Teacher
London Penland

Subject
Metric Fastener Standards Comparison

Date
11/13/19

The Left Behind Washers (DIN 127, 128, 137, 6797, 6798, & 7980)

Objectives:

- Viewers will learn which washers have not been given an ISO counterpart
- Viewers will learn which washers have had their standards totally withdrawn and why

Essential Questions:

- Which DIN spec washers did not get an ISO version?
- Which DIN spec washers were totally withdrawn?
- Why were some of the DIN spec washers withdrawn?

Standards:

- DIN 127, DIN 128, DIN 137, DIN 6796, DIN 6797, DIN 6798, DIN 7980

Lesson Plan:

Engage (1 min)

- Things have changed...
- One time I went to a baseball game, and these two older ladies were watching the game, and they had snuck a whole bottle of liquor in with them. They got so drunk that they couldn't see the scoreboard, so they made up their own score. This is what they came up with: "It's the bottom of the fifth and the bags are loaded"
- That's a throwback to Andy Kaufman, in case you didn't know, and speaking of things that have been left behind, but not forgotten, let's talk about the washers, I like to call "the left behind washers"
- Kind of like the Left Behind books, the other washers we've discussed have been "raptured" into ISO counterparts, but these guys have been left behind and only one of them actually still has a valid standard.
- Okay, okay, that's enough with the jokes, let's get going with our 8th episode of the Metric Fastener Standard Comparisons VLOG series!

Explain (2 min)

- So which DIN standards have been left behind? DIN 127 spring lock washers, DIN 128 curved spring lock washers, DIN 137 Spring washers, DIN 6797 toothed lock washers, DIN 6798 serrated lock washers, and DIN 7980 single coil spring lock washers.
- DIN 6797, conical spring washers, actually did not receive an ISO counterpart either, but whereas the actual DIN standard for the others has been withdrawn, DIN 6797 is still a valid standard.
- So why did DINs 127, 128, 137, 6797, 6798 and 7980 get withdrawn without an ISO counterpart or replacement? Well, it's because they are technically useless...
- You heard that correctly, I'm dissing those DINs.
- I feel like my opening joke isn't going to be as controversial as this claim (which it should be, the joke is kinda sexist and ageist - I am a millennial after all), but in all seriousness, there is both experiential and experimental evidence dating back to 1969 that shows the ineffectiveness of these washers.
- The body of evidence became large enough that The Deutch Institute for Normalization eventually withdrew these DINs all together, only leaving DIN 6797 as valid, because tests showed that DIN 6796 actually does reduce settling, therefore has a necessary application.
- So 127, 128, 137, 6797, 6798 and 7980 are actually fully discouraged for use with bolts of class 8.8 steel and above.
- DIN 6796 is considered effective for bolts up to class 10.9 steel.

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- And none of these guys have an ISO standard, so maybe they won't be around forever? And maybe that's why I decided to open this episode with a controversial Andy Kaufman reference. Because, whatever I guess...
- Any ways! We actually sell all of them, so if you are looking for them, because some engineer has decided that they are actually useful for something, or at least they think they are, then we've got them for you!

Extend (1 min)

- So, that's it for today!
- The takeaway from today's lesson is that the DINs 127, 128, 137, 6796, 6797, 6798 and 7980 do not have ISO counterparts or replacements and all of them except for DIN 6796, have had their standards withdrawn, as only DIN 6796 is considered to have any real application, whereas the others are considered ineffective.
- As always, feel free to contact me personally at **london@eurolinkfss.com** with any questions or, of course, requests for quotes and check out the Eurolink website to view other metric fastener comparison videos and/or download the lesson plans.