

11. Dopeless® Technology Make up Acceptance

TenarisHydril Dopeless® Technology is a proprietary technology which removes the requirement for thread compounds to be applied to the connections for assembly.

Dopeless® Technology is recognizable on the connections by the surface color:



DARK GREY



WHITE

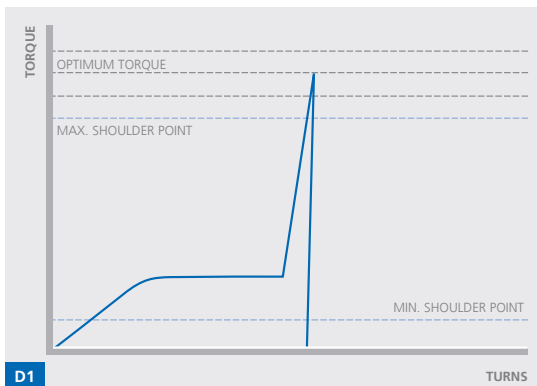
After make up and break out the appearance of the Dopeless® Technology coating changes appreciably:



Dopeless® Technology connections which have been broken out should be cleaned off with either a clean soft bristle brush or clean rags. This is to remove any excess coating which has 'balled up' during assembly. Shiny silver areas will be evident on some parts of the pin connection, this is standard and indicates the high contact areas where the coating has compressed. The box connection will have some of the white coating removed, again this is normal behaviour for Dopeless® Technology connections. As long as no damage has occurred to the connection itself or the coating has not peeled off substantially exposing bare steel, the connections can be re-assembled.

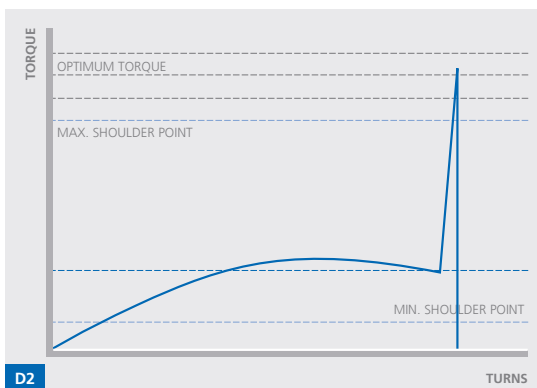
Dopeless® Technology connection graphs generally exhibit similar profiles to those of the doped variant of whichever connection is being assembled. Therefore the graphs indicated in the Make Up Acceptance sections for Blue®, Legacy and Wedge™ Series are also pertinent to the Dopeless® Technology connection. There are however some graph profiles particular to Dopeless® Technology shouldered connections which must be treated differently when witnessed during a Dopeless® Technology run.

COMPUTER GRAPHS BLUE® SERIES AND LEGACY SERIES WITH DOPELESS® TECHNOLOGY



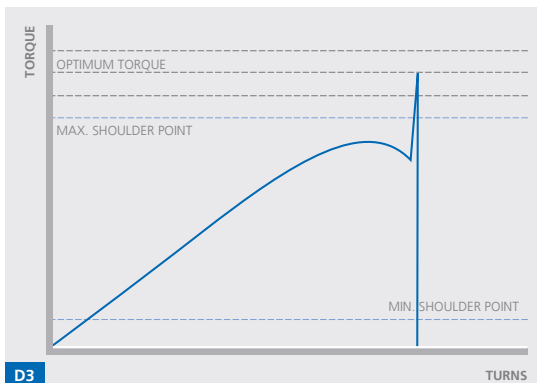
ACCEPTABLE

Plateau prior to shoulder point.



ACCEPTABLE

Curved thread and seal interference build with smooth, continuous profile, no humps or erratic peaks.



Thread and seal interference build with a smooth, continuous profile, exhibiting no erratic or jagged peaks with a hump higher than shoulder point.

The process to follow when this type of profile is witnessed:

- Break out the first graph exhibiting this profile and inspect for damage.
- If no damage is found re-make the connections.
- Thereafter accept any similar graph ensuring it displays a smooth profile.

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