SAE Aerospace
An SAE International Group

# AEROSPACE STANDARD

SAE AS666

REV. C

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## Cavity Design and O-ring Selection for Static Seal Use in Aircraft Tubeless Tire Wheels

NONCURRENT NOTICE

This specification has been declared "NONCURRENT" as of January 2005. It is recommended, therefore, that this document not be specified for new designs.

Each of these "NONCURRENT" documents is available from SAE.

Document made inactive for new designs. Committee feels that the practice amongst wheel manufacturers is to use proprietary gland standards and materials to improve seal integrity rendering this document obsolete for new design. This document shall be retained for historical record only.





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1. PURPOSE: This Aerospace Standard (AS) establishes design practices for aircraft tubeless tire wheel static seals.

2. SCOPE: This AS applies to the cavity design and the selection of O-rings for tubeless tire wheels.

3. O-RING CAVITY DESIGN:

3.1 For use with 0.103 cross-section diameter O-ring, See Figure 1, page 3.

3.2 For use with 0.139 cross-section diameter O-ring, See Figure 1, page 3.

3.3 For use with 0.210 cross-section diameter O-ring, See Figure 1, page 3.

3.4 For use with 0.275 cross-section diameter O-ring, See Figure 1, page 3.

3.5 O-ring contact surfaces shall not exceed a maximum roughness of 63 RHR.

CAUTION

Care should be taken to prevent excessive and/or rough paint on O-ring contact surfaces which will prevent sealing.

3.6 Refer to MIL-P-5514 for static seal cavity design for use with demountable flange wheels.

4. O-RING SELECTION:

4.1 Material from MIL-P-25732 or MIL-P-5516 is recommended for use in this type seal.

4.2 O-ring stretch should be limited to 3 to 8 percent of nominal ID in the installed position.

4.3 See AS 568 for O-ring sizes and corresponding dash number.



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