



OUR REPUTATION IS STAINLESS™

### Qualification Test Record (QTR) NORSOK M-650

QTR. No.:  
QTR- NORSOK-R6-4A

Rev. No.: 0

Manufacturer name/address/ Web page:

Highland Foundry Ltd.  
9670-187<sup>th</sup> Street, Surrey, British Columbia V4N 3N6 Canada  
T: 604-888-8444, F: 604-888-3634, info@highlandfoundry.com  
[www.highlandfoundry.com](http://www.highlandfoundry.com)

Reference standard

NORSOK M-650 Edition 4

Material designation and MDS No.:

NORSOK M-630:2020, MDS-D46 Revision 6  
ASTM A995 Grade 4A (UNS J92205)

Manufacturing summary doc. No.:

MS- NORSOK-R6-4A

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:

**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., or Stasuk Testing & Inspection Ltd. **Pickling shall be by** Redi-Strip Metal Cleaning Canada Ltd., or Silver City Galvanizing Inc. **Laboratory testing:** HFL shall machine and perform testing (acceptance "Annex 1: ISO 17025 Assessment of test laboratories" – M-650 Edition 4: Comment & Clarification list) **3<sup>rd</sup> party ISO 17025 laboratory testing, when required, shall be by** Acuren Group Inc., Cambridge Materials Testing, Qualitest, or Element.

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:

March 22, 2028

#### 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-R6-4A	136.5 (5.375)	136.5 (5.375)	406 (896)	All

#### Qualification/Acceptance signatures

Manufacturer:

Prepared by/Date:

Lina Grajales

Date: 2023 MAR 22

Checked by/Date:

Mina Vafaei

Date: 2023 Mar 22

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: March 22, 2023