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## Belt Conductivity Standards for Gates PowerGrip® GT® and PowerGrip® HTD® Belts

For those that have questions regarding the conductivity properties of our PowerGrip **GT** PowerGrip **HTD** and PowerGrip belts.

The Rubber Manufacturers Association (**RMA**) defines the standard recognized within the belting industry for belt conductivity. Their **RMA IP-3-3** Technical Bulletin defines the measuring procedure as well as the maximum allowable resistance of 6 megohms.

Gates standard construction for the subject belts may or may not meet the **RMA** conductivity specification. While some belts would actually pass the test if performed, no measurements are made in production.

Gates made-to-order conductive construction utilizes a specially formulated compound in addition to a special nylon fabric construction over the teeth to yield the properties needed to pass the **RMA** conductivity test. In addition, the belts are 100% inspected to confirm that they meet the **RMA** specification. Gates conductive synchronous belts should maintain their properties well over time.

While other static conductive belts available on the market may meet the **RMA** conductivity specification when new, their conductivity properties may erode over time. This is because the only conductive component used in their construction is the nylon jacket over the teeth. Jacket wear or damage (cracking) resulting from normal belt operation may inhibit its ability to dissipate a static charge.

If static dissipation from belts is truly critical for safety reasons in hazardous environments, relying solely on belt conductivity properties may give users a false sense of security. As a result of their moving through air, all rubber belts naturally generate a static charge when they operate. A conductive belt simply dissipates the charge into the sprockets more readily than a nonconductive belt.

Once the charge has been dissipated into the sprockets, it must often then travel through bearings, grease, etc. on its way to ground. Bearings can inhibit the travel of static electricity resulting in a buildup of charge that could potentially generate a spark. The drive system must also be adequately grounded in order to effectively dissipate the charge.

Rubber mountings, paint, etc. within the framework may also inhibit the travel of static electricity. Significant debris buildup on belts may form an encrusted insulating layer that inhibits static conductivity. A conductive belt in a critical application could also be accidentally replaced by a belt in a nonconductive construction.

The only reliable and effective means of ensuring the safe dissipation of static electricity to ground is with the use of a grounding brush at the belt. Brushes available on the market are capable of effectively dissipating static charges generated from the belt. If a belt drive is to be used in a hazardous environment, Gates recommends the use of an effective grounding brush above all else.