

WP0256

Dodge® synchronous belt drives: choosing the right belt for underwater applications

Dodge Customer/Order Engineering

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While synchronous belt drives are often used under water, water can have some adverse effect on synchronous belts. Synchronous belts are made up of different materials and water affects each one differently. Water is known to have the following effects on different belt materials.

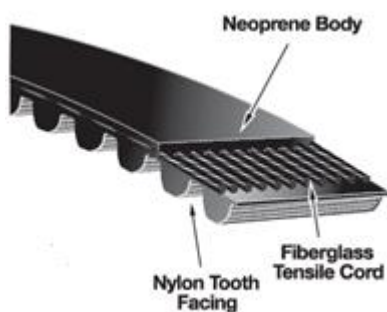
Neoprene: Water causes light swelling in neoprene compounds.

Urethane: On large pitch belts water has little effect on this compound or on adhesion.

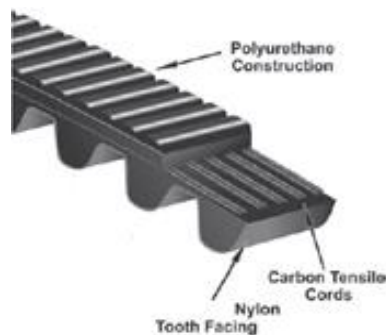
Fiberglass tensile cords: Water affects the cords significantly and reduces the tensile strength and it negatively affects adhesion too.

Carbon tensile cords: Water has little effect on these cords.

Aramid tensile cords: There are belts available in the market with Aramid (Kevlar) cords. Water has little effect on tensile strength but it can shrink the cords slightly which affects belt pitch, fit, etc, significantly affecting the life of the belt. In belts with Kevlar cords, adhesion also deteriorates significantly, making these belts perform poorly under water.



HT250 Belt Construction



HT500 Belt Construction

HT250: These do not work well under water applications. Fiberglass cords lose strength and the adhesion system deteriorates. The swelling causes belt tension to increase and causes the weak fiberglass cords to fail.

HT500: With its polyurethane construction and carbon tensile cords, the HT500 is the most resistant belt for applications under water. It works especially well if the operating speed is low.

For any questions please call us at 864-284-5700 or e-mail us at DodgeEngineering@abb.com

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