

Technology

Performance and quality are the result of the continuous technological improve me that Metzeler has always set as a priority

Tyre construction

Examples and explanation of the main typologies of motorcycle tyre structures





Cross-ply construction

Both known as conventional or cross-ply construction, this carcass is made of overlapping layers of fabric bands coated in rubber. The crossing angle of these layers, their number and the material they are made of may vary according to the different dynamic characteristics, speed and load specifications.

Radial with 0° steel belt

Patented technology. A single layer belt is wrapped around the circumference of the carcass, according to the rolling direction of the tyre, reaching an angle close to 0°. The advantages of the 0° steel belt reside in its extremely high rigidity and the possibility to tune the winding spacing, allowing varying levels of stiffness from shoulder to crown.





Bias-belted

This type of structure consists of a conventional carcass surmounted by two or more crossed layers named bias-belt. The difference between carcass and belts is in the materials they are made of and their scope: the carcass has to mainly give the tyre its stiffness and load carrying capacity while the belt function, often made of an aramid fibre, is reduce the dynamic deformation caused by centrifugal forces.

Radial with bias belt

This type of structure consists of a radial carcass surmounted by a bias-belt. The main difference from the bias-belted tyre is in the structure of the carcass that in this case is radial. This means that its cords are wrapped radially around the tyre, from one bead to the other. In this way low-section tyres can be realized, giving big advantages in terms of cornering stability, reduced weight and high-speed performance. It has extremely high rigidity allowing the possibility to tune the belt winding spacing to produce varying levels of stiffness from shoulder to crown.





Interact™: multi zone tension

Interact™ is the modular multi-tension steel cord winding technology, allowing Metzeler tyres to offer the best performance in all conditions. The performance of the tread compound is influenced by the stiffness of the structure. Mileage, grip, handling... the differentiated tensioning of the steel belt underneath the tread compound gives a tailored performance, exactly where needed, giving maximum adaptability to different riding styles.



Metzeler Advanced Winding

“Metzeler Advanced Winding” is a patented system for optimum spacing between the cords of the 0° steel belt. In certain sections of the tyre, the steel cords are wound with different spacing depending on the performance requirements on that particular area of the tyre. On both front & rear tyre the spacing is wider in the crown area for more elasticity and self damping. For sections of the tyre used for mid lean, there is increased stiffness to support fast cornering. On the shoulder area on the rear tyre, the spacing is again wider for safe feedback and control when riding towards full lean.



Multiple Radius Contour

Engineering technology for contour design dedicated to high performance riding. The contour curvature differs between the crown and shoulder area in order to provide the most intuitive and effective handling and grip characteristics. The crown and shoulder areas feature a sharper radius for faster and more precise handling (crown) and safer stability limit feedback (shoulder). A wider radius characterizes the side area, ensuring a larger contact patch for cornering stability.



Metzeler Belt System

“Metzeler Belt System” is the patented technology by Metzeler for the diagonal belt on cross-ply tyres. This modular-like construction technology really allows tuning each single size to the specific needs of the bikes for superior stability. This means that weight and performance of the tyres are specifically developed for the more traditionally styled yet powerful bikes, enhancing their dynamic performance.



MBS-Radial

This symbol identifies a tyre with radial carcass and diagonal belt using MBS technology. The radial carcass allows the construction of a low section tyre for enhanced cornering stability and reduced weight, while the diagonal belt limits tyre deformation at high speed.



Single Radius Contour

Specific tyre contour developed for custom-touring bikes, characterized by a linear design. A bike specific profile, especially for heavy models. The wide crown area ensures great comfort and stability at all speed, thus maintaining very high mileage characteristics. The round side area of the contour provides very linear and easy handling.



Contour Modelling Technology

Advanced design technology of the tyre contour is tuned for a high performance riding style on modern bikes. Complimentary front and rear tyre profiles are optimized through them having different contours, but each of them optimized to match at a single lean angle. The final contour design of the set features the best performing behaviour for every riding style and all modern bikes: predictability, grip limit feedback and cornering stability.



Fine Carbon Matrix

“Fine Carbon Matrix” compound structure. This new compound has been obtained using the last generation of high-performance raw materials for a quicker adaptability to a wider range of conditions, going from cold to warm, from wet to dry. This new structure ensures the highest level of grip both in dry and in wet conditions, thus maintaining extremely high mileage characteristics.



Dura Sil

Latest generation of high-performance compound, with a high silica content and new reinforcing elements to give better stiffness and superior mechanical resistance. This new compound has been developed to guarantee a fast and efficient adaptability from cold to hot, dry to wet, normal road to racetrack use with high durability.



Steel Radial

Innovative belt structure, with a single ply of steel cords wrapped at 0° around a radial carcass. Patented technology by Metzeler for both front and rear high performance tyres. Steel features a higher stiffness than the traditional textile material used and also reduces tyre weight. A steel belted radial reduces the dynamic deformation of the tyre under centrifugal forces giving the tyre excellent high-speed stability. Steel is an excellent conductor, therefore providing a more uniform heat distribution which allows higher mileage and wear characteristics are more uniform.



Wintec technology

Sipes are "cut" in to the tread for fast warm up and incredible contact feeling with a compound designed to work perfectly at low temperatures. The wintec technology allows riding for 12 months a year in safe conditions without compromising the performance.