

# Durability of rubber to metal bonding



[www.gantrail.com](http://www.gantrail.com)

**The Gantrail products are based on designs developed in England in the 1970's. The designs have become widely recognised as the best way to fix rails and specifically crane rails in industrial applications.**

**To ensure optimum performance and lifetime for the products, it is essential that the rubber and metal parts are strongly bonded together, so that movement of the rubber or ingress of dirt or oil into the rubber - metal interface is not possible. Gantrail have developed a tailored method of production to ensure this.**

## **GANTRAIL PRODUCTS: BONDING METHODS**

Gantrail uses two different rubber-to-metal bonding systems in their products. One is the conventional, industry-wide method of bonding in a mould while vulcanising under pressure. This is a method used to produce millions of reliable parts for industry every day. The other is a special post- vulcanisation bonding process which is used for certain types of parts. This also is a much used process but Gantrail use a specially developed bonding agent adhesive from Lord Corporation (USA) which, coupled with good working practices, ensures a bond stronger than the rubber itself. The heat-cured compound adhesive is itself highly resistant to attack from the environment and any oils or contaminants. The rubber is vulcanised before bonding and this allows optimum conditions for this process.

## **TESTING**

Gantrail products are routinely tested above service limits to ensure that the failure mode is the rupture of the rubber itself; this is the best possible type of failure to occur on test.

## **CONCLUSIONS**

The in-mould bonding system can, and does, produce first class, very strong, and highly durable bonds. However, to ensure that this is consistently the case, strict attention to quality procedures is absolutely necessary, since there are many factors contributing to the strength of the bond. The post- vulcanisation bonding system is, in fact, easier to control and has been shown to give more consistent results. Gantrail has for many years stringently controlled product quality both in their own and from their suppliers' factories, and holds an ISO 9001:2000 Quality Systems Certificate.

A world of crane rail expertise.

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