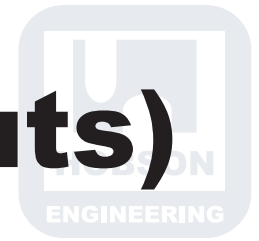




Thin Nuts (Lock-nuts)



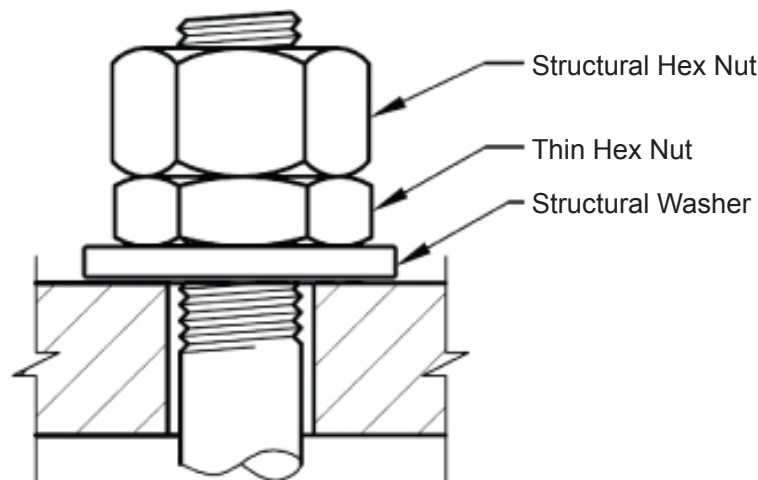
Advice on Lock-nuts for AS1252 Structural Bolt Assemblies

AS1252 does not cover lock-nuts as the use of lock-nuts is only required in special situations where the bolts are only tightened to snug tight (Bolting Category 8.8/S) conditions and the joints are subject to vibration that could promote vibration loosening.

The correct HDG thin nuts to use as lock-nuts to suit AS1252 assemblies for snug tight installation are AS1112.4 thin nuts with material property Class 04 of AS4291.2. There is no proof stress/load requirement for thin lock-nuts.

They may be marked as Class 04 + manufacturers mark.

The thin nut in this application (often referred to as a lock-nut) is essentially working as a washer that provides locking, and the total strength is generated through the large Class 8 nut. There is a common misunderstanding of how the lock-nut works that generates requests for Class 8 lock-nuts. The softer the lock-nut, the better it works.



Installation:

- Install lock-nut above the structural washer and finger tighten.
- Install the Class 8 full nut after the lock-nut.
- Tighten the Class 8 nut while holding the lock-nut with an appropriate thin spanner.
- Continue tightening until deformation in the lock-nut is achieved in such a way that the lock-nut thread is bearing on the lower flank of the bolt thread while the full nut is bearing on the upper flank.
- In general, lock-nuts are not necessary when the bolts are fully tensioned (Bolting Category 8.8TF / 8.8TB).
- If a lock-nut is used in a fully tensioned joint, only part turn method is applicable. The thickness of the nut should be added to the grip length when deciding the part turn amount. Lubrication should be added to ease the tightening process.
- No DTIs or torque methods should be used in combination with Lock-nuts.