

October 26, 2018

## Supplier Quality Notice Weld Requirements

This is a supplier notification regarding additional welding inspection, NDT provisions, and fixture design requirements for product you are supplying to BAE Systems under contract **W56HZV-17-C-0001**. Excerpts highlighted in yellow, held below numbered categories illustrate direct contract language:

**1) All visual weld inspection must be conducted by either of the following 3 inspector certification platforms, and completed on 100% of all welds.**

- An American Welding Society certified CWI, SCWI
- A qualified CWB level 2 or 3 through the Canadian Welding Bureau as determined through the Canadian Standards Association.
- A Government CWI, or Tardec Quality Assurance CWI approved welding inspector certification program.
- All visual weld inspection on armor steel as well as quenched and tempered steel must be held for 48 hrs prior to final inspection.

a) Current certification in accordance with the American Welding Society (AWS), Certified Welding Inspector (CWI) or Senior Certified Welding Inspector (SCWI), qualified and certified in accordance with provisions of AWS QC1;  
b) Current certified welding inspectors qualified by the Canadian Welding Bureau (CWB) to Level II or the Level III requirements of the Canadian Standards Association (CSA) Standard W 178.2 Certification of Welding Inspectors.  
c) A welding inspector certification program that is substantially the same as offered by AWS or CWB. In this case, the Inspector Certification Program must be reviewed and approved by a government CWI or a TARDEC Quality Assurance CWI. This training or qualification may be performed in house or through the use of a recognized visual welding inspector qualification program (such as Hobart, Welder Training and Testing Institute, or AWS) under the direct supervision of a CWI, SCWI or a CWB level III.

The contractor shall conduct visual inspections in accordance with the applicable weld standards in Attachment 0013. The contractor shall ensure that final weld acceptance is performed by a qualified weld inspector, as defined in paragraph C.5.5.5, who shall 100% inspect all completed welds and weld repairs. Welders shall not final accept or certify their own welds. For armor steel(s) and quenched and tempered steel(s), the contractor shall conduct visual inspections after the welds have been completed and cooled to ambient temperature and also after no less than a 48 hour hold period.

**2) Where NDT is required per print, all armor steel and low alloy steels 100 KSI tensile strength or greater shall be held a minimum of 48 hours prior to NDT inspection, this is for welded material.**

Non-destructive Testing Acceptance Criteria for Armor Material(s). When NDT is required for armor, the contractor shall have procedures and acceptance criteria in accordance with TACOM Ground Combat Vehicle Welding Code for Steel (drawing number 19207-12479550), and the Ground Combat Vehicle Welding Code for Aluminum (drawing number 19207-12472301). The contractor shall hold steel armor materials MIL-DTL-46100, MIL-DTL-12560, or low alloy steels that are 1/8 inch (3mm) or thicker with a minimum specified yield strength greater than 100ksi (600MPa) for a minimum of 48 hours and inspect the material after the contractor has completed the welding and the material has cooled to an ambient temperature.

**3) Welding fixtures to be designed per ASME Y14.43**

For any fabricated parts that require fixtures or frames, as determined by the contractors design engineer, the contractor shall use fixtures or frames designed to minimize the distortion of the components being welded and to ensure that drawing tolerances are maintained. When the contractors design engineer designates the use of a functional fixture, the contractor shall design the fixture in accordance with ASME Y14.43.

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