

WP0277

**Dodge® drive belts: painting**

Dodge Customer/Order Engineering

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There is sometimes a need for OEMs or end users to paint equipment after assembly, whereby the complete assembly, including belt drives, is painted. Before painting a belt drive, there are several potential effects that need to be considered.

**Effect of paint on the belt material:** The most common paint processes involve quick drying paint. While these types of paint systems have generally not been found to affect the polymers in the belt, the paint supplier should be consulted to ensure no adverse effects will occur.

**Effect of paint on power transmission:** Poorly painted parts, i.e. runs, inconsistent thickness, excess paint thickness, etc., can create problems. Depending on type of paint and the degree of cure, the paint may either act as a lubricant, causing the belt to slip, or, if the paint is sticky, may adhere to the belt and cause premature wear on the belt and / or sheaves / sprockets. Excessive coating thickness may also prevent proper belt contact and reduce torque transmission. Synchronous belt drives are especially affected by excessive coating thickness as the belt teeth may not fully engage the sprocket and lead to tooth jumping.

**Effect of drying oven temperatures on belts:** Some paint processes may require drying in an oven, where the required temperature or duration are close to belt curing cycle. If the belt is subjected to such conditions, then some degradation of the polymers in the belt may occur, reducing the load-life capacity of the belt.

Generally speaking, painting of a belt drive should be avoided if possible. However, if a drive must be painted, then the following recommendations should be considered.

1. Use a spray painting process; NEVER use a dip painting process.
2. The paint should be very light and evenly applied.
3. The drive should be placed in the oven in the tensioned condition.
4. Following the curing process, the drive should be rotated as it cools.
5. The drive tension should be rechecked after the assembly has cooled down completely.

As much as possible, belts should not be subjected to high temperatures. However, if the paint process used requires elevated temperatures for curing, then the following limits should be considered.

OVEN TEMPERATURE °F	MAXIMUM TIME IN OVEN
140	4 HRS
180	2 HRS
220	45 MINS
260	25 MINS
300	10 MINS

For any questions or comments, please contact Dodge application engineering at 864-284-5700 or e-mail us at [DodgeEngineering@abb.com](mailto:DodgeEngineering@abb.com).

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ABB Motors and Mechanical Inc.

6040 Ponders Court

Greenville, SC 29615

Phone: +1 864 284 5700

Email: [DodgeEngineering@abb.com](mailto:DodgeEngineering@abb.com)