XTEK "TSP" CARBURIZED SHEAVE WHEELS

Xtek "TSP" carburized and hardened steel sheave wheels feature a case-hardened groove and throat area that retains its original shape far longer than other available sheave wheels. The results are improved sheave and rope service life and a reduction in your maintenance expense.

Typical sheave wheels for cranes are often manufactured from cast iron or cast steel that is heat treated to 32 to 36 HRC or flame hardened to a hardness of 44 to 48 HRC. With wire ropes in service today having a surface hardness of 45 to 56 HRC, depending upon grade chosen, the sheave wheel throat hardness will often be equal to or softer than the rope hardness. This hardness disparity will result in rapid wear and corrugation of the sheave wheel groove, increasing the friction between the sheave wheel and the wire rope.

WHY A CARBURIZED & HARDENED GROOVE & THROAT?

Wire rope consists of strands of wire that are twisted and bundled to allow movement within the rope. When wire rope passes over the surface of a sheave wheel, it must change its shape. First, it must bend around the sheave, meaning that the inside radius and the outside radius of the rope are different, with the outside strands stretching farther than the inside strands. Second, it deforms by "flattening" in the groove. The wire rope must be allowed to perform in this fashion in order to work properly.

If the rope is not free to change its shape, the friction between the rope and sheave wheel increases, resulting in rapid wire rope and sheave wheel groove wear. A groove that is softer than the wire rope will allow rope corrugation to occur in the groove area. This is the primary cause of increased rope and wheel wear. The Xtek carburized and hardened groove greatly reduces this friction, resulting in prolonged rope and sheave wheel life.

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The Xtek sheave wheel is designed for prolonged life. The Xtek carburizing and hardening process imparts a very deep case hardness of 60-plus HRC in the groove radius area and the inside flange walls of the sheave wheel. This extremely hard and smooth surface eliminates the effects of crushing and imprinting found on the softer sheaves.

Carburizing and hardening your sheave wheels is also an excellent alternative when abrasive conditions limit the performance of your existing sheave wheels and wire rope.

Xtek manufactures all of its sheave wheels from forged steels. No cast irons or cast steels are used. Our materials of choice for use in the carburizing and hardening processes are low carbon steel and low carbon alloy steel.

Xtek carburized sheave wheels have been shown to increase wire rope life by 3 to 6 times and provide 3 to 10 times our competition's service life in given applications.

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