

10 of the Most Frequently Asked Questions About the FINAL FQA

by Joe Greenslade

The Fastener Quality Act (FQA), Public Law 101-592, (as amended in 1999) has finally passed and will be implemented officially on December 6, 1999. There are no efforts being made to further delay its implementation or to further amend it. What the fastener industry has now is what will have to be complied with.

Below are the most frequently asked questions I have heard since this final law was passed on June 8, 1999. The answers I will provide are my personal understanding of the law and its compliance rules. There are **NO OFFICIAL ANSWERS** from any government agency today and none are planned for in the future. Each fastener supplying company should read the law and review any matters that will directly affect its business with their own legal council.

Question #1. What is now covered by the FQA?

Answer #1. A "fastener" is defined in Section 3 (6) of the FQA. This is where we find what is covered and what is exempt from the FQA.

For a product to be a "fastener," that product must have ALL of the following elements. If any element is missing, a product is NOT a "fastener" according to the FQA.

- It must be metallic.
- It must have internal or external threads 1/4 inch or 6 millimeters or larger or it must be a load-indicating washer.

- It must be through hardened as required by a consensus standard.
- It must be made to a consensus standard that requires the parts to be marked with a grade identification.

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If a product meets ANY of the following conditions, that product is NOT a "fastener" for purposes of the FQA.

- It is part of an assembly.
- It is a spare or repair part and is packaged in quantities of 75 or less.
- It is made according to ASTM A307 Grade A.
- It is made to ASTM F432.
- It is manufactured under the oversight and/or requirements of the Federal Aviation Administration.
- It is manufactured according to a

- "fastener quality assurance system" such as ISO 9001, ISO 9002, QS 9000, AS 9000, TS16949, or VDA 6.1 standard.
- It is a part made to proprietary standard. A proprietary standard is a document or drawing provided by a fastener end user to describe a part. The document or print may make direct or indirect reference to a consensus standard and still is considered a proprietary standard.
- It was manufactured before December 6, 1999.

Fortunately, the final definition of a "fastener" is much simpler and less ambiguous than previous definitions. This definition also greatly reduces the scope of the coverage of the FQA.

Below is a list of the most widely used screws, bolts, and studs that are covered by the final FQA if they are **SOLELY** made to these consensus standards:

SAE

J429 grades 5 and higher
J1199 grades 8.8 & 10.9

ASTM

A325, A325M, A354, A449, A490, A490M
A193 grades B5, 6, 7, and 16
A574M (metric SHCS only)
F738M grades C1, C3, & C4
(condition H or HT only)

ISO, DIN, and JIS

Property classes 8.8, 10.9, 12.9,
& F1 (410 stainless steel)

Joe Greenslade has been active in the fastener industry since 1970. He has held positions with major fastener producers in sales engineering, marketing, product design, manufacturing management, and research and development management.

Mr. Greenslade holds twelve U.S. patents on various fastener related products. He has authored over 136 trade journal articles on fastener applications, manufacturing and quality issues. He is one of the fastener industry's most frequent speakers at trade association meetings and conferences. He is the youngest person ever inducted to the Fastener Industry Hall of Fame.

Mr. Greenslade is active in numerous fastener industry associations and societies holding office in several of them.

In addition to guiding the activities of Greenslade & Company, Mr. Greenslade works as a consultant with fastener suppliers and end users on product design, applications engineering, and quality issues. In this capacity he works to resolve fastener applications problems, to help select the best fastening approaches in new product designs, to assist in the standardization of fasteners used within an organization, and to provide training on various aspects of fastening technology and fastener quality assurance. He also serves as Expert Witness in litigation involving fastener related issues.



Below is a list of the most widely used nuts that are covered by the final FQA if they are SOLELY made to these consensus standards:

SAE

J995 grade 8

ASTM

A194 grades 2H, 2HM, 3, 4, 6, 6F,

7, 7M, 16

A563 grades DH, DH3, C, C3, &D

F836M grades C1, C3, & C4

(conditions H & HT only)

ISO, DIN, and JIS

Property classes 10 & 12

It is important to note that special parts with configurations that are not those of a consensus standard are NOT covered even if the print or customer's specifications refer to some of the standards listed above.

Question #2. Are inch hex socket products really exempt from the FQA?

Answer #2. Yes. Even though all inch alloy steel socket products are through hardened as required by consensus standards, they are not required by those same standards to be grade marked and are therefore, NOT COVERED.

It should be noted, however, metric socket head cap screws are covered by the FQA because their applicable consensus standards do require grade marking in addition to through hardening. No stainless steel socket products made to inch or metric standards are covered by the FQA.

Question #3. What does a manufacturer have to do to comply with the FQA if their factory is registered to ISO 9001, ISO 9002, QS 9000, or a similar formal quality assurance system (QAS)?

Answer #3. Nothing! Every part made in a factory that is registered to a formal quality assurance program such as those stated above is exempt from having to meet any of the requirements of the FQA.

Furthermore, the IFI and NFDA state in their recently published "Comprehensive FQA Compliance Guide" that they believe it is Congress's intent that parts produced in a facility that is registered with an approved QAS are to be considered "compliant" with the FQA.

I strongly suggest that the containers and/or container labels that hold parts are exempt from the FQA, because they are produced in a QAS registered facility, include the logo of the QAS registrar and the facility's registration number.

I strongly suggest that the containers and/or container labels that hold parts are exempt from the FQA, because they are produced in a QAS registered facility, include the logo of the QAS registrar and the facility's registration number. This could head off a lot of questions and concerns about the FQA status of these types of parts.

Question #4. Can I sell my grade marked, through hardened bolts I have in stock now after December 6, 1999, and if so, can I sell them as "FQA compliant?"

Answer #4. (a) It is legal to sell all products that were made before the enactment of the FQA. These products are all exempt from the coverage of the FQA. (b) If a fastener supplier wants to sell grade marked, through hardened parts as "FQA compliant" it can do so if it creates an "FQA record of conformance." It should be noted that a legitimate record of conformance can be prepared only on products that bear a manufacturer's insignia that is registered on the FQA registry list at the US Patents and Trademark Office. The parts should also be directly traceable to their original raw material certificate.

Question #5. If parts are a "fastener" under the FQA definition and are NOT produced in a registered QAS facility, do they have to be tested in an ISO Guide 25 accredited laboratory?

Answer #5. These parts will have to be tested before creating the record of conformance, but they will not have to be tested in an accredited laboratory until June 8, 2001. The FQA specifically provides this two year grace period for the use of accredited laboratories.

I strongly suggest that all testing be performed in accredited laboratories starting December 6, 1999, even though this grace period exists. I believe doing

so will eliminate many potential challenges to the FQA conformance of these types of parts by end users in the future.

Question #6. What is required to be on the "record of conformance" and how long must these be kept?

Answer #6. Manufacturers must create a "record of conformance" that includes the following:

- a. Name and address of manufacturer
- b. Fastener description
- c. Lot number
- d. Nominal dimensions (example: 3/8-16 X 4)
- e. Applicable consensus standards
- f. Chemistry and material grade
- g. Coating or plating and applicable consensus standards
- h. Results or summaries of the tests and inspections performed

There is no longer a requirement for "original signatures" on these records or reports. Documents can be stored on paper, photographically, or electronically.

It is the IFI/NFDA interpretation that the only testing that is required for preparing the record of conformance are those tests related to the physical testing requirements contained in the applicable consensus standards, such as the hardness, tensile, and proof load tests. The chemical analysis indicated on the material's mill certificate is adequate for the record of conformance. Chemistry never has to be tested in an accredited laboratory. Dimensional measurements are not required for the preparation of the FQA record of conformance.

Records of conformance must be kept for a minimum of five years. It should be noted, however, that an FQA violation can be investigated for up to ten years. The practical approach for manufacturers and importers is to actually keep all records of conformance and

continued on page 10

associated documentation for ten years instead of five.

Question #7. What do I have to do if I plate or otherwise alter an FQA covered part after December 6, 1999?

Answer #7. The FQA says absolutely nothing about alterations! If you alter a covered part, it will not then be identical to its original record of conformance. I suggest you attach a notice to the record of conformance simply stating that the parts may not now be identical to their original record of conformance due to the alteration and state the alteration that was performed on the parts.

Question #8. Does a distributor have to receive and keep copies of the FQA records of conformance?

Answer #8. NO! The distributor does not have to do anything relative to the FQA unless a customer asks them for a copy of the FQA record of conformance. If this happens, the distributor can request a copy from the manufacturer or importer and provide it to the end user.

Not only are there no document requirements for the distributors, but there are no packaging or package labeling requirements as existed in previous versions of the FQA. There are also no specific prohibitions against commingling parts as there were previously.

Question #9. Exactly what are the activities that are prohibited by the final FQA?

Answer #9. The following acts are specifically prohibited:

1. Falsification of "record of conformance"
2. Falsification of the identification, characteristics, properties, mechanical performance marks, chemistry, or strength of the lot of fasteners
3. Falsification of the manufacturer's insignia
4. Failure to maintain required records

Fastener suppliers who do not comply with the requirements of PL 101-592 are subject to civil and/or criminal penalties, depending on the nature of the violations. Civil penalties of up to \$25,000 can be levied for each offense. Those convicted of criminal offenses can be sent to prison for up to 5 years for each offense.

Question #10. Who can be contacted in the government to provide "official" FQA interpretations?

Answer #10. The Patent and Trademark Office will provide clarification on matters related specifically to registering manufacturer's insignias on the FQA registry list.

The Bureau of Export Administration will discuss what constitutes an FQA prohibited act and the procedures related in investigating and prosecuting offenders.

There is NO government organization that will provide any interpretations beyond these two areas. No one will tell you whether a given part is covered or not. No one will tell you exactly how to deal with altered FQA parts. Congress advised those who worked on this final version of the FQA that they would NOT provide regulations as in the past. They

are leaving it to the fastener industry to interpret the FQA for itself.

Unfortunately, what this means is that if serious disagreements arise between parties over issues related to the FQA, they will have to be settled in the federal courts. Those having to go this route will probably have a very expensive and grueling experience.

The Fastener Quality Act journey has been a long, frequently frustrating one going all the way back to the mid-1980s. I am glad to say we have ended up with a much more practical, workable law than I was afraid we would. The final law did not end up covering only 1% of all fasteners sold in commerce as was originally proposed to Congress, but it has ended up closer to that than to the 50% or so that would have probably been covered under the act as it was before this final version was published on June 8, 1999. ■

Determining Which Fasteners Are Covered by the Fastener Quality Act Based on PL 101-592 (1999)

