

AMPHENOL CORPORATION

40-60 Delaware St. Sidney, NY 13838-1395	<b>DIE CAST</b>	Part No. <b>PR-304</b>
Quality Approval:	Quality Standards - <b>INDEX</b> - <b>DIE CAST SECTION</b>	Revision: 2/12/2008 PAGE 1

This Quality Standard applies unless otherwise specified by drawing or specification.

PAGE 1 : INDEX

PAGE 2 : DEFINITIONS

PAGE 3 : DEFINITIONS (con't )

PAGE 4 : DIE CAST

PAGE 5 : VISUAL AIDS OF DIE CAST CONDITIONS

PAGE 6 : VISUAL AIDS OF DIE CAST CONDITIONS

# AMPHENOL CORPORATION

40-60 Delaware St. Sidney, NY 13838-1395	<b>DIE CAST</b>	PART NO. <b>PR-304</b>
Quality Approval:	Quality Standards <b>Definitions</b>	Revision 3/22/2005 PAGE 2

## **Blisters/Pimples**

A condition that is the result of internal gas release or air pockets evidenced by the appearance of a bump.

## **Chips**

Small nicks along edges of part or small pieces broken off from the edge.

## **Closed Knit Line**

A visible material flow line having no perceptible depth.

## **Color Uniformity**

Surface color varying in uniformity resulting in spots, blotches and striations of different color.

## **Contamination**

An inclusion of foreign material detectable on the surface of the part.

## **Cracks**

A fracture passing completely through the thickness or section of a part.

## **Crazing**

Fine surface cracks appearing as a network of interconnecting hairline cracks on the surface.

## **Cut**

Material severed or damaged as a result of piercing or slicing action with a sharp instrument or tool.

## **Deformed**

A departure from the normal shape greater than the dimensional tolerance. Parts often deform out of round, out of square, twisted, warped, bent or flattened.

## **Dent**

A depression with no removal of material or change in surface texture.

## **Dry Spot**

An area on the surface of the part where reinforcement has not been wetted with resin, usually distinguished by the presence of loose fibers.

## **Flash**

Excess material adhering to part.

# AMPHENOL CORPORATION

40-60 Delaware St. Sidney, NY 13838	<b>DIE CAST</b>	Part No. <b>PR-304</b>
Quality Approval:	Quality Standards <b>Definitions</b>	Revision 3/22/2005 PAGE 3

## **Gouges**

The result of scooping out of material by another object.

## **Leeching**

Porosity may trap plating salts or other liquids that will later come out, (leech), and cause staining or residue surrounding the porosity area.

## **Mutilation**

May consist of any combination of a gouge, cut, nick, tear, porosity and other abnormal material conditions that result in the part exhibiting a non uniform appearance.

## **Nicks**

Sharp surface indentation caused by impact of a foreign object. Parent material is normally displaced, seldom separated.

## **Non-fill / Void**

An incomplete part due to insufficient material.

## **Pit / Pinhole**

A small sharply defined hole in the surface of the part.

## **Porosity**

Multiple pits or pin holes

## **Scuff**

A mark caused by an abrasion which changes the surface smoothness or texture.

## **Sink Marks**

A dimple like depression in surface of part.

## **Surface Cracks**

A fracture on surface of part that does not go completely through thickness of part.

## **Surface Discoloration**

An apparent surface inconsistency in material evidenced by the appearance of light to dark streaks.

## **Tear**

Separation of material due to mechanical stress.

## **Wire Marks**

Visible marks caused by the part having rested against the curing trays.

# AMPHENOL CORPORATION

40-60 Delaware St.  
Sidney, NY 13838-1395

Part No.

**PR-304**

Quality Approval:

Quality Standards  
DIE CAST

Revision 7/31/2007  
Page 4

VISUAL EXAMINATION WITH THE UNAIDED EYE, (CORRECTIVE LENSES ALLOWED) UNDER NORMAL ROOM LIGHT AT A DISTANCE OF 6 TO 12 INCHES.

## Acceptable Imperfections

1. Drag or scuff marks having no depth
2. Cracks in die causing raised area not higher than .003
3. Flat on thread is acceptable provided the thread will pass inspection using the proper Go and NO-Go functional gages per MIL handbook H-28 .
4. Breakouts in the gating and venting areas may invaded the surface dimension by .015 max below the surface. Excessive material at gate shall not exceed blueprint dimension. (*See Pic 4*)
5. Porosity is acceptable providing the pores are less than 1/64 inch and the total number of pores within a 1/2 inch diameter area does not exceed three (3). (*See Pic3. Pic6*)
6. Non-fills on the inside surface of the wall section around the larger, untapped hole of clamp bars used in the M85049/41 part numbers (Ref: 10-825942-176/183) are acceptable to 1/2 D max width and 1/3 H max height.
7. Surface imperfections on flange having no depth.
8. Flash that can easily be removed in subsequent operations
9. One tooth of serration may be completely missing except on shells with only 3 tooth design. A maximum of five (5) teeth may have 25% of their material missing. Three tooth design shells must have a majority of each tooth present. (*Pic 9, Pic 10*)
10. Material removed from the face of the thread pilot is acceptable provided it does not invade the full section across the face. i.e. there must be some face remaining.
11. Voids in the thread roots are acceptable if they do not exceed note 5 limitations. (*See Pic1, Pic 11*)
12. Parts may have trade mark or company name cast into outside of part. (*See Pic 5*)

## Unacceptable Condition:

1. Non-Filled or damaged main key of shell. (*See Pic 7, Pic 8*)
2. Voids that eliminate the thread crest. (*See Pic 2*)
3. Blisters that impair the function of the part are not acceptable.
4. Leeching of substances (plating salts, etc) is not acceptable. (*see Pic 12*)
5. Surface cracks are not acceptable. As viewed by the use of up to 3x magnification.
6. Blisters as follow:  
ANY SINGLE BLISTER AT OR OVER .064 (1/16") DIAMETER IS UNACCEPTABLE.  
GROUP OF 4 OR MORE BLISTERS, (regardless of size) WITHIN A DIAMETER OF A DIME (.700" diameter) are unacceptable

### **Receptacle shells: SPECIAL INSPECTION AREA:**

- NO BLISTERS OF ANY SIZE ARE ALLOWED IN OR AROUND THE IMMEDIATE AREA
- OF THE RIVET HOLES. (to preclude them being broken open during the rivet operation.)

# AMPHENOL CORPORATION

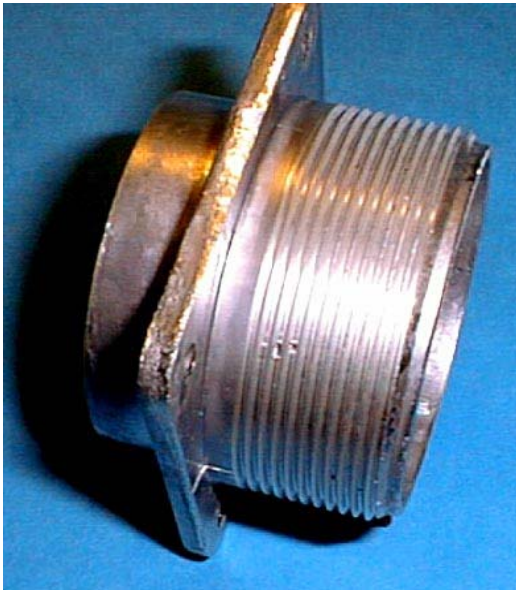
40-60 Delaware St.  
Sidney, NY 13838-1395

Part No  
**PR-304**

Quality Approval:

Quality Standards  
DIE CAST

Revision 3/22/2005  
Page 5



Pic.1 ACCEPTABLE



Pic2 UNACCEPTABLE



Pic 3 UNACCEPTABLE



Pic 4 UNACCEPTABLE

**AMPHENOL CORPORATION**

40-60 Delaware St.  
Sidney, NY 13838-1395

Part No.  
**PR-304**

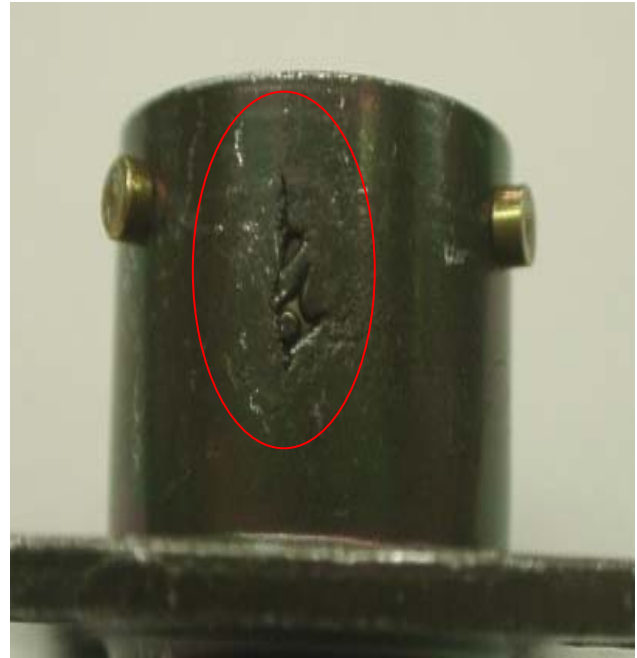
Quality Approval:

Quality Standards  
DIE CAST

Revision 3/22/2005  
Page 6



Pic 5 ACCEPTABLE



Pic 6 UNACCEPTABLE

RED BAND, (used for high lighting purposes only)  
UNDERLINES THE TRADEMARK AREA. TRADEMARK  
IS DISTINGUISHABLE LOOKING FROM THE TOP  
DOWN ONTO THE SHELF OF THE FLANGE. PARTS  
MAY EXHIBIT THIS ON BOTH SIDES.



Pic 7 UNACCEPTABLE Main key



Pic 8 Minor Key ACCEPTABLE

# AMPHENOL CORPORATION

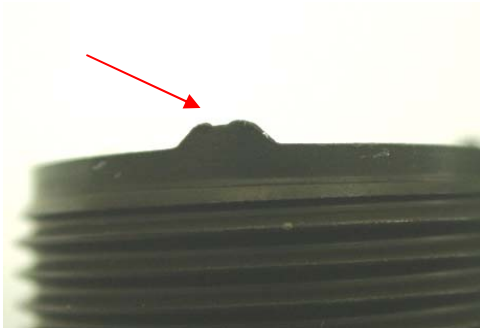
40-60 Delaware St.  
Sidney, NY 13838-1395

Part No.  
**PR-304**

Quality Approval:

Quality Standards  
DIE CAST

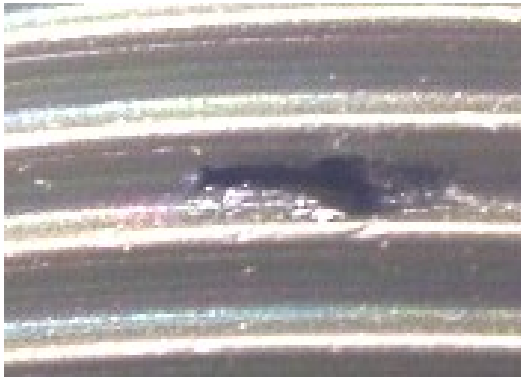
Revision 2/12/2008  
Page 7



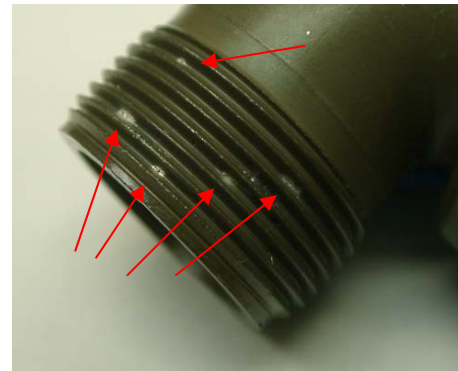
Pic 9 ACCEPT  
Majority of tooth present



Pic 10 REJECT  
Majority of tooth missing



Pic 11 Porosity ACCEPTABLE



Pic 12 REJECT Leeching



Pic 13 Gate breakage ACCEPTABLE if over 50% of material remains