it loses out on its wet grip, so the overall evaluation is only a 3.

The Bridgestone Duravis R-630 shows a similarly weak wet grip performance: in the threshold region of the curve traction, the Hymer caravan was very difficult to handle. First there was the awkwardly large steering angle with pushing front wheels, followed by an equally strong load change reaction after reducing speed; the camper shell became unstable. Add to this mediocre directional stability and driving comfort and you have the reason for the overall evaluation of 4.



TOUGH TIRES



**New reading:** CP instead of C on the Camper L6 and only one load index (for single fitting)

**CP tires for caravans** are on the way: the first is the Pirelli Camper, size 215/70 R 15, equipped with a tread strip for cooler rolling and a reinforced inner layer and side wall to counterbalance a rollover tendency of the caravan—a recipe for lower material fatigue, as the XC Camping has always claimed. Seven tire sizes are included in the CP guideline, three tire types are available with such specifications, some Michelin models still lack the CP specification:

- 215/70 R 15 109 CP (L6, XC)
- 225/70 R 15 112 CP (CX)
- 195/65 R 16 104 CP (L6)
- 225/65 R 16 112 CP (XC)
- 195/75 R 14 106 CP (L6)
- 195/75 R 16 107 CP (L4, XC)
- 215/75 R 16 113 CP (L4, XC)

(L6 = Pirelli Camper L6; L4 = Camper L4; XC = Michelin XC Camping)

While the Michelin XC Camping has been offering load reserves for a few years even without a mandatory standard in place, the new Pirelli Camper uses the CP guideline for caravan tires right from the beginning. The guideline was issued by the European Tire and Rim Technical Organization (E.T.R.T.O.); it is supposed to increase resistance to material fatigue, i.e. provide better load reserves for threshold loads and beyond.

In order to use these properties, the CP tires, as already mentioned, need to have a higher air pressure: for the 215/70 R 15 size from 4.75 to 5.5 bar. If you don't need the weight bonus, you can remain with the base air pressure for C tires (4.1 to 4.5 bar), however, both Pirelli and Michelin offer the increased driving safety only with the higher air pressure. Fiat recommend 5.0 bar both for the empty and the loaded vehicle.

The CP predecessor, XC Camping, may be responsible for this development step in the first place. Despite its 215/70 R 15 format and other, previously introduced formats, it will retain the C specification for the time being, although it fulfills the CP guideline; only newer XC Camping sizes, such as the 225/65 R 16 on the Renault

Master, were immediately changed to "CP."

Following the XC Camping example, the Camper also claims to provide up to 30% additional load reserve. Although the guideline doesn't prescribe it quite that strictly, both tire manufacturers quietly prep their load athletes for this load reserve bonus. Of course, the tire needs a reinforced structure to allow for the additional pressure.

For the C tires of the tested size-Conti, Hankook, and Co.-a tire pressure of 4.5 bar is the official limit; to yield better load reserves, this pressure

should not be increased by more than 0.2 or 0.3 bar so as not to damage the tire composition. The inner tire wall may slowly let out air because it doesn't reliably withstand the greater air pressure.

The new E.T.R.T.O. guideline for CP tires (box on the left-hand side) so far encompasses seven tire sizes. The second load specification after the slash, which normally stands for dual fitting, can be removed, as a CP is mainly designed for single fitting on caravans. CP dual fitting is of course allowed, it may be



The brake tests use a modern old-timer: the "Preiseler" wheel, which measures the exact speed of the Hymer Exsis.

loaded with 1.85 times that of the single fitting. More models following the CP guideline or even directly with a higher load index are expected, but will probably not be available before 2006.

**Conclusion:** Out of nine summer tires, promobil can highly recommend five. For caravans without special load demands: the C tires Conti, Hankook, and Vredestein, otherwise the CP tires Pirelli and Michelin. Recommended C tires are Maxxis and Kléber; for the Dunlop and even more for the Bridgestone, this is only true to some extent. Can the










results of the tire types tested here be transferred to other sizes? The answer is a definite yes, if the tire size (15 inches) and the tire cross section (70 series) remain the same.

We hope that there will be more load athletes following the Pirelli Camper and the Michelin XC Camping, especially since the reinforced composition offers another advantage: the rolling resistance is slightly smaller-and that's good for your fuel expenses.

**Text:** Wolfgang Hecht  
**Photos:** Konstantin Tschovikov

SUMMER TIRES IN SIZE 215/70 R 15 C/CP:

THEIR GRIP, THEIR LOAD AND THEIR PRICE

|   |  Continental<br>Vanco-8  |  Pirelli<br>Camper L6  |  Michelin<br>XC Camping  |  Hankook<br>RA 08  |  Vredestein<br>Comtrac  |  Maxxis UE-168<br>Extra Steel  |  Kléber<br>CT 200  |  Dunlop<br>SP LT 30-8  |  Bridgestone<br>Duravis R-630  |
|---|--|--|--|--|---|--|--|--|--|
| Data  |  |  |  |  |   |  |  |  |  |
| Model-load and speed index <sup>1)</sup>  | C – 109/107 R  | CP – 109 R   | C (CP) – 109/107 Q   | C – 109/107 R  | C – 109/107 R   | C – 109/107 R  | C – 109/107 Q  | C – 109/107 R  | C – 109/107 R  |
| Air pressure  | bar  | 4,5  | 4,75–5,5   | 4,75–5,5   | 4,5   | 4,5  | 4,5  | 4,5  | 4,5  |
| Tread depth (average)   | mm   | 9,5  | 9,5  | 9,0  | 9,3   | 9,5  | 9,5  | 9,2  | 9,5  |
| Manufactured in   | Czech Republic   | Turkey   | Germany  | Korea  | Netherlands   | Taiwan   | France   | France   | Japan  |
| Source of supply  | Tel. 0 18 02/11 12 30  | Tel. 0 18 02/7 47 35 54  | Tel. 0 18 02/11 11 40  | Tel. 0 61 02/5 99 82 00  | Tel. 02 61/80 76 0  | Tel. 0 48 21/89 06 21  | Tel. 0 18 02/11 11 40  | Tel. 01 80/2 22 42 80  | Tel. 0 61 72/4 08 01   |
| Driving performance and load reserves   |  |  |  |  |   |  |  |  |  |
| Braking distance  | wet  | ++   | +  | +  | +++   | +++  | ++   | +  | +  |
| Lateral traction  | wet  | +  | +  | +  | +   | +  | +  | +  | +  |
| Handling (per time/subjectively)  | wet  | ++   | +  | +  | +   | ++   | +  | +  | +  |
| Aquaplaning   | longitudinal   | +  | +  | +  | +   | +  | +  | +  | +  |
| Aquaplaning   | lateral  | ++   | ++   | +  | ++  | ++   | ++   | +  | +  |
| Braking distance  | dry  | ++   | ++   | +  | +   | +  | +  | +  | +  |
| Lane change/swerving  | dry  | ++   | +++ <sup>3)</sup>  | +++ <sup>3)</sup>  | +   | +  | +  | ++   | +  |
| Inside sound level  | dry  | +  | ++   | ++   | ++  | +  | ++   | +  | +  |
| Driving comfort   |  | +  | 3)   | 3)   | ++  | +  | +  | +  | +  |
| Specified load reserves   |  | +  | +++ <sup>3)</sup>  | +++ <sup>3)</sup>  | +   | +  | +  | +  | +  |
| Strengths and weaknesses  |  |  |  |  |   |  |  |  |  |
|   | Balanced rollover tendency behavior on high performance level. Short braking distance. Secure and taut handling on wet and on dry roads with low tendency of the Hymer Exsis to roll over during quick swerving attempt. Adequate comfort. | Good lateral traction on wet roads. Precise steering at low steering angle. Even-tempered around the threshold, low tendency of the Hymer Exsis to roll over, even on dry roads. Driving comfort merely satisfactory. Higher loadreserves. | Balanced driving comfort on wet roads with medium performance level. Very low tendency for the Hymer Exsis to roll over on dry or wet roads. Generally harmonious steering, even-tempered near thresholds, but aquaplaning occurs relatively early. Higher load reserves | Excellent deceleration for wet braking. Only weakness: handling is merely satisfactory; at thresholds, more understeering with decreased steering precision. Adequate tautness with quick change of direction. Good driving comfort. | High grip and aquaplaning reserves on wet roads. Excellent lateral traction, precise steering at low steering angle, even around thresholds. Higher tendency of the Hymer Exsis to roll over with fast lane change, including on dry roads. | High traction potential on wet roads, with secure and precise steering, even around thresholds. Worse performance on dry roads: longer braking distance and a higher tendency of the Hymer Exsis to roll over with quick swerving. | The tread, which accentuates transverse grooves, allows for large aquaplaning reserves, especially in curves, and excellent grip even for wet handling; the tread material compound is less gripping, resulting in stronger understeering, pronounced load changes and a higher tendency to roll over. | Winner of the longitudinal aquaplaning test. Taut reaction to changes of direction on dry roads with a low tendency of the Hymer Exsis to roll over. Disappointing: wet traction. High steering angles at high lateral traction, stronger understeering. | Low traction reserves on wet roads, good steering handling only for small curve forces. In fast curves, pushes above the steering angle; when decelerating, pronounced load change reaction and a higher tendency of the Hymer Exsis to roll over. Poorer driving comfort. |
| OVERALL EVALUATION <sup>2)</sup>  | VERY GOOD  | VERY GOOD  | VERY GOOD  | VERY GOOD  | VERY GOOD   | GOOD   | GOOD   | SATISFACTORY   | POOR   |
| +++= excellent; ++= very good; += good; = satisfactory; - = sufficient; -- = poor.  |  |  |  |  |   |  |  |  |  |
| best grades are not available for all individual tests; <sup>1)</sup> Q = 160 km/h; R = 170 km/h; <sup>2)</sup> according to different weighting in the individual measurements; <sup>3)</sup> with increased air pressure. |  |  |  |  |   |  |  |  |  |
|   |  |  |  | VERY GOOD  |   |  |  |  |  |



C tires for the Ducato size 215/70 R 15 perform best with an air pressure of 4.5 bar; CP tires can take an additional 1.0 bar.







# RADIAL RA08

*Specially Designed for Van & Transporter Tire.*

## Size & Specifications

Radial RA08

| Size      |           | PR        | S/W Type | Mea-<br>suring<br>Rim | Max. Air<br>(PSI) |    | Max. Load |      |       |      | Overall<br>Diameter |      | Section<br>Width |      | Tread<br>Width |     | Tread Depth |               | SLR  | RPM | Rolling<br>Circum-<br>ference |      |
|-----------|-----------|-----------|----------|-----------------------|-------------------|----|-----------|------|-------|------|---------------------|------|------------------|------|----------------|-----|-------------|---------------|------|-----|-------------------------------|------|
|           |           |           |          |                       |                   |    | (kgs)     |      | (lbs) |      |                     |      |                  |      |                |     | m/m         | inch<br>(32") |      |     |                               |      |
|           |           |           |          |                       | S                 | D  | S         | D    | S     | D    | m/m                 | inch | m/m              | inch |                |     |             |               |      |     |                               |      |
| 145R12    | 81/79P    | 6         | SBL      | 4.0                   | 51                | 51 | 462       | 437  | 1019  | 963  | 537                 | 21.1 | 145              | 5.7  | 102            | 4.0 | 8.2         | 10.3          | 250  | 954 | 1638                          |      |
| 155R12    | 88/86P    | 8         | SBL      | 4.5                   | 65                | 65 | 560       | 530  | 1235  | 1168 | 550                 | 21.7 | 157              | 6.2  | 110            | 4.3 | 8.5         | 10.7          | 259  | 931 | 1678                          |      |
| 155R13    | 85/83R    | 6         | SBL      | 4.5                   | 51                | 51 | 515       | 487  | 1135  | 1074 | 579                 | 22.8 | 149              | 5.9  | 110            | 4.3 | 8.5         | 10.7          | 270  | 885 | 1766                          |      |
| 155R13    | 90/88R    | 8         | SBL      | 4.5                   | 65                | 65 | 600       | 560  | 1323  | 1235 | 579                 | 22.8 | 149              | 5.9  | 110            | 4.3 | 8.5         | 10.7          | 271  | 885 | 1766                          |      |
| 165R13    | 94/92P    | 8         | SBL      | 4.5                   | 65                | 65 | 670       | 630  | 1477  | 1389 | 596                 | 23.5 | 167              | 6.6  | 116            | 4.6 | 8.9         | 11.2          | 279  | 859 | 1818                          |      |
| 175R13    | 97/95Q    | 8         | SBL      | 5.0                   | 65                | 65 | 730       | 690  | 1609  | 1521 | 613                 | 24.1 | 175              | 6.9  | 122            | 4.8 | 8.9         | 11.2          | 283  | 836 | 1870                          |      |
| 165R14    | 97/95Q    | 8         | SBL      | 4.5                   | 65                | 65 | 730       | 690  | 1609  | 1521 | 622                 | 24.5 | 167              | 6.6  | 116            | 4.6 | 8.9         | 11.2          | 290  | 824 | 1897                          |      |
| 175R14    | 99/98Q    | 8         | SBL      | 5.0                   | 65                | 65 | 775       | 750  | 1709  | 1653 | 634                 | 25.0 | 178              | 7.0  | 122            | 4.8 | 8.9         | 11.2          | 294  | 808 | 1934                          |      |
| 185R14    | 99/97Q    | 6         | SBL      | 5.5                   | 55                | 55 | 775       | 730  | 1710  | 1610 | 650                 | 25.6 | 188              | 7.4  | 130            | 5.1 | 9.2         | 11.6          | 302  | 788 | 1983                          |      |
| 185R14    | 102/100Q  | 8         | SBL      | 5.5                   | 65                | 65 | 850       | 800  | 1874  | 1764 | 650                 | 25.6 | 188              | 7.4  | 130            | 5.1 | 9.2         | 11.6          | 302  | 788 | 1983                          |      |
| 195R14    | 102/100R  | 6         | SBL      | 5.5                   | 54                | 54 | 850       | 800  | 1874  | 1764 | 668                 | 26.3 | 194              | 7.6  | 140            | 5.5 | 8.5         | 10.7          | 305  | 767 | 2037                          |      |
| 195R14    | 106/104R  | 8         | SBL      | 5.5                   | 65                | 65 | 950       | 900  | 2094  | 1984 | 668                 | 26.3 | 194              | 7.6  | 140            | 5.5 | 10.0        | 12.6          | 305  | 767 | 2037                          |      |
| 205R14    | 109/107Q  | 8         | SBL      | 6.0                   | 65                | 65 | 1030      | 975  | 2271  | 2149 | 686                 | 27.0 | 208              | 8.2  | 152            | 6.0 | 9.7         | 12.2          | 313  | 747 | 2092                          |      |
| 215R14    | 112/110Q  | 8         | SBL      | 6.0                   | 65                | 65 | 1120      | 1060 | 2469  | 2337 | 700                 | 27.6 | 218              | 8.6  | 158            | 6.2 | 9.7         | 12.2          | 323  | 732 | 2135                          |      |
| 185R15    | 103/102R  | 8         | SBL      | 5.5                   | 65                | 65 | 875       | 850  | 1929  | 1874 | 674                 | 26.5 | 188              | 7.4  | 130            | 5.1 | 9.2         | 11.6          | 312  | 760 | 2056                          |      |
| 195R15    | 106/104R  | 8         | SBL      | 5.5                   | 65                | 65 | 950       | 900  | 2095  | 1995 | 690                 | 27.2 | 196              | 7.7  | 146            | 5.7 | 10.0        | 12.6          | 320  | 742 | 2105                          |      |
| 75        | 165/75R14 | 8         | SBL      | 4.5                   | 69                | 69 | 730       | 690  | 1610  | 1520 | 604                 | 23.8 | 163              | 6.4  | 122            | 4.8 | 8.9         | 11.2          | 281  | 848 | 1842                          |      |
|           | 175/75R14 | 8         | SBL      | 5.0                   | 69                | 69 | 775       | 750  | 1710  | 1655 | 620                 | 24.4 | 175              | 6.9  | 122            | 4.8 | 8.9         | 11.2          | 288  | 826 | 1891                          |      |
|           | 185/75R14 | 6         | SBL      | 5.0                   | 69                | 69 | 850       | 800  | 1874  | 1764 | 634                 | 25.0 | 184              | 7.2  | 130            | 5.1 | 9.2         | 11.6          | 292  | 808 | 1934                          |      |
|           | 195/75R14 | 8         | SBL      | 5.5                   | 69                | 69 | 950       | 900  | 2094  | 1984 | 648                 | 25.5 | 196              | 7.7  | 140            | 5.5 | 9.5         | 12.0          | 297  | 791 | 1976                          |      |
|           | 205/75R14 | 8         | SBL      | 5.5                   | 69                | 69 | 1030      | 975  | 2271  | 2149 | 664                 | 26.1 | 203              | 8.0  | 152            | 6.0 | 9.7         | 12.2          | 305  | 771 | 2025                          |      |
|           | 215/75R14 | 8         | SBL      | 6.0                   | 69                | 69 | 1120      | 1060 | 2469  | 2337 | 678                 | 26.7 | 216              | 8.5  | 158            | 6.2 | 9.7         | 12.2          | 310  | 756 | 2068                          |      |
|           | 175/75R16 | 8         | SBL      | 5.0                   | 70                | 70 | 825       | 775  | 1820  | 1710 | 670                 | 26.4 | 177              | 7.0  | 134            | 5.3 | 11.2        | 14.1          | 305  | 765 | 2044                          |      |
|           | 185/75R16 | 8         | SBL      | 5.5                   | 70                | 70 | 900       | 850  | 1985  | 1875 | 684                 | 26.9 | 184              | 7.2  | 144            | 5.7 | 11.2        | 14.1          | 307  | 749 | 2086                          |      |
|           | 195/75R16 | 8         | SBL      | 5.5                   | 70                | 70 | 975       | 925  | 2150  | 2040 | 700                 | 27.6 | 196              | 7.7  | 156            | 6.1 | 10.2        | 12.9          | 313  | 732 | 2135                          |      |
|           | 205/75R16 | 8         | SBL      | 5.5                   | 70                | 70 | 1060      | 1000 | 2335  | 2305 | 714                 | 28.1 | 206              | 8.1  | 160            | 6.3 | 11.6        | 14.6          | 332  | 717 | 2178                          |      |
|           | 205/75R16 | 113/111Q  | 10       | SBL                   | 5.5               | 85 | 85        | 1150 | 1090  | 2535 | 2400                | 714  | 28.1             | 206  | 8.1            | 160 | 6.3         | 11.6          | 14.6 | 332 | 717                           | 2178 |
|           | 215/75R16 | 113/111R  | 8        | SBL                   | 6.0               | 70 | 70        | 1150 | 1090  | 2535 | 2400                | 728  | 28.7             | 214  | 8.4            | 162 | 6.4         | 11.6          | 14.6 | 338 | 704                           | 2220 |
|           | 215/75R16 | 116/114Q  | 10       | SBL                   | 6.0               | 85 | 85        | 1250 | 1180  | 2755 | 2600                | 728  | 28.7             | 214  | 8.4            | 162 | 6.4         | 11.6          | 14.6 | 338 | 704                           | 2220 |
|           | 225/75R16 | 118/116Q  | 10       | SBL                   | 6.0               | 85 | 85        | 1320 | 1250  | 2910 | 2755                | 744  | 29.3             | 220  | 8.7            | 166 | 6.5         | 11.6          | 14.6 | 345 | 689                           | 2269 |
|           | 70        | 155/70R12 | 14       | SBL                   | 4.5               | 90 | 90        | 900  | 850   | 1984 | 1874                | 523  | 20.6             | 157  | 6.2            | 114 | 4.5         | 7.7           | 9.7  | 345 | 979                           | 1595 |
| 165/70R13 |           | 6         | SBL      | 5.0                   | 55                | 55 | 560       | 530  | 1235  | 1170 | 563                 | 22.2 | 165              | 6.5  | 122            | 4.8 | 8.9         | 11.2          | 261  | 910 | 1717                          |      |
| 165/70R14 |           | 6         | SBL      | 5.0                   | 51                | 51 | 580       | 545  | 1279  | 1201 | 588                 | 23.1 | 170              | 6.7  | 122            | 4.8 | 8.9         | 11.2          | 278  | 871 | 1793                          |      |
| 195/70R15 |           | 6         | SBL      | 6.0                   | 55                | 55 | 800       | 750  | 1764  | 1653 | 655                 | 25.8 | 196              | 7.7  | 158            | 6.2 | 10.7        | 13.5          | 305  | 806 | 1998                          |      |
| 195/70R15 |           | 8         | SBL      | 6.0                   | 65                | 65 | 900       | 850  | 1984  | 1874 | 655                 | 25.8 | 196              | 7.7  | 158            | 6.2 | 10.7        | 13.5          | 305  | 782 | 1998                          |      |
| 215/70R15 |           | 8         | SBL      | 6.5                   | 65                | 65 | 1030      | 975  | 2270  | 2150 | 683                 | 26.9 | 220              | 8.7  | 158            | 6.2 | 9.7         | 12.2          | 317  | 750 | 2083                          |      |
| 225/70R15 |           | 8         | SBL      | 6.5                   | 65                | 65 | 1120      | 1060 | 2469  | 2337 | 697                 | 27.4 | 228              | 9.0  | 166            | 6.5 | 9.7         | 12.2          | 318  | 735 | 2126                          |      |

Technical data subject to change without prior notice.  
\* SBL : Serrated Black Letter

## Position radial for vans and transporters.

Specially Designed for Transporter’s Requirement  
An increased tread contact ratio stabilizes the footprint shape and gives significant Wet & Dry handling performance.



### Stable Steering and Smoother Ride

The ribbed tread block and optimized carcass line improve steering stability and ride smoothness. Round casing profile prevents uneven wear and wandering.

### Outstanding Water Drainage and Wet Braking

Three zig-zag grooves provide superb performance on dry, wet and snow road surfaces. Large and aggressive kerfs provide excellent braking and grip.

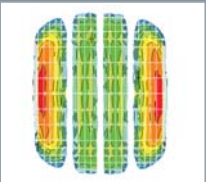


### Improved Wear Resistance and Durability

Wear resistant rubber compound, high-tensile strength belts and nylon reinforcement combine to improve overall wear resistance and durability.



### Footprint Shape



Computer prediction of optimal footprint shape and pressure distribution.