

## RANE BRAKE LINING | EMERGING TRENDS IN FRICTION MATERIALS



Brakes are the most highly regarded safety component in any vehicle, and for them to work accurately, there is a need for the use of friction materials like brake lining or disc pads. Even clutches use similar friction material like clutch facings to perform their duty. Over the last five decades, Rane Brake Lining Ltd has been manufacturing various types of friction materials, and has specialised in developing formulation for friction materials needed for braking aspects in the automotive sector. We spoke to **Vinay Lakshman, Senior Vice President (Commercial), Rane Brake Lining Ltd (RBL)** on emerging trends and materials used in the industry, as well the company's focus on research and development (R&D).

### FRICTION MATERIALS

A Tier II company, RBL supplies friction materials to Tier I companies that finally supply assembled braking systems to OEMs. However, since the friction material is one of the most important components of the braking system, the company also interacts with OEMs directly for their specific requirements on the type of materials used.

RBL supplies asbestos-free brake linings, disc pads and clutch facings to its OEM clients. While most of its aftermarket products are also asbestos-free, there is a marginal amount of products manufactured with the use of asbestos for commercial vehicles, Lakshman noted. These asbestos-based products are low-cost and have certain qualities that make them repairable, which is the reason they are used. Lakshman, however, clarified that RBL continuously educates the market on the ill-effects of these materials and the importance of

moving towards asbestos-free materials.

RBL uses Low Steel and Non-Asbestos Organics (NAO) for the manufacture of its friction materials that are asbestos-free. Developed in the 1970s, low steel is the cheaper of the two materials, containing ferrous and non-ferrous metals, as well as some inorganic and organic fibres. It is predominantly used in Europe, with a large amount of usage in the US also, Lakshman said. Its advantages include good pedal feel, high amount of wheel dust and most importantly, good high speed performance.

NAO was developed in the 1980s and is about 1.5 to 2 times more expensive than low steel, Lakshman noted. It has been the preferred material choice of Japanese companies, mainly due to characteristics of having good wear, being good for wheels, and having low NVH (noise vibration harshness) levels. It typically contains non-ferrous metals, inorganic and organic fibres, abrasives, lubricants and property modifiers. Lakshman said RBL's products made of NAO currently stand between 25 % to 30 %.

Future trends in friction materials will be driven mostly by customer demands and requirements, Lakshman said. In recent times, Indian customers are constantly demanding products that are of higher quality, while OEMs are emphasising on products that offer lower NVH levels. There is a requirement for the formulation of friction materials to offer high standards at lower costs, along with high safety output, longer life and better material integrity, Lakshman explained. Globally, friction materials are now being developed with either lower level of copper content or in some cases with no copper at all.

### R&D

RBL has its independent R&D set-up within its plant in Chennai. It has a technical collaboration with Nishinbo Brakes Inc, Japan, who has a dedicated team in Japan that works along with the R&D engineers of RBL on various projects,

as per requirements. RBL has developed core competencies in formulation development capabilities, complete product development and trend-focused solutions. It also has a significant amount of test and validation equipment at the R&D centre. The company invests anywhere between two to five per cent of its revenue on R&D, a healthy amount by industry standards.

### CONCLUSION

RBL is claimed to be a dominant player in the CV and passenger vehicle sectors, although it caters to all segments of the automotive industry. The two-wheeler market is a segment, where RBL is looking to improve its marketshare, especially since it is a growing one. While there haven't really been any new products in the brake lining industry as a whole, the development is mostly based on trends, and in the formulation of newer materials.

One emerging trend, especially in Europe, is in CVs using disc pads for the front wheels, with drums at the rear. There is a probability of this trend being followed by Indian CV manufacturers as well, Lakshman said. The company has begun working towards developing such products with its customers already.

RBL accounts over 90 % of its total business from the automotive sector, with OEM sales contributing a little more than the aftermarket. Exports account for about five to 10 % of total revenues, and the target is to double that in the next couple of years, said Lakshman.

TEXT: Naveen Arul

