



Qualification Test Record (QTR) NORSOK M-650

QTR. No.:
QTR- NORSOK-R5-4A



Rev. No.: 0

Manufacturer name/address/ Web page:	Highland Foundry Ltd. 9670-187 th Street, Surrey, British Columbia V4N 3N6 Canada T: 604-888-8444, F: 604-888-3634, info@highlandfoundry.com www.highlandfoundry.com	
Reference standard	NORSOK M-650 Edition 4	
Material designation and MDS No.:	NORSOK M-630 Edition 6, MDS-D46 Revision 5 ASTM A995 Grade 4A (UNS J92205)	
Manufacturing summary doc. No.:	MS- NORSOK-R5-4A	Rev. No.: 0
Products and manufacturing process(es):	Castings. Sand Molding with Furan Binder. AOD Route: Re-melting of 100% AOD refined charge material. Production to follow the process of the approved QTR.	
Mandatory conditions and subcontractors:	<p>Castings shall be heat treated in Oven #1 or Oven #5. Raw Material supplier shall be: AOD plate scrap or AOD ingot supplied: Remelt Sources Inc., Allied Metals Corp. or Kairos Specialty Metals. RT (personnel EC qualified) shall be by Acuren Group Inc., Stasuk Testing & Inspection Ltd., or Elander Inspections. Pickling shall be by Redi-Strip.</p> <p>Laboratory testing: HFL shall machine and perform testing (acceptance “Annex 1: ISO 17025 Assessment of test laboratories” – M-650 Edition 4: Comment & Clarification list) 3rd party ISO 17025 laboratory testing, when required, shall be by Acuren Group Inc., or Cambridge Materials Testing.</p>	
Other information:	NORSOK 4A qualification witnessed by Lloyd’s Register Vancouver, B.C. Canada July 21, 2021: Qualification expiration changed from April 22, 2026 to December 31, 2022 (2 years) grace period due to the recent update to the NORSOK M630:2020 standard. HFL to review and revise QTR to meet current version.	
Qualification expiration date:	December 31, 2022	


Tested and Qualified Thickness and Weight (NORSOK M-650 Ed. 4 Section 10.2.2)

Products and manufacturing process(es):	Test record No.	Tested Thickness, mm (in.)	Qualified thickness, mm (in.)	Test piece Net weight, mm (in.)	Qualified weight, Kg (lbs.)
Castings	QTR-NORSOK-R5-4A	136.5 (5.375)	136.5 (5.375)	406 (896)	All

Qualification/Acceptance signatures

Manufacturer:	Prepared by/Date:	Checked by/Date:
	 Bryan L. Almendral Date: April 23, 2021	 Lina Grajales Date: April 23, 2021

The manufacturer and this QTR are evaluated and found to be in compliance with the requirements of NORSOK M-650 for supply of the above listed products and materials. This acceptance does not exempt any purchaser from his responsibility to ensure that this qualification is valid for their products within the essential variables of NORSOK M-650.

Qualified/Accepted by (company name/address): Curtiss Wright Farris Engineering 10195 Brecksville Road Brecksville, OH 44141, USA	Signature/Date:  Mark H. Schwaner Date: April 23, 2021
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