DESIGN STANDARDS

The DIN standards are the most commonly accepted standards governing metric grease fittings. DIN stands for Deutsches Institut für Normung (German Institute for Standardization) and, much like SAE, their standards cover a wide variety of products including fasteners, keystock, pins and more. DIN standards are often misunderstood in the United States due to unfamiliarity and the language barrier. Additionally, American practice is often integrated with DIN standards resulting in an informal, hybrid standard of DIN and SAE. For example: Metric threaded grease fittings might have DIN threads with SAE compliant nipple profiles, plating and/or heat treatment. The purpose of this section is to familiarize the user with the basic aspects of the DIN standard, and to outline the most common domestic deviations.

FITTING DESIGN

NIPPLE PROFILE
- DIN 71412
- Similar to SAE J534

CONCENTRIC BALL
- DIN 71412
- Positioned flush to the surface of the nipple

SPRING

HEAT TREATMENT
- DIN EN ISO 6507
- 550HV Case Depth: 0.08mm- 0.15mm (0.003"-0.006")

PLATING
- DIN 267-9
- DIN EN ISO 4042
- 72 hour Salt Spray test

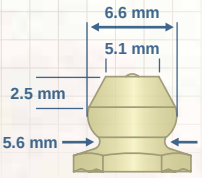
SHANK LENGTH
- Standardized per DIN 71412

MACHINED THREADS
- DIN 13 (Metric Parallel)
- DIN 158 (Metric Tapered)
- DIN 2999 (British Whitworth)

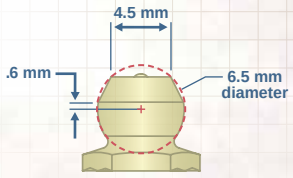
ASSEMBLY
- Lip is sealed after assembly of ball & spring

NIPPLE VARIATIONS

DIN Standard head profiles are similar to SAE Standard profiles, except that DIN heads are machined from a sphere. However, standard couplers will lubricate both fitting styles.



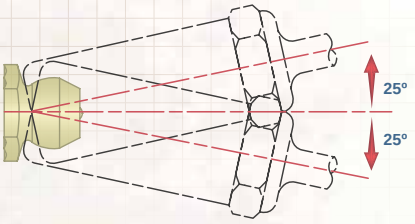
G.L. HUYETT TYPICAL DESIGN



DIN 71412 TYPICAL DESIGN

COUPLER ALIGNMENT

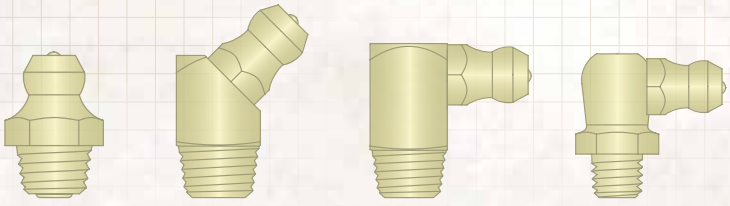
Nipples or heads are hardened to provide additional strength and to minimize wear from repeated contact with the jaws of a grease gun coupler during use.



CONTOUR OF TIP MUST ALLOW COUPLER TO SEAL WITHIN 50° DEGREES MISALIGNMENT WITH AXIS OF FITTING.

BODY TYPES

Body forms are specified by DIN 71412. Square and hex body forms are allowable on angled fittings, and these unique body forms may help users identify metric fittings. Standard, round body forms most common in the U.S. are often substituted with no impact on functionality.



WHILE COSMETICALLY DIFFERENT, DIN BODY TYPES PERFORM THE SAME AS SAE FITTINGS.

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DESIGN STANDARDS

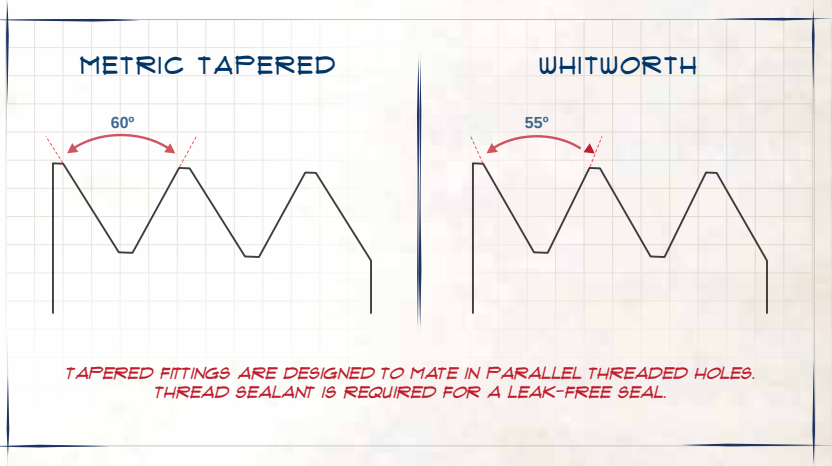
THREAD SPECIFICATION

1 METRIC TAPERED THREADS

ISO metric threads are the most widely used threads in the world. They share the 60° thread profile of NPT, but the shanks are metric sized. Metric threads are tapered unless otherwise noted.

2 WHITWORTH THREADS

The less common Whitworth form British thread is often considered to be metric. This is likely due to their non-domestic origin.



TAPERED FITTINGS ARE DESIGNED TO MATE IN PARALLEL THREADED HOLES. THREAD SEALANT IS REQUIRED FOR A LEAK-FREE SEAL.

MANUFACTURING

Metric fittings that comply with DIN standard specifications are manufactured to the same high standard you expect of G.L. Huyett products. Metric fittings exceed inspection requirements of the DIN Standard.

PRODUCTION

1 TURNED & FORMED

Fittings are turned, threads are formed.

2 HEAT TREATED

The nipple is hardened.

PLEASE NOTE: THREADS ARE ALSO HARDENED ON THREAD FORMING FITTINGS.

3 PLATED

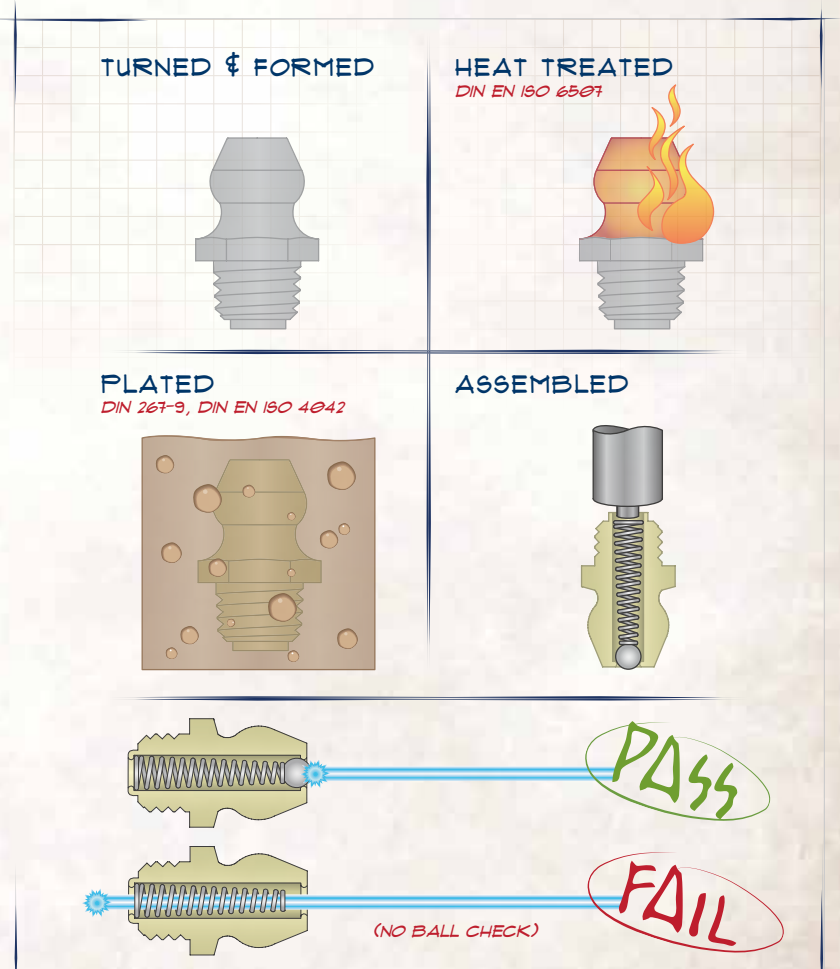
Zinc yellow plating is typically specified because of its added corrosion resistance as compared to zinc clear plating.

4 ASSEMBLED

Ball check and spring along with any other critical pieces are inserted and the lip is rolled to secure internal parts.

5 OPTICAL INSPECTION

Inspection ensures that no part leaves the facility without a ball check.



REVISED 06-11