

1 Scope

This Specification covers the requirements for the removal/remediation of burrs, as well as for edge breaking, on metal parts. Burrs and sharp edges can cause safety hazards, fit problems, coating issues or wear issues.

2 Specification

49-00155-000 REQTS-DEBURRING

49-00155-001 REQTS-EDGE BREAKING

3 Definitions

3.1 Burr

A burr is defined as raised edge or irregular piece of material remaining on a workpiece as the result of a machining or shearing operation. A burr could be material extending past the theoretical intersection of two surfaces (see figure 1A and 1B) or a projection along inside the theoretical intersection (see figure 1C). Burrs can be slivers, ridges or swells. They may be loose hanging or rigidly attached and may be localized or affect a larger area e.g. run along an edge.

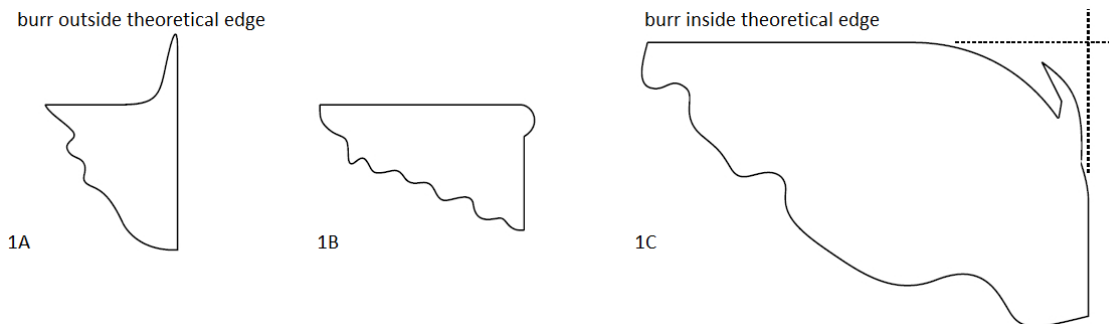


Figure 1: Burrs inside and outside theoretical edge

3.2 Burr height

Perpendicular distance from theoretical edge to furthest point of burr at its cross-section

3.3 Burr thickness

Width of burr at root measured along a surface

3.4 Deburring

The practice of removing burrs from, or remediating burrs on, a workpiece. When “deburring” is specified, existing burrs must be either: a) completely removed; or b) mechanically rounded, flattened or beaten over. A workpiece is considered deburred once all burrs and edges that could reasonably damage or cut hands, electrical wires, hoses, mating parts, etc. have been eliminated.

3.5 Edge

The intersection/theoretical intersection between two surfaces.

REDRAWN TO NEW FORMAT. REVISED SECTIONS 1, 3.1, 3.4, 3.5, 3.6, 4.2.2.3. ADDED SECTIONS 4.1.1.1, 4.2.1, 4.2.3, 4.2.4, 4.3, 4.4.		-	PSTD02-P2	DLH	BBH	05/30/19
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REQTS-DEBURRING AND EDGE BRKG		Drawn By		05/30/19		
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		Units N/A	Rev B	Sheet 1 of 2	Drawing Number 49-00155	

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3.6 Edge Breaking

The mechanical removal of edge material from a workpiece in a manner that leaves a radius or chamfer of the desired size. Edge breaking typically requires a secondary operation be applied to the entire edge or edges specified, so should only be considered when edge shape/form is critical to component function.

4 Requirements

4.1 49-00155-000 DEBURRING

4.1.1 Deburr workpiece per “Deburring” definition in section 3.

4.1.2 All burrs in excess of .003” (.08mm) nominal thickness shall not exceed .010” (.25mm) high. Burrs and the edges of burrs less than .003” (.08mm) thick generally will not affect function or handling safety and should therefore be ignored.

4.1.3 Engineering drawings may also specify burr heights in excess of this standard as requirements allow.

4.1.4 Burrs shall not be included within the dimensional specification of features on engineering drawings (when measuring a part, measure to the base feature, not the top of the burr).

4.2 49-00155-001 EDGE BREAKING

4.2.1 Break edges per “Edge Breaking” definition in section 3.

4.2.2 Minimum Chamfer or Radius

4.2.2.1 Chamfering

Break edges with a minimum chamfer of .010 x .010 inches (0.25 x 0.25 mm)

4.2.2.2 Radius

Round edges to a minimum radius of .010 inches (0.25 mm)

4.2.2.3 Either a chamfered or radiused condition is allowable unless stated otherwise.

4.2.3 If, upon inspection, an edge being controlled with this specification already meets the minimum radius or chamfer sizes and no burrs are present, a secondary operation for edge treatment is not required. An edge treatment is required if the specified edge does not yet meet those minimum size requirements.

4.2.4 When edge breaking is noted as a requirement on a drawing, the specific edge(s) that requires breaking must be clearly flagged. Edge breaking should not be noted in a manner that assumes it applies to all edges of a given part unless “ALL PART EDGES” is specifically stated. This type of application should be avoided, though, due to the additional costs associated with edge breaking versus deburring.

4.3 When edge treatment is noted on a drawing with reference to only 49-00155 (without a dash number suffix), 49-00155-000 applies.

4.4 When either 49-00155-000 or 49-00155-001 is referenced on a drawing but the included description doesn't match the description for each shown above, only the requirements defined for that particular specification apply (the description on the drawing does not override the documented specification requirements). For instance, if “DEBURR AND BREAK EDGES PER 49-00155-000” is specified, the breaking of edges is not required since it is not covered in 49-00155-000.

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