

Fastenal Material Test Report (MTR) Requirements

The following products require Material Test Reports. Products not listed below may still require MTRs. The Fastenal purchase order and associated product standard shall indicate the need for material test reports.

Headed Fasteners, Studs, Threaded Rod, and Socket Products:

SAE J429 Grade 5 and 8*

Proprietary Grade 9*

Alloy Steel, 18-8 (A2) and 316 (A4) Stainless Steel, Aluminum, Brass, Monel 400, Silicone Bronze

ASTM F3125 Structural Bolts– all grades*

DIN EN 14399 Structural Fasteners*

ASTM A193 and A320 – all grades

ISO 898-1 Class 8.8, 10.9*, 12.9*

Class 90* and Class 100*

ASTM A449

ASTM A354 BC & BD*

Finished Hex Nuts, Hex Jam Nuts, Heavy Hex Nuts, and Prevailing Torque Locknuts:

Free-spinning nuts in SAE J995 Grade 5 and 8, and metric nuts in classes 8, 10, and 12

Proprietary Grade 9

Alloy Steel, 18-8 (A2) and 316 (A4) Stainless Steel, Aluminum, Brass, Monel 400, Silicone Bronze

ASTM A194 – all grades

Lock nuts in Grades B, N5, F, C, N8, G, metric classes 8, 10, and 12

ASTM A563 Grade C and DH

Washers and Non-threaded Product:

Structural Washers – Metric and Imperial

Proprietary Grade 9 Washers

Through-Hardened Flat Washers

Dowel Pins – Hardened ground machine in alloy steel and martensitic stainless

***NOTE:** Certain Fastenal's Product Standard (FPS) may indicate a Category 3 Fastener. For Category 3 externally threaded fasteners (33 HRC or harder minimum core hardness) the manufacturer must have the final inspection performed by an ISO/IEC 17025 accredited laboratory. Final inspection shall consist of the following:

(a) Verifying in-process inspection records for conformity

(b) Conducting any additional dimensional inspections to meet required sample size

(c) Conducting all applicable mechanical tests per the standard of which the product is made (ASTM, ASME, ISO/DIN etc.)

Resellers of Category 3 that do not have an ISO 17025 lab or purchase from manufacturer's without such a lab, shall use a 3rd party ISO 17025 laboratory for final inspection, validating the

requirements below on random samples of the purchase order and using mechanical, performance tests of ASTM F1470 sample plan (or equivalent DIN / ISO sample plans with zero defects for metric product) and ASME B18.18 for dimensions and thread gaging (or equivalent ISO 3269 default sample plan with Acc 0 defects for metric product).

The following requirements apply to all MTRs and must be listed on every MTR:

Specification References

- The current year revision(s) of the published industry specifications applicable at the time of the product manufacturing date shall be referenced on the MTR.

Systems of Measurement Units

- Test results/data shall be reported in the same system of measurement that the product specification uses. Where both units are represented in the product specification, the system of units required on the MTR shall be those in which the product is designated (*ex. ASTM A193/A193M has both units, but if the product size is designated as ½"-13 threads, the expectation is that the MTR will be in inch units*).

Fastenal Information (reseller's must provide in the form of a cover sheet, CoC or similar method)

- Full description of part
- Fastenal Part Number
- Fastenal's 9 digit Purchase Order Number

Supplier Information

- Business Name, Address, and Contact Information
- Signature from Lab or Quality personnel and their title
- Lot Size (manufactured quantity and shipped quantity)
- Lot and/or Heat Number
- Product Description (*ex. 5/8"-11 2H Nut, Heavy Hex; Plain Finish*)
- Manufacturing Date
- 3rd Party Lab Information: (applicable to Category 3 Fasteners)
 - Name and Address
 - Test date
 - Lab accreditation registrar and lab/certification number (*ex. A2LA; 1046.2*) for Category 3 products

Dimensional Specification and Test Results

- A date when parts were manufactured
- Dimensional specification with revision date (*ex. ISO 4017-2011 or Fastenal Product Standard name FHN.2H; Rev 04*)

- Key dimensional attributes (length, wrench size, body diameter, grip length, thread requirements, etc. – based on the dimensional specification or referenced on the Fastenal Product Standard)
- Sampling plan with current revision date (*ex. ASME B18.18-2017, ISO 3269- 2000*)

Secondary Processing (plating, coating, patches, etc.)

- Specifications with revision date
- Test Results as applicable
- Surface condition
- When coated, reference the specification used along with revision date (*ex. 3AN per ASTM F1941/F1941M-2016*)
- Sampling plan with current revision date (*ex. ASME B18.18-2017, ISO 3269- 2000*)
- Plating or Coating certifications must remain available to Fastenal for 5 years after processing the product

Material and Mechanical Properties

- Mechanical specifications and test results along with revision date (*ex. ASTM A193/A193M-2016 and ASME SA193/193M-2013*) to include all applicable requirements. For example, ASTM A193 B7 Bolt would require mechanical property results reported for: Tensile, Yield, Reduction of Area, Elongation, Hardness and Wedge Tensile Strength.
- Chemical Composition including grade used (UNS, AISI, or ISO) showing the specification min/max requirement and analysis results min/max (*ex. See ASTM A193 B7 chemical composition limits*)
- Test methods utilized and revision date (*ex. A370-2017 or ISO 898-1:2009*)
- Material test reports for all parts affected by the Fastener Quality Act (FQA) must be issued by an accredited lab when the manufacturer does not maintain a formally certified quality management system (*ex. ISO 9001, TS 16949, etc.*).
- Sampling plan with current revision date (*ex. ASME B18.18-2017, ISO 3269- 2006*)

Heat Treat Effectiveness (as applicable to grade or class)

- Carburization / Decarburization results expressed in hardness values or visual method with PASS/FAIL indication
- Material Cleanliness, Macroetch results reported with values for S, C, and R locations
- Test methods utilized and revision year (*ex. ASTM F2328-2017*)

Hydrogen Embrittlement Testing (consult the applicable Fastenal Product Standards)

- Temperature that the parts attained in the oven (not the oven ramp temperature)
- Time that the parts remained at required temperature (not the oven ramp times)
- Sample size for testing after plating
- Test method used
- Torque used (or force used, if unthreaded) to clamp the samples
- Indication of conformance

Statement of Compliance

The MTR shall include a statement that the products supplied are in compliance with all the requirements of the order.

The original MTR by the manufacturer shall state compliance to DIN EN 10204 3.1 content.

DELIVERY REQUIREMENTS:

- One lot/heat per test report. We will not accept multiple lot numbers to be listed on a single MTR.
- MTRs shall be emailed in a PDF or TIF format. Email size shall not exceed 10MB
- Send only one MTR per PDF or TIF. MTRs cannot be combined by invoice number, ship date, etc.
- Zip or RAR files cannot be sent.
- MTR filename format shall be: **PartNumber_PONumber_LotNumber**
(Examples: 12345_AA012345_9876543 or 12345_110004122_135792)
- All MTRs must be sent to materialcert@fastenal.com and mtr@fastenal.com immediately after shipment.
- Fastenal requires that Material Test Reports and plating certs to be maintained for at least 5 years past the time of supplier's invoice to Fastenal
- All questions should be directed to the Material Certifications Department at webcertrequest@fastenal.com.