Teacher
London Penland

Subject
Metric Fastener Standards Comparison

Date
2/26/20

Comparing DIN 934 to ISO 4032 (ISO 8673)

Objective:

- Viewers will learn the DIN/ISO standardization differences between the DIN 934 hex nut and the ISO 4032 hex nut and ISO 8673 fine thread hex nut.

Essential Questions:

- Are there any differences in the DIN and ISO standardizations of the standard hex nut?

Standards:

- DIN 934 -> ISO 4032 (ISO 8673)

Lesson Plan:

Engage (30 sec)

- Welcome back to Eurolink's Metric Fastener Standards Comparison VLOG series! This is episode 13 and today we are going to talk about probably one of the most iconic fasteners in our industry, the hex nut!
- Are you a nut for nuts!? Well today's nuts are particularly nutty, as we will be discussing DIN 934 hex nut versus it's ISO counterpart ISO 4032.
- This is another case in which the DIN standard has been formally withdrawn in favor of the ISO standard. This probably will not have a major impact on sourcing for most applications, but it may have an impact on some, especially those diameters that have been excluded from the ISO standards.
- So, let's get right to it!

Explain (2 min)

- First, let's dive in hard with an overview of the differences:
  - The nominal range has change significantly.
  - The height of the nut has changed slightly across many sizes.
  - Like the DIN vs. ISO Hex Head Cap Screws, the biggest difference is going to be the Width Across the Flats at the M10, M12, M14, and M22 diameters.
  - Also, the DIN 934 standard has split into 2 ISO standards. Whereas the DIN 934 standard accounted for both coarse thread and fine thread, the ISO coarse thread hex nut is ISO 4032 and the ISO fine thread hex nut is ISO 8673.
- Let's dive deeper.
  - The nominal range has shrunk from M1 to M100 in DIN 934 to M1.6 to M64 in ISO 4032. ISO 8673 has it's own range, it's own exclusions and has preferred and non-preferred threads, which could be a good article idea for one of my blogs, so I think I'll write one up for you guys if you want to explore that separately.
  - Side note, If you haven't already, check out my blogs too! I'm just starting on that but I've already got a couple different threads going, currently one on stainless steels titled "A2 vs. A4" and another on Fastener Importing News in general. It might be a bit entertaining for you as well!
  - But, I digress, back to the nominal exclusions. All of the non-preferred diameters have been maintained in the ISO 4032 standard with the exception of M7. That one was cut and is DIN 934 only. The rest, like M3.5, M18, M39, etc. are all still available in the ISO standard.
  - Diameters up to M4 should have equivalent heights, therefore there should be no significant dimensional difference between the DIN 934 and ISO 4032 at the M1.6 – M4 range, but starting with M5, the height (which is the "m" dimension in most specs) does start to differ, with the height actually being just a bit taller (usually about .2-.7mm taller) on the ISO 4032 hex nuts than the DIN 934s.
  - The Width Across the Flats (which is the 's" dimension in most specs) is has an identical range at all of the diameters, with the exception of M10, 12, 14, and 22. At

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those diameters, the WAF is approx. 1-2mm smaller for the ISO 4032 hex nuts than the DIN 934 hex nuts.

- Finally, as I said earlier, the ISO fine thread hex nuts actually have their own call-out, ISO 8673, therefore if you are sourcing an ISO standard hex nut, then you will not need to specify thread pitch for ISO 4032s as they will all be coarse thread, but you will need to specify thread pitch for fine thread ISO hex nuts as ISO 8673 allows for preferred and non-preferred thread pitches for most diameters.

Extend (30 sec)

- So, that's it for today!
- As a review
  - The ISO 4032 range is M1.6 to M64, cutting out diameters below M1.6 and over M64 that existed in the DIN 934 standard.
  - The height of the nuts are the same up to M4, then begin to differ with the height of the ISO 4032 hex nuts actually being slightly taller than the DIN 934 hex nuts.
  - The WAF is the same for all diameters except M10, 12, 14 and 22 (like the hex bolts)
  - Lastly, whereas with the DIN 934, you specified thread pitch, with the ISO 4032 there is no need to specify thread pitch as they are all coarse thread. If you want fine thread to the ISO standards, then you'll be looking for ISO 8673 and you will want to specify thread pitch.
- 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!