

## Applications and Advantages

### Casing Running

- Positive torque shoulder increases capacity of API threads in drilling. Highest torque performance is achieved with API Buttress threads.
- Improves cementing operations, allows rotation of casing and liners without thread damage. This is particularly effective when used on problem wellbores with top drive and casing running systems.

### Tubing Work Strings

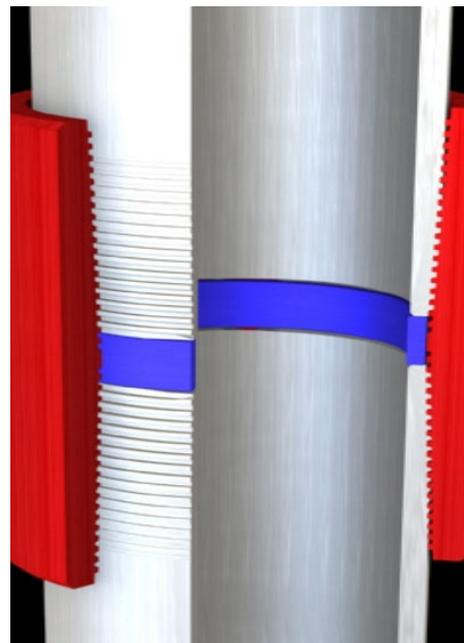
- Positive torque shoulder provides enhanced torque capacity for API EUE tubing used in work strings.
- Reduce rethreading costs. Torque shoulder prevents over make-up (surface and downhole) while extending thread and seal life by controlling coupling and pin stresses.

### Easy to Use and Field Proven

- MLT Rings are compatible with full API make-up tolerances through selection from four lengths for each size and weight of casing or tubing.
- MLT Ring installation is fast and easy and can be done at well-site, pipe yard, and/or pipe mill.

### Cost Savings

- MLT Rings fit standard API “off the shelf” casing and tubing connections and extend the utility and value of Oil Country Tubular Goods (OCTG) Inventories.
- MLT Rings offer a new strategy for cost savings.

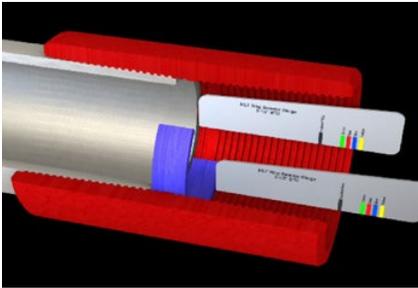


The shoulder controls pin penetration, enhancing flow performance, prevents debris buildup, and extends connection life through repeated make-break cycles.



MLT Rings are color coded to four specific lengths to accommodate full API make-up tolerances.

## Installation of MLT Ring is Fast and Easy



MLT Ring selection is made simply with a tool inserted into the end of the coupling.



Installation is fast and easy with a simple handheld hydraulically actuated tool. Rings can be installed in the field, pipe yard, and/or pipe mill.

MLT Rings provide a **positive make-up shoulder** when installed in standard API Round and Buttress threaded and coupled connections.

The positive shoulder provides a **dual benefit** of

- (a) Increasing torque capacity (termed Delta Torque), allowing use of API casing and tubing connections in drilling and work-over applications
- (b) Preventing couplings and pins from being overstressed, particularly relevant for extending thread life and reducing rethreading costs of API tubing.

**The Multi-lobe ring shape and OD surface-finish** hold rings firmly in place during transporting, handling and running casing.

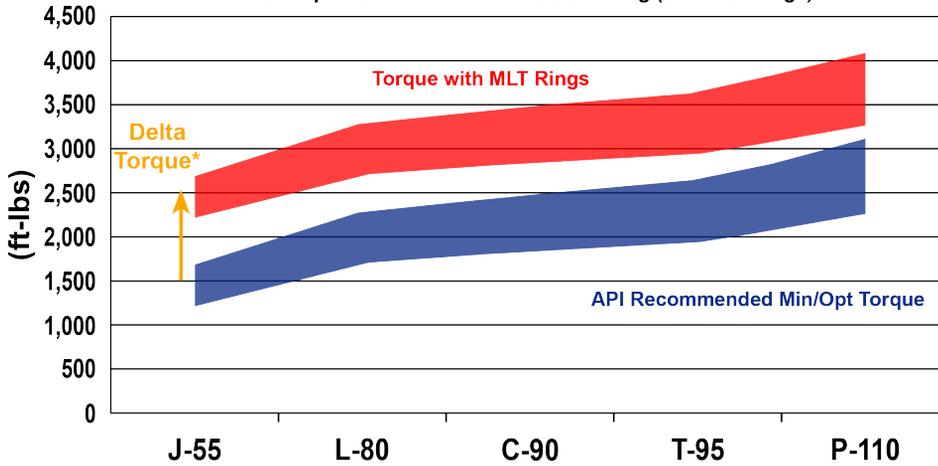
MLT Ring sizes are **specific for pipe size** (OD), weight (wall thickness), and API connection type (EUE, STC, LTC, BTC), balancing flexibility with high torque capacity.

The MLT Ring **inner diameter creates a flush geometry** with the casing which enhances flow efficiency while protecting threads from debris.

MLT rings are **easily field installed** and are **made from API specified steel grades**. The standard grade is L-80 with the option to increase torque capacity utilizing higher strength

## Torque

Example: 2-7/8" 6.50#/ft API EUE Tubing (L-80 MLT rings)



\*Delta Torque is the torque boost added to the normal make-up torque, referred to as "shoulder torque". Higher torques may be available with higher strength MLT rings.

Size	EUE	STC	LTC	BTC	USBTC
2-3/8"	✓				
2-7/8"	✓				
3-1/2"	✓				
4-1/2"	✓		✓	✓	✓
5"			✓	✓	
5-1/2"		✓	✓	✓	
7"			✓	✓	
7-5/8"			✓	✓	
8-5/8"				✓	
9-5/8"			✓	✓	
10-3/4"				✓	
11-3/4"		✓		✓	
13-3/8"				✓	
16"				✓	
18-5/8"				✓	
20"				✓	

- Four length of each MLT ring is available to compensate for the variance in thread.
- Standard material for MLT rings is L80. MLT rings can also be manufactured in P110 on request.
- Other sizes are available on request.