

Teacher
London Penland

Subject
Metric Fastener
Standards Comparison

Date
1/29/20

Comparing Hexagon Socket Set Screws: Flat Point, Cone Point, Dog Point, and Cup Point

Objective:

- Viewers will learn the DIN/ISO standardization differences between the various types socket set screws.

Essential Questions:

- What are the four major types of socket set screws?
- Is there a difference between the DIN and ISO versions of the socket set screws?

Standards:

- DIN 913 -> ISO 4026, DIN 914 -> ISO 4027, DIN 915 -> ISO 4028, DIN 916 -> ISO 4029

Lesson Plan:

Engage (30 sec)

- Welcome back to Eurolink's Metric Fastener Standards Comparison VLOG series! This is our first episode of 2020 and I am excited to announce that this is the 20th anniversary year for Eurolink! That's right, we are turning 20 in 2020! Speaking of great marketing opportunities, I will make an interesting announcement about this in the closing segment of today's video.
- Today we are covering the socket set screws also often called grub screws.
- I'm not sure why they are called grub screws, but I like to think it's because they often kinda look like the grubs Simone and Pumba eat in The Lion King.
- To be honest, there isn't much of a difference between the DIN and ISO standard, so I'll also just teach on the differences between the various major set screws themselves.
- Let's begin...

Explain (2 min)

- DIN 913 is equivalent to ISO 4026. DIN 913 and ISO 4026 are both hexagon socket set screws with flat points.
- DIN 914 is equivalent to ISO 4027. DIN 914 and ISO 4027 are both hexagon socket set screws with cone points.
- DIN 915 is equivalent to ISO 4028. DIN 915 and ISO 4028 are both hexagon socket set screws with dog points.
- DIN 915 / ISO 4028 is unique in that they can be full dog or half dog (i.e. the length of the dog point itself).
 - Whether or not the DIN 915 set screw has a half dog end or full dog end is determined by the diameter and length of the screw.
 - For Example, take an 8mm diameter DIN 915. At lengths equal to or below 10mm, the point will be a half dog with a point (z) measurement of 2-2.25mm, whereas lengths above 10mm full dog with a point measurement of 4-4.3mm.
- DIN 916 is equivalent to ISO 4029. DIN 916 and ISO 4029 are both hexagon socket set screws with cup point.
- For all four of these, the drive (often written as t min. in spec sheets and handbooks) also depends on diameter and length of screw.
 - Using our 8mm diameter DIN 915 example again, at lengths equal to or below 10mm, the drive (t min.) will be approx. 3 mm deep, whereas screw lengths above 10mm will have a drive depth of approx. 5mm.
 - These measurements are consistent among DIN and ISO standards at all sizes.
- The only real differences between the DIN and ISO standards on these set screws is that the nominal diameters of 1.4, 1.8, 14, 18 and 22 have been omitted from the ISO standard, therefore one can expect that these sizes will be progressively more uncommon since the DIN standard has been formally withdrawn.

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- Furthermore, the ISO standard introduced stainless steel grades for the set screws (i.e. they are available in A2 and A4 stainless steel)
- In alloy steel, they are, as they have always been, in a quenched and tempered steel called 45H steel by standard. Requests for these DIN/ISO standard set screws in another class of steel makes them non-standard.

Extend (30 sec)

- So, that's it for today!
- As a review
 - DIN 913 = ISO 4026 = flat point
 - DIN 914 = ISO 4027 = cone point
 - DIN 915 = ISO 4028 = dog point (half or full)
 - DIN 916 = ISO 4029 = cup point
 - The only difference between the DINs and ISOs on these is that some diameters have been omitted from the ISO standard and that classes of stainless steel have been added, otherwise they are interchangeable.
- 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!
- Oh, and as promised, that exciting announcement: due to turning 20 in 2020, we will be doing 2 major things for customer appreciation.
 1. Simply by registering, you will be put in a drawing for a **\$20 amazon gift card**. We will be giving away 2 gift cards each month for the next 10 months (i.e. Feb. – November) – get it? **20 \$20 gift cards...**
 2. We want to know how we are doing and what we can do better, so be on the lookout for our customer feedback survey, in which we will be drawing rewards for that as well with first drawing receiving a **\$100** amazon gift card, second prize getting **\$50** and third prize getting **\$25!**
- Bye!