



KAYDON MATERIAL SPECIFICATION

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REVISED BY / DATE	K. Delao 8/30/2016
APPROVED BY / DATE	R. Burgess 8/31/2016 E. Keim 8/31/2016

BEARINGS DIVISION

PREPARED BY T. Gzym
APPROVED BY T. Gzym 03/31/1995

SUBJECT FORGING SPECIFICATION

REVISION: Complete re write to reflect current requirements

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1. SCOPE

- 1.1. This specification establishes the acceptance standards for forgings.
- 1.2. The material requirements of this specification apply to material forged by hammer or press or by a ring roller

2. APPLICABLE DOCUMENTS

- 2.1. INDUSTRY SPECIFICATIONS AND STANDARDS – latest issue of the following and the applicable documents invoked by each:
 - ASTM E10:** Standard Test Method for Brinell Hardness of Metallic Materials
 - ASTM E340:** Standard Practice for Macroetching Metals and Alloys
- 2.2. KAYDON BEARINGS MATERIAL SPECIFICATIONS – latest issue
 - KBM 015** – Packaging, Shipping and Material Identification

3. MANUFACTURING METHOD

- 3.1. Forgings shall be formed into rings using one of the following methods:
 - 3.1.1. Hammer or press, with mandrel and saddle
 - 3.1.2. Ring rolling

4. REQUIREMENTS

PROPERTY	REQUIREMENT
Material	<ul style="list-style-type: none"> • Unless otherwise specified on a purchase order or engineering drawings, forgings covered in this document will be supplied in accordance with the designated Kaydon Bearing Material (KBM) Specification. • Vendors to use a minimum number of heats in supplying the order requirements
Condition	<ul style="list-style-type: none"> • Forgings must be dimensionally stable and remain round to the tolerances shown on the Engineering drawing after machining • Sufficient stock must be allowed by the vendor to guarantee that forging or semi finished rings will clean up (meaning surface is free of decarburization or surface imperfections) to the dimensions shown on drawing when finish machined by Kaydon. • Heat treatment required shall be specified on Engineering drawing
Surface quality	<ul style="list-style-type: none"> • Surfaces shall be substantially free of scale and forging flash • Finished Machine size surface shall be free of surface imperfections that are detrimental to bearing performance. Surface imperfections include, but are not restricted to, Laps, folds, tears, cold shut, cracks and excessive decarburization
Grain Flow (Only when reqd. on Engineering Drawing)	<ul style="list-style-type: none"> • Grain flow per ASTM E340 shall be performed after process initially established and repeated if there is a major change in forging technique. Change must be approved by Kaydon Quality



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5. QUALITY ASSURANCE PROVISIONS

5.1. Any deviations from PO or engineering drawing must be approved by Kaydon prior to shipment

5.2. Mechanical straightening or re rolling only allowed with prior approval and direction from Kaydon. If Kaydon permits these processes, separate stress relief certification must be included with shipment

6. KAYDON BEARING REPORTING REQUIREMENTS

6.1. Kaydon Bearing's vendor must provide information required by the designated Kaydon Material Specification (KBM)

6.2. Vendor must indicate forging or semi-machined ring size, tolerance and weight on all quotes

6.3. Each Forging or semi-machined ring to be identified with Kaydon part number per KBM 015

6.4. Identify such that each forging is traceable back to the steel heat

7. PREPARATION FOR DELIVERY

7.1. Ship per KBM 015