

SUMMIT

CASING EQUIPMENT

THE TD LoCo COMPOSITE CENTRALIZER

Call us crazy, but we believe our TD LoCo Composite Centralizer is a game changer. Its revolutionary design features state-of-the-art composite material and construction providing a coefficient of friction up to 4.7 times lower and a 40% weight reduction over other centralizers. In fact, its design is so innovative and technologically advanced, it has been awarded multiple patents.

The TD LoCo's low coefficient of friction, combined with its unique blade design, results in Hook Loads up to 100% higher and Joint Side Forces up to 2.4 times lower. These features combine to provide reduction in Torque and Drag conditions, allowing casing to get to total depth faster and more efficiently.

The TD LoCo has a one-piece composite construction with no vulnerable weak spots and is designed for high impact stress and wear resistance. It's heat resistant to maintain integrity in extreme well bore temperatures and also breaks-away easily from obstruction and rough spots. The Summit TD LoCo. Proudly made in the USA.

To learn more, visit

SUMMITCASING.COM

or call (877) 860-0969

CRAZY FAST! —————
————— **CRAZY EFFICIENT!**

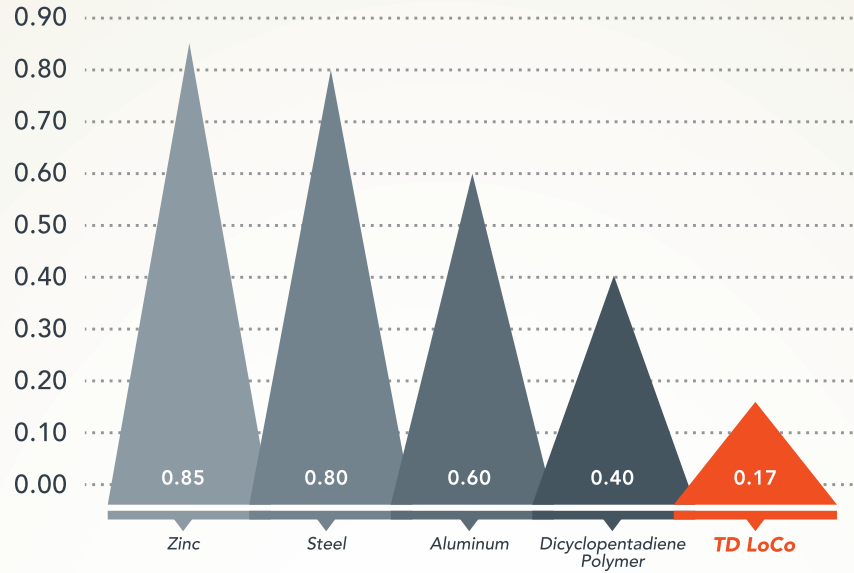
- Low Coefficient of friction
- Rugged, one-piece composite construction
- Designed for horizontal application
- Maintains integrity in extreme temperatures
- High impact and wear resistance
- Smooth, lightweight construction
- No vulnerable weak points



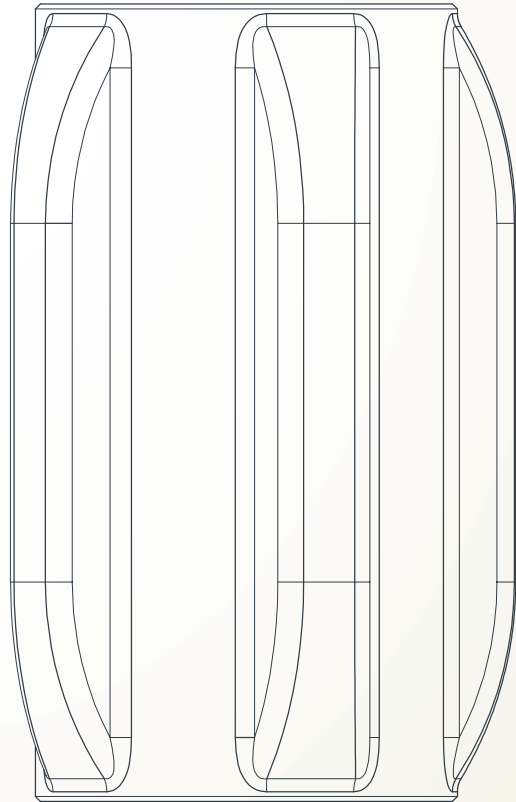
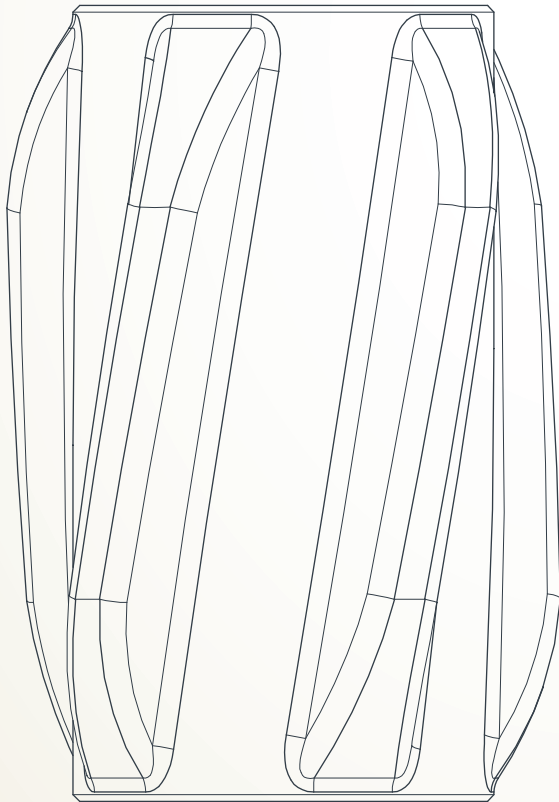
Headquartered in Fort Worth, TX

Houston, TX / Midland, TX / San Antonio, TX / Greeley, CO / Williston, ND / Canton, OH / Norman, OK / Woodward, OK / Montoursville, PA / Washington, PA

Static Coefficient of Friction



Various Sizes Available in Straight and Spiral Blade Configurations



To learn more, visit

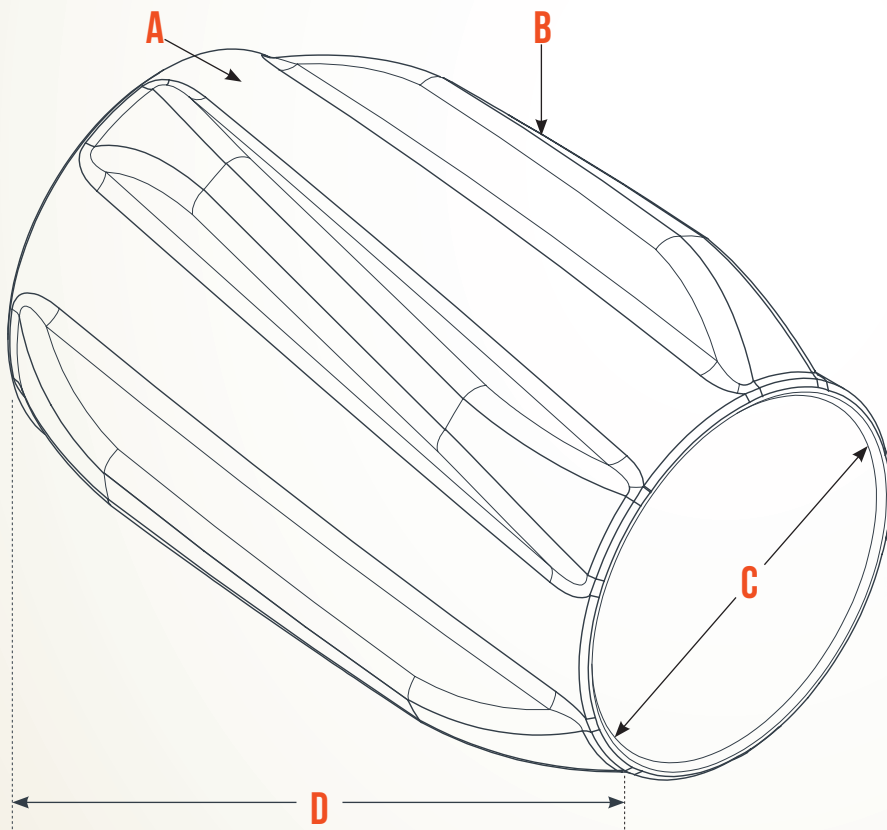
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TD LoCo SPECIFICATION GUIDE

	A	B	C	D
4.5 X 5.75	5.19	5.75	4.625	↑
5.5 X 7.375	↑	7.375	↑	↑
5.5 X 8.00	6.25	8.00	5.62	11.812
5.5 X 8.25	↓	8.25	↓	↓
7.0 X 8.25	7.87	8.25	7.12	↓



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TD LoCo CASE STUDY

SUMMARY

Summit Casing Equipment conducted a case study to evaluate the performance improvement obtained when using TD LoCos to deliver casing to total depth. The study consisted of a Torque and Drag analysis comparing a well with no centralizers in the lateral and a well with TD LoCos in the lateral. The study showed that utilizing TD LoCos reduced the overall drag forces, increased the hook loads and completely eliminated any buckling conditions.

WELL CONDITIONS

Surface Casing: 13-3/8" from surface to 500'

Intermediate Casing: 9-5/8" from 500' to 993'

Production Casing: 5-1/2" from 993' to TD (11,600')

Kick off Point (KOP): 8,200'

CENTRALIZER CONFIGURATION

Case A: One Steel Solid Body Centralizer per joint in the curve. One Steel Solid Body Centralizer every third joint between 6,200' and 8,200. No centralizer in the lateral.

Case B: One TD LoCo per joint in the curve and in the lateral. One Steel Solid Body Centralizer every third joint between 6,200' and 8,200'.

RESULTS

CASE A

Hook Load: 63,124 lbf at 11,600 feet

Max. Side Force per Joint: 4,477 lbf at 8,155 ft

Sinusoidal Buckling: Yes (see Figure A)

Helical Buckling: Yes (see Figure A)

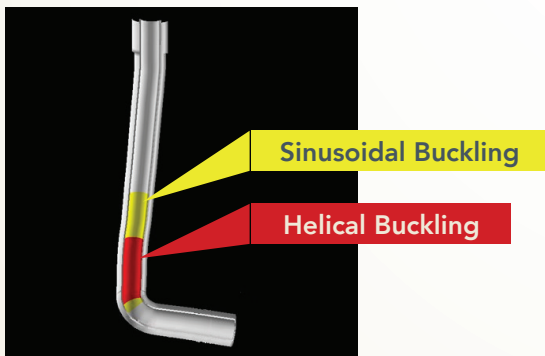


Figure A: Case A, Buckling Condition - No Centralizer in Lateral

CASE B

Hook Load: 123,404 lbf at 11,600 feet

Max. Side Force per Joint: 1,805 lbf at 1,200 ft

Sinusoidal Buckling: No (see Figure B)

Helical Buckling: No (see Figure B)

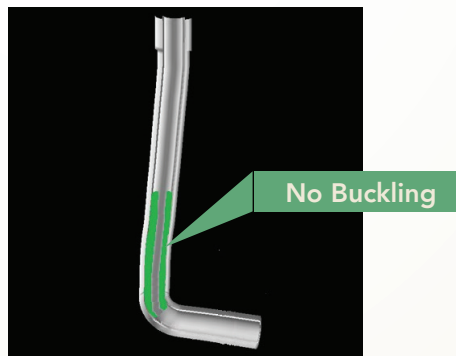


Figure B: Case B, No Buckling Condition - Using TD LoCos

CONCLUSIONS

The TD LoCo reduced the overall drag forces resulting in higher hook loads, lower side forces per joint and complete elimination of buckling conditions.

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