

March 15, 2021

Supplier Quality Notification

Material Reduction Aluminum Armor Plate Blemish Guidance

To our Valued Suppliers:

BAE Systems, Combat Mission Systems (CMS), Material Engineering would like to provide notification to our Suppliers regarding aluminum armor plate material reduction and blemish guidance.

This document is intended to serve as clarification of the inspection acceptance criteria of aluminum armor product with superficial blemishes that is received at BAE Systems CMS, York, PA and Aiken, SC sites. For questions regarding the applicability of this document to other sites, please contact the author, William Slocumb, or designated Supplier Quality Representative (SQR).

BAE Systems receives aluminum armor in two basic states:

- The "End Item/Product" state are deliveries that include those parts, which are delivered to a drawing or part number and often cut from larger, raw stock and may include machined or welded features.
- The "Raw Material Stock" state is stock that is acceptable based on the requirements in the applicable material codes and standards with additional controls placed within the provisions of the purchase order (PO) and Contract Deliverable Requirements (CDR).

The acceptability of these items are based on the requirements in the applicable material codes and standards, PO, CDR, and drawing requirements.

There are allowances in military armor standards to accept material with superficial blemishes, which are defined based on assessment of a visual indication or discontinuity identified during inspection. Sources of these discontinuities include mechanical gouges and scrapes, small scratches, mill defects and corrosion. When identified, these indications are assessed for acceptability against the following criteria laid out in the applicable material specification:

- Edge or surface cracks are rejectable defects.
- Mill defects are rejectable and may include cold shunts, laminations, blisters, and buckles.
- Corrosion pitting is a rejectable defect.

Indications may be blended into the surrounding surfaces to make a smooth transition.

- An indication is acceptable if it meets the minimum allowable material gage thickness in accordance with the applicable material standard.
- Acceptable indications shall be deburred and have all sharp edges removed and otherwise conform to all applicable drawing, CDR, and PO requirements.

Any indications that are determined to be rejectable under the above criteria may be addressed prior to shipping to BAE Systems by blending, sanding, or grinding of the indication. If the defect can be removed to sound metal and the area still meets the minimum allowable gage thickness, it is acceptable for use.

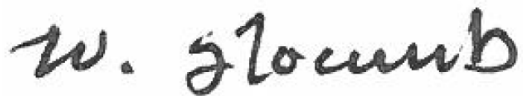
NOTE: BAE Systems will not accept plates with rejectable indications even if they can be processed to compliance. Product must be in a compliant state upon shipping to BAE Systems.

For assessing indications, BAE Systems utilizes the following assumptions:

- Minimum gage thickness is based off assumed 99" – 118" plate width or actual delivered plate width, whichever is greater. In instances where a PO has special thickness tolerances, those requirements take precedence over this document.
- In instances of direct measurement of the thickness at the location of the indication is not possible, they are assessed by measuring the thickness of the plate at the nearest edge and comparing that value to the resultant depression or recess.
- All delivered product is required to conform to all applicable inspection requirements on all surfaces of the plate except as noted in the applicable engineering drawing or PO.
- A delivered lot is sampled at a defined Acceptance Quality Level (AQL). As a result, not every item is inspected 100% in a delivered lot.
- If non-conforming, rejectable material is found, the entire lot is rejected. The inspector will note all defects found during their sampling of the lot.
 - NOTE: This means that not every defect in every lot will always be noted. It is the responsibility of the vendor to assess the rejected lot in its entirety if attempts to segregate non-conforming material is necessary.
- It is allowable for vendors to address defects in accordance with the limitations in this document.
- Vendors are not approved to repair or rework defects on armor material outside the scope of this document without submission, and approval, of a Vendor Initiated Request (VIR). This includes, but is not limited to grinding or blending in excess of the drawing or material specification allowances, weld build-up or repair, use of sealants or coatings to seal defective indications.

As previously stated, these requirements are contained within the applicable material specifications. This document serves only to clarify those existing requirements. For any questions related to the contents of this document, please do not hesitate to contact the author. Questions can also be addressed through your designated SQR.

Thank you for your support!

A handwritten signature in black ink that reads "w. slocumb". The signature is written in a cursive, lowercase style.

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