



PUBLIC COMPANY ORLEN LIETUVA

RULES FOR QUALIFICATION TEST OF WELDERS

1. PURPOSE

This document is intended to establish the requirements for qualification test of welders performing welding works at potentially hazardous units of ORLEN Lietuva.

2. SCOPE OF APPLICATION

The present Rules shall be applicable to all the employees of the Company and its contractors involved in installation, maintenance and operation of potentially hazardous units of the Company. Qualification test of welder shall be focused on welder's ability to perform fusion welding of steels producing a weld of acceptable quality.

3. REFERENCES

LST EN ISO 9606-1:2013 - Qualification testing of welders - Fusion welding - Part 1: Steels.

LST EN ISO 15609-1:2004 - Specification and qualification of welding procedures for metallic materials. Welding procedure specification. Part I. Arc welding.

CEN ISO/TR 15608:2017- Welding - Guidelines for a metallic materials grouping system (ISO/TR 15608:2017).

LST EN ISO 6947:2011- Welding and allied processes - Welding positions (ISO 6947:2011)

LST EN ISO 4063:2011 - Welding and allied processes. Nomenclature of processes and reference numbers.

LST EN ISO 2553:2014 - Welding and allied processes - Symbolic representation on drawings - Welded joints (ISO 2553:2013).


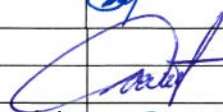
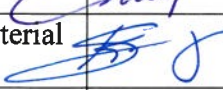
LST EN ISO 5817:2014 - Welding - Fusion-welded joints in steel, nickel, titanium and their alloys (beam welding excluded) - Quality levels for imperfections (ISO 5817:2014)

LST EN ISO 10675-1:2017- Non-destructive testing of welds - Acceptance levels for radiographic testing - Part 1: Steel, nickel, titanium and their alloys (ISO 10675-1:2016).

3. QUALIFICATION TESTING

Welder's qualification is tested by *AB ORLEN Lietuva* Engineer for Welding of Materials Engineering and Technical Analysis Group of Mechanical Department (hereinafter – OL Engineer).

1. Prior to commencement of welding works at potentially hazardous units the contractor shall submit a list of welders to OL Engineer (Attachment No.1). The following documents shall be submitted thereto:
 - 1.1. Welder's qualification certificates as per EN ISO 9606-1:2013
 2. OL Engineer shall check the list and data therein, and shall indicate the names of welders who must weld respective test samples before work commencement.
 3. Material of the test sample must be of the same material group (acc. to CEN ISO/TR 15608) as the one that will be welded at OL. Filler materials of the same type as the one to be applied during welding of potentially hazardous units.
 4. Contractor's welding engineer shall develop WPS for test sample welding.
 5. Test sample, weld types and positions as well as welding method (to be selected considering work character):
 - 5.1. Pipe - butt weld (with full penetration) position H-LO45 (according to EN ISO 6947)
 - 5.2. Plates - butt weld (with full penetration) vertical position PF (according to EN ISO 6947)
 - 5.3. In cases when only fillet welds are required, the qualification of welder may be certified for welding only fillet welds.
 - 5.4. Welding method (EN ISO 4063) as per welder's qualification certificate. In case the qualification testing is only for root weld pass or only for final pass, the qualification will be approved accordingly for that part of welding and for that method.
 6. A welder must perform a qualitative test sample welding witnessed by OL Engineer.
 7. Welded joint quality visual testing VT, level B (according to EN ISO 5817). If VT results are positive the radiographic testing RT of test samples shall be carried out (acceptance according to EN ISO 10675-1:2017 Level 1).
 8. The qualification of the welder is approved and he/she is allowed to perform welding works at potentially hazardous units of OL, if the test sample welded joint quality complies with quality requirements and test sample weld is completed within time frame corresponding to the time in normal operating conditions.
 9. Repeated testing of welder's qualification is allowed; the costs of repeated NDT of test sample shall be covered by Contractor.
 10. Upon the qualification testing the list of welders shall be approved by OL Engineer for Welding of Materials Engineering and Technical Analysis Group of Mechanical Department.
 11. Confirmation of welders' qualification at OL shall be effective for 12 months. If no welding works were carried out by the welder at OL facilities neither NDT of his/her welded joints thereof during the abovementioned period, the qualification testing shall be executed.

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