

MEMORANDUM

SUBJECT: CDR 034 Thermal Cutting & Class 2 RHA

DATE: 10 16 2018

FROM: Slocumb, William J. Materials Engineer
TO: Frazho, Thomas Manager II, Supplier Quality
Dorsch, T. James Manager, Materials Engineering

Tom & Jim,

Per our previous conversations, Engineering has conducted internal analysis to assess the "value add" of the CDR 034 non-destructive testing (NDT) requirement as applied to Class 2, MIL-DTL-12560 steel armor. Per MIL-DTL-12560 Clause 3.2.11.2, thermal cutting of rolled homogeneous armor (RHA) is allowable, "...after final heat treatment provided the procedure... is such that no cracks develop on any thermally cut edge whether detected by nondestructive inspection, or as agreed upon in the contract... Supplier must demonstrate this capability to the procuring activity during First Article Testing." CDR 034 codifies the standard procedure by which BAE Systems, Inc. (Combat Vehicles) ensures compliance with this requirement during first article testing and on-going production.

Unlike other, steel armor product (including Class 1 RHA and MIL-DTL-46100), Class 2 RHA is relatively low in hardness and does not exceed 310 HBW (33 HRC equivalent). As a result, it is low-risk for development of edge cracks after thermal cutting. Given the lack of issues noted with this material in production, and the burden that additional NDT places on BAE Systems' vendors and additional cost it adds to material procurement, engineering authorizes an exception to this requirement be made for all thermal cutting on Class 2 RHA.

The allowable exceptions are as follows: Vendors are exempt from the requirement to conduct non-destructive testing during PROCESS INSPECTION in accordance with ASTM E1417, ASTM E1444, or equivalent when thermal cutting Class 2, MIL-DTL-12560 armor. Note that vendors are still required to conduct the INITIAL PROCEDURE QUALIFICATION TEST outlined CDR 034 requirement (to include NDT) and conduct 100% visual inspection on these materials during PROCESS INSPECTION.

CDR 034 shall be updated during the next revision to reflect this change. In the interim, this document shall serve as official direction to our vendors and internal quality control processes. If you have any question about the content in this document, please feel free to reach out directly for clarification.



William James Slocumb
Materials Engineer