Teacher
London Penland

Subject
Metric Fastener Standards Comparison

Date
3/18/20

Comparing DIN 439 to ISO 4036, ISO 4035 and ISO 8675

Objective:

- Viewers will learn the DIN/ISO standardization differences between the DIN 439 hexagon thin nuts and their ISO counterparts (ISO 4036, 4035, and 8675)

Essential Questions:

- Are there any differences in the DIN and ISO standardizations of the hexagon thin nut?

Standards:

- DIN 439 Part 1 -> ISO 4036
- DIN 439 Part 2 -> ISO 4035
- DIN 439 (Fine Thread) -> ISO 8675

Lesson Plan:

Engage (30 sec)

- Welcome back to Eurolink's Metric Fastener Standards Comparison VLOG series! This is episode 14 of our series and today we will be getting skinny with the hexagon thing nut.
- As you can see, I'm in the office, social distancing myself in the conference room. We haven't gone remote yet, and it's probably for the best, because I'd end up trying to shoot this video with my wife yelling my name in the background and my dog jumping up into my lap.... Actually, that would probably make for an even more entertaining episode.
- So, I'll be honest, this particular video is a bit rushed due to everything going on, my attention has been diverted elsewhere, but there was a couple weeks of no videos do to me being at the NFDA/Pac-West Conference in Long Beach the week before last, and then the world going crazy last week (therefore us having strategy meetings and all kinds of stuff to make sure we are taking care of our employees and customers) and I was sick for a couple days... don't worry I don't have the dreaded C-word (I refuse to say it in my VLOGs, I have to write enough about that crap in my editorials... I've only published 3 and all 3 are related to it unfortunately, but that particular topic is the biggest thing affecting international trade right now, so it's reasonable, but annoying.) I'm sure y'all are tired of it too, so let's move on and get nutty about nuts!

Explain (2 min)

- The reason I say this video is a bit rushed is because I choose this topic, wanting to stay in the hex nut lane (from my last video), but after researching it a bit, I've found that it's actually a topic with a good amount to unpack, and since I like to limit these videos to 10 minutes or less, I'll hit what I can today and possibly release a part 2 to this video on another day.
- At least that aligns with the item itself as DIN 439 does actually have a Part 1 and a Part 2.
- DIN 439 in general are hexagon thin nuts. These are nuts that are roughly half the height of regular hex nuts (i.e. the DIN 934/ISO 4032 from last video).
  - For example, an M5 ISO 4032 hex nut has a height of 4.4 to 4.7mm, whereas a M5 ISO 4035 hex thin nut has a height of 2.45 to 2.7mm. So just over half the height.
- DIN 439 Part 1 is unchamfered.
- DIN 439 Part 2 is chamfered.
- DIN 439 Part 1 crosses over to ISO 4036 and has limited interchangeability, whereas DIN 439 Part 2 crosses over to ISO 4035 is considered interchangeable, though there are some slight dimensional differences.
- This is the part that feels rushed... DIN 439 Part 1 is considered to have limited interchangeability but according to the crossover tables that Wurth's engineers use only the M10 size has a different width across the flats. They also say (and I'm quoting directly)

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"Recommendation: use nuts according to ISO 4035".

- This is what I want to explore more and may be the topic of a soon-to-be blog post, because it looks like the are recommending their engineers essentially not use the DIN 439-1 or ISO 4036 at all, rather just use ISO 4035. I'd like to know why. So, if any of my viewers out there has any ideas, please let me know. This will be something I research further.
- More interestingly, ISO 4035 actually has differences at more sizes than ISO 4036.
- That is, The WAF for M10, M12, M14 and M22 has changed, yet ISO 4035 is considered fully interchangeable. This may be due to the WAF difference being insignificant relative to most applications.

- Other than that the technical call-out for the stainless steels changed from 50 and 70 to 025 and 035 respectively for the tensile strength
- The nominal size 1.8 was omitted and like with the hex nuts, ISO 4036 and ISO 4035 are coarse thread only, with fine thread having it's own callout (ISO 8675)
- ISO 8675 is chamfered

Extend (30 sec)

- So, that's it for today!
- As a review
  - DIN 439 Part 1 = ISO 4036 and is unchamfered
    - With WAF different at M10
  - DIN 439 Part 2 = ISO 4035 and is chamfered
    - WITH WAFs different at M10, 12, 14, and 22
  - Fine Thread DIN 439 = ISO 8675
  - The ISO versions have 025 and 035 as their callouts for the stainless steel tensile strengths
  - Nominal size M1.8 has been omitted
- As always, please feel free to send any questions, comments, or (of course) requests for quotes to me at **london@eurolinkfss.com** or your respective inside sales rep and check out our website **eurolinkfss.com/vlog** for all of our metric fastener comparison videos!
- See you guys next time!