



Wire Rope Products

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Top Level of Wire and Coating Technology in the World

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Container Crane

J-AM Rope (J-Witex Anti-Martensite Wire Rope)

The currently upsizing trend of container vessels has made lengths of wire ropes for quay cranes much longer. Much higher traversing-speed is required for the current “High-Speed Processing” in crane operations and the very long wire ropes with flexure and tensionless have frequent contacts to catenary trolleys, etc. with strong impact, which results in damage on the rope surface.

Checking the cause of damage from the damaged samples, structural transformation to Martensite* are observed very often, which likely have been explained as a result of Metal Fatigue.

The improper structure is caused by external stress such as hitting, rubbing, etc. on the rope surface, and sudden increase of its thickness by the stress makes cracks, resulting in variation in its replacement cycle and shorter life-time of the rope.



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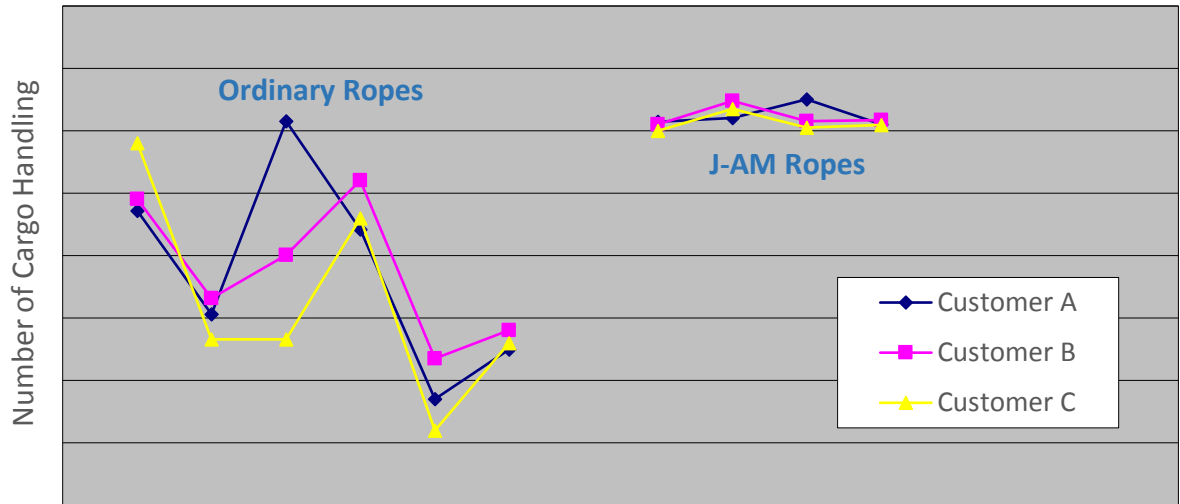
For the customers’ strong desires, J-AM Rope (J-Witex Anti-Martensite Rope) is quite simply a solution which can avoid the structural transformation to Martensite as much as possible, and realize a longer service life.

(See Graph 1 and Photo 1)

*Martensite:

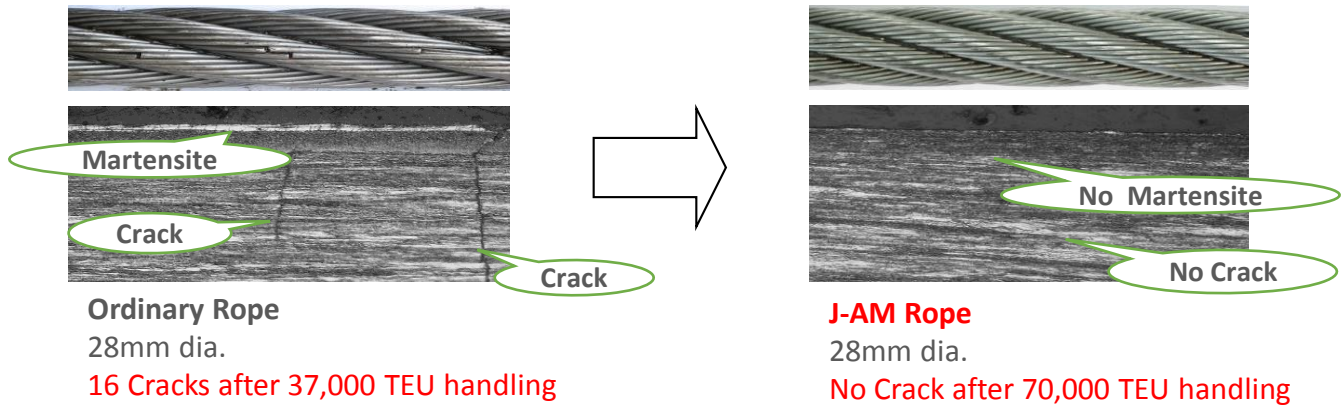
- is a very hard and brittle steel crystalline structure.
- is formed by heating above the transformation temperature and then rapidly cooled.
- is caused by external stress such as hitting, rubbing, etc. on the rope surface, and sudden increase of its thickness by this structural transformation makes cracks.

Graph 1 Comparison for Stability and Life Time



Transition of Replacement
(a specific crane at each customer with ordinary ropes and J-AM ropes)

Photo 1 Let's take a closer look !!



Finding by J-Witex is that emergences of the Martensite result in a variation of the service life of each wire rope which leads the variation in its replacement cycle, and also shorter service lives.

This is a major Customer-feedback which is asking for stable maintenance intervals and longer service lives, and J-AM Rope solves these problems.