



September 2, 2015

## ***September 2015 Fastener Industry Technology Update from the IFI***

### **1. Standards Organizations Activities**

#### **a. Standards published recently:**

- i. ASME B18.15**, Forged Lifting Eyes (Inch)
- ii. SAE J2271M-2015** - Ship Systems and Equipment - Part Standard for Studs - Continuous and Double End (Metric)
- iii. IFI-113**, Self-drilling Screws (Inch) – see attachment.

#### **b. Standards that have passed committee balloting and have begun the publication process:**

- i. ASME B18.24**, Fastener part identification numbering system.
- ii. ASTM F1941/F1941M**, Electroplating Standard for Fasteners.

#### **c. Standards in the revision process**

- i. ASME B18.2.1**, Bolts and Cap Screws (inch series). Sept 2014, work has begun to add a missing Lg/Lb table for hex flange head screws and correct a few other minor issues. Completion is expected in 2016.
- ii. ASME B18.2.2**, Non-locking Nuts (inch series). Sept 2014, work has begun to correct an error in the hex sizes of “Small Pattern Hex Machine Screw Nuts”. First ballot completed in March 2015. Completion is expected before the end of 2015.
- iii. ASME B18.2.6**, Structural Fasteners (inch series). Sept 2014, work has begun to revise this standard to incorporate a critical table note currently covered by a Supplement and to make minor revisions to the DTI portion of the standard. Completion is expected in 2016.
- iv. ASME B18.2.6M**, Bolt for Structural Construction and High Pressure Applications (metric series). Sept 2014, work will begin to increase the size range from M36 through M100 and to make some minor revisions to the DTI portion of the standard. Completion is expected in 2016.
- v. ASME B18.13**, SEMS (inch series). This standard was last revised in 1996 and will now undergo a complete revision to reflect changes and additions to the metric version B18.13.1M. The revised scope was approved and the first ballot of the revision was opened in July.
- vi. ASME B18.16.6**, Inch Locking Nuts. The B18.16 sub-committee has started work on a revision to lower the proof load values of thin insert lock nut to 45% of the regular height nuts and to correct the errors in the NTM series of nut heights. The revision process should be complete before the end of 2015.
- vii. ASTM A354**, Standard Specification for Quenched and Tempered Alloy Steel Bolts, Studs, and Other Externally Threaded Fasteners. Some weaknesses in the standard were discovered as a result of the threaded rod failures on the Bay Bridge. The committee is proposing that a higher grade of alloy steel be required for sizes over 2-1/4 inches to assure better hardenability plus Charpy testing and cross-sectional hardness testing for sizes over 2-1/4 in. The second ballot was closed in July with a few negatives. A third ballot will go out before the ASTM F16 Fall meeting.
- i. 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. Work is also under way on Appendix D dealing with the

effects of plating on threads and how pre-plate threads may need to be adjusted to provide adequate room for plating and coating buildup. At the ad hoc working group meeting in June 2015 in Paris it was decided that ISO 4042 is now ready to be presented for first ballot before the end of 2015.

- ii. **ISO 898-2**, Mechanical properties of fasteners made of carbon steel and alloy steel - Part 2: Nuts with specified property classes - Coarse thread and fine pitch thread – work is under way to adjust minimum hardness values of various styles and grades of nuts to meet the published proof load values in the current draft. At the ad hoc working group meeting in June 2015 in Paris it was decided that ISO 898-2 is now ready to be presented for first ballot before the end of 2015.
- iii. **ISO 3269**, Fastener acceptance. At the ad hoc meeting in Paris in June, 2014, it was agreed to use the c=0 plan (similar to ASTM F1470 and ASME B18.18) as a receiving inspection plan at the purchaser's option. At the ad hoc working group meeting in June 2015 in Paris it was decided that ISO 3269 will be revised once more by the working group and that hopefully at the annual ISO TC 2 meeting in New Orleans the working draft will be approved to send out for the first ballot by the end of 2015.
- iv. **ISO 6157**, Fastener surface discontinuities was discussed in Paris in October 2013. Work will continue in the working group in 2016.
- v. **ISO 2320**, Locking nut performance – Work progressed on this during the October 2014 meeting in Milan. This will be worked out during the balloting process. A ballot was issued in July. The results of the ballot will be reviewed at the annual ISO TC2 meeting in New Orleans in October 2015.
- vi. **ISO 1891-4**, Terms and terminology related to quality assurance. This is being balloted for approval to begin the formal balloting process in the near future. This is likely to be approved and the first content ballot should be voted on before the end of 2016.

## 2. **Standards Organization Meetings (for info contact [techinfo@indfast.org](mailto:techinfo@indfast.org)):**

- i. **SAE Fastener Committee and SAE Ship Systems Fastener Committee** will meet at the IFI HQ in Independence, Ohio on September 15, 2015.
- ii. **ASME B18 Fastener Committees** will meet at the IFI HQ on September 16, 2015.
- iii. **ASME B1 Screw Thread Committees** will meet in Las Vegas on October 20 and 21, 2015.
- iv. **ASTM F16 Fastener Committee** will meet in Tampa, Florida on November 15 through 17, 2015.
- v. ISO TC2 Fastener Committee meetings are being hosted by the United States delegation in New Orleans on October 11 through 17, 2015.

## 3. **TRAINING OPORTUNITES:**

### a. **Future IFI Members Only Programs:**

- i. **Fundamentals of Fastener Metallurgy and Heat Treatment**
  1. Date: December 1, 2015
  2. Location: Detroit area, details to be determined
  3. Instructor: Laurence Claus
- ii. **Fundamentals of Fastener Metallurgy and Heat Treatment**
  1. Date: December 8, 2015
  2. Location: Los Angeles area, details to be determined
  3. Instructor: Laurence Claus
- iii. **Fastener Raw Materials...Mill to Header (Aerospace version)**
  1. Date: December 9, 2015
  2. Location: Los Angeles area, details to be determined
  3. Instructor: Laurence Claus

**b. Fastener Training Institute**

- i. Hydrogen Embrittlement Webinar September 18, 2015 (see attached flier for details).
- ii. One Day Class on an overview of the fastener industry
  1. Date: October 21
  2. Location: Las Vegas
  3. Instructor: Bengt Blendulf (2014 IFI Technology Soaring Eagle Award recipient)  
Information sheet attached.

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