



December 9, 2013

December 2013 Fastener Industry Technology Update

This document contains information about activities in fastener standards and other technical issues relevant to the fastener industry over the past month.

1. Standards Organizations Activities

a. Standards published during October

- i. B18.6.3** – Inch machine and tapping screws.
- ii. IFI 116** – Multi-grip Blind Rivet Standard.

b. Standards in the revision process

- i. SAE J429** – Inch Bolt and Cap Screw Material Standard. The first ballot for a revision to specifically add AISI 410 as an approved material for Grade 8 bolts was not accepted by the committee. A new ballot has already been submitted simply adding a footnote to Table 2 allowing higher S and P content for alloy steels used to produce bolts cut from bar or hot upset as opposed to being cold formed. This proposal was approved by the members of the committee who voted negative on the first ballot.
- ii. SAE J2280**, Ship Systems and Equipment – Fasteners – Selection and Identification Requirements. This standard revision will be balloted between now and early 2014.
- iii. SAE J2295**, Fastener Part Standard—Cap Screws, Hex Structural Bolts, and Hex Nuts (Inch Dimensioned). A revision of this Ship Systems Fastener Standard is being prepared for ballot before the end of 2014.
- iv. ASME B18.16.6** – Inch Lock Nuts. This has been balloted twice. The negatives and comments have been responded to. This standard was approved by the committee and has been submitted to the ASME Board of Standardization before going to publication.
- v. ASME B18.24** – Fastener part identification numbering system. A revision to this standard is in progress.
- vi. ASME B18.31.2** – Inch studs. An Appendix is going to be introduced to define the acceptance criteria for the length on continuous threaded studs ordered to ASTM material standards (see information on IFI 193 below).
- vii. ASME B18.31.3**, Threaded rod (inch) has been balloted once. Responses to the negatives were discussed and a new ballot is expected in early 2014.
- viii. ASTM F606/F606M**, Fastener Testing Standard, the inch and metric standards are being combined into a single standard. The first ballot closed in mid-October. All comments have been addressed. The final ballot will go out before the end of 2013.
- ix. ASTM F16 Structural Bolt Standard** – A new standard is in the works which is a compilation of inch and metric bolt standards including A325, A490, F1852, F 2280, A449, A354, A325M, and A490M. This is an effort to make the requirements of these related bolt standards consistent. One ballot has closed and the results were discussed at the F16 November meeting. A new ballot will go out in early 2014.
- x. ASTM F1941**, Electroplating Standard for Fasteners. One ballot closed in early October. The negatives and comments were discussed at the November F16 meeting and a revised ballot will go out in mid-December, 2013. A lot of the on-going discussion is how to specifically address the processing requirements for case-hardened screws.
- xi. ISO/CD 13469** – Riveted Joint Testing. This will be reviewed at the ISO TC 44 meeting on December 9 in Miami.

- xii. **ISO 10683** – Zinc flake coatings for fasteners, is out for final ballot and will hopefully be published by mid-2014.
- xiii. **ISO 4042** – Electroplating finishes for fasteners was discussed at the ISO TC 2 meetings in Paris during the third week of October. The majority of the work was on Appendix B which addressed hydrogen failures and how to manage process variables to decrease its potential effects of hydrogen. No ballot is expected until 2014 at the earliest.
- xiv. **ISO 3269** – Fastener acceptance, first draft proposal to convert this standard from an AQL plan to a C=0 plan has been submitted to the ISO TC 2 by the US. This was discussed at the ISO TC 2 meeting in Paris in October, 2013. There was agreement on the approach that is being taken. Work will be done on selecting a C=0 sampling plan to include in the first draft for ballot in early 2014. The book titled **Zero Acceptance Number Sampling Plans**, fifth edition, by Nicholas Squeglia will serve as the resource document for the basis of the US sample table proposal.
- xv. **ISO 6157** – Fastener surface discontinuities was discussed in Paris in October 2013. Work will continue in working group in 2014.
- xvi. **ISO 2320** – Locking nut performance – this was discussed in Paris at the ISO TC 2 meeting in October 2013. There was general agreement except on the specification for test bolt finishes. This will be worked out during the balloting process. A ballot should be issued in early 2014.
- xvii. **ISO 1891-4** – Terms and terminology related to quality assurance. This was worked on at an ad hoc meeting in Paris in June, 2013. This should be balloted before the end of 2014.

2. IFI Technical Working Group activities in progress:

- a. **IFI 193, Continuous Thread Stud (Stub Bolts)** for ASTM Materials. Work is in progress on this new standard specifically to cover the stud length requirements for the length to be measured “first thread to first thread” as an interim standard until the ASME B18.31 sub-committee can address this issue.

SCOPE: This Standard covers the complete dimensional and general requirements for continuous thread studs (*sometimes referred to as stud bolts*) that are threaded over their complete length for sizes ¼ through 4 inches using ASTM material grades primarily intended for use in flange applications as defined in ASME B16.5.

- b. **IFI 199, Tap Bolts.** Work is in progress on the development of this standard to cover a widely used bolt design that is not covered by the ASME B18.2 sub-committee standards. This will serve as an interim standard until ASME B18 covers this product within an existing standard or by creating a new standard.

SCOPE: This Standard covers the dimensional requirements for inch series tap bolts made of carbon steel and stainless steel in sizes ranging from ¼ through 4 inches.

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