

TOOLOX® IN RAIL FOR GRAB DREDGER

When 2015 it was decided to do a dredging operation in the bay outside of Singapore, a grab dredger with a 200 m³ bucket was employed. The equipment is rotating during the operation on a rail with a diameter of 13 meter. There are extremely high demands acting on the rail due to the size of the equipment and the repeating and high forces from the digging. Segments on the rail are repeatedly being replaced. When doing the replacement an optimum steel choice was found in Toolox®.



Toolox® is excellent steel for the production of high performance machine components. Toolox® is based on an ultra-clean steel metallurgical concept that gives it extraordinary properties. A combination of high strength, crack resistance and optimized workshop properties make it an ideal choice for all kind of heavy duty rails. The guaranteed toughness as well as the plate per plate quality control minimizes the risk for early failures.



Fig 1. Oxycutting of Toolox® piece

The manufacture of the rails was performed at the SSAB Hardox Wear Center in Singapore. Being specialized in producing components in high strength steels they decided to benefit of the low carbon composition of Toolox® and do the outer shape by oxycutting. Thus saving time in the subsequent machining.



Fig 2. Machining to close tolerances

Finally machining was made to close tolerances and a surface roughness of Ra 1.3. All long flat pieces are very suitable Toolox® applications. Toolox is tempered at 590° C which takes away all stresses from the steel, making it possible to obtain remarkable precision when machining.



Fig 3. Dimensional control

Due to the excellent performance in the application, Toolox® is introduced as standard for all replacement rail parts of the dredger. All new pieces produced are made and delivered by SSAB Singapore.

Availability

Plates and square blocks from 6–320 mm. Bars between 21 and 405 mm with lengths up to 5000 mm. Toolox® is available from the local SSAB stock. Cut pieces of Toolox® can be obtained through the well-established global network of Approved Toolox® Distributors. Both SSAB and the distributors can provide you with good application support as well as technical guidelines.

Contact and more information

Contact your local sales representative to learn more, visit www.toolox.com or consult Tech Support at: help@ssab.com.