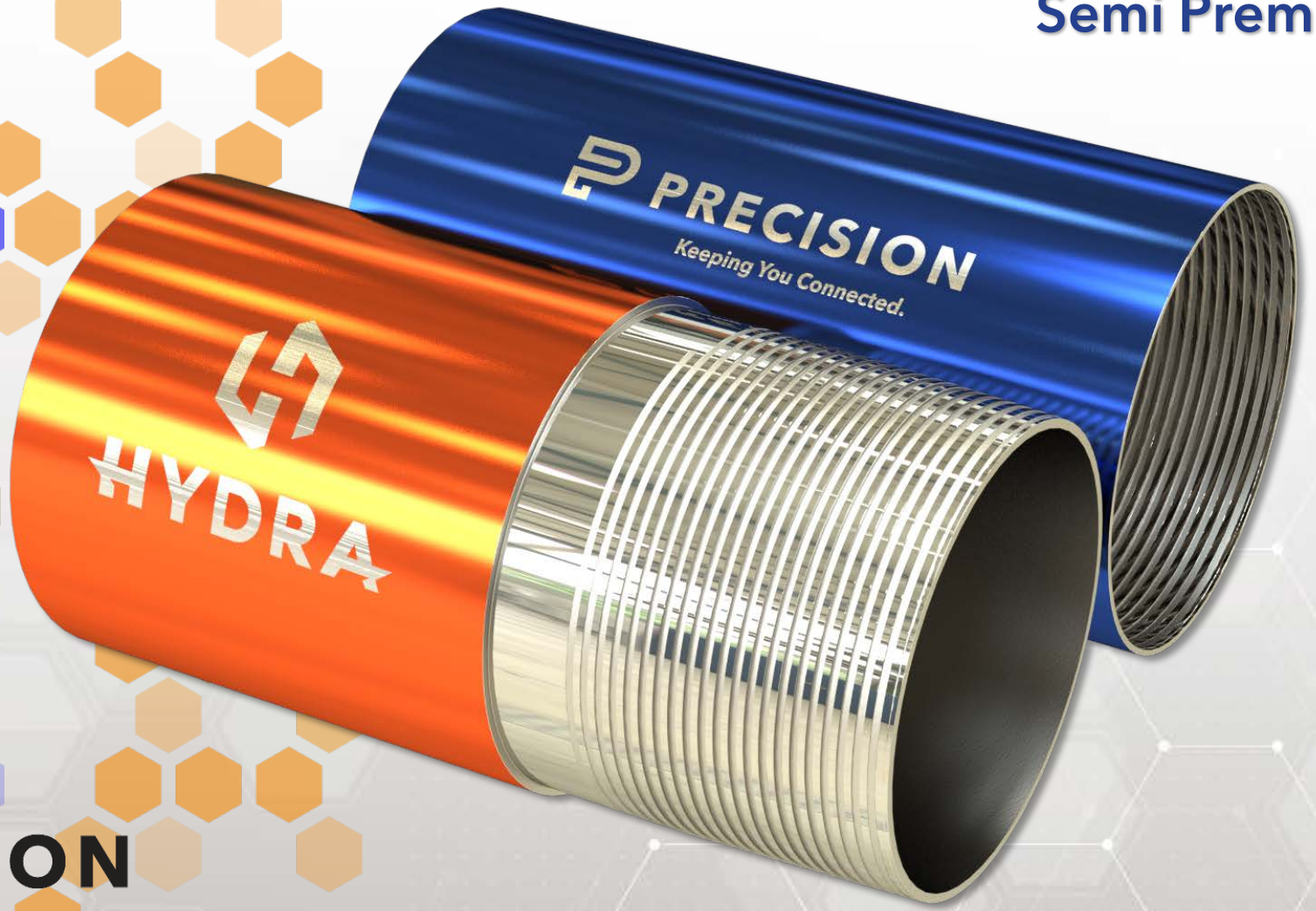
HYDRA

Semi Premium Flush Joint



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HELLO

Precision is dedicated to the development of new premium and semi premium connections to meet the challenges of horizontal well completions. We provide classic and innovative ways to keep your tubing and casing connected tighter, safer, and stronger. This allows you to maintain schedules, drastically reduce safety concerns and save on operational costs. Whether you are looking for API couplings, semi-premium or premium connections, we've got you covered.

CONTACT

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Houston, Texas 77078

O: 713.678.8900
precision-llc.com

Technical Support
832.405.3711
mike.nations@precision-llc.com

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Was designed to provide maximum sealing and strength in an economical design.

- Designed for plain end pipe with externally and internally flush profiles. Does not require swaging.
- A true double shoulder design for torque capacity. Reduced sensitivity to over-torque.
- Multiple Face Sealing – OD and ID torque energized seals.

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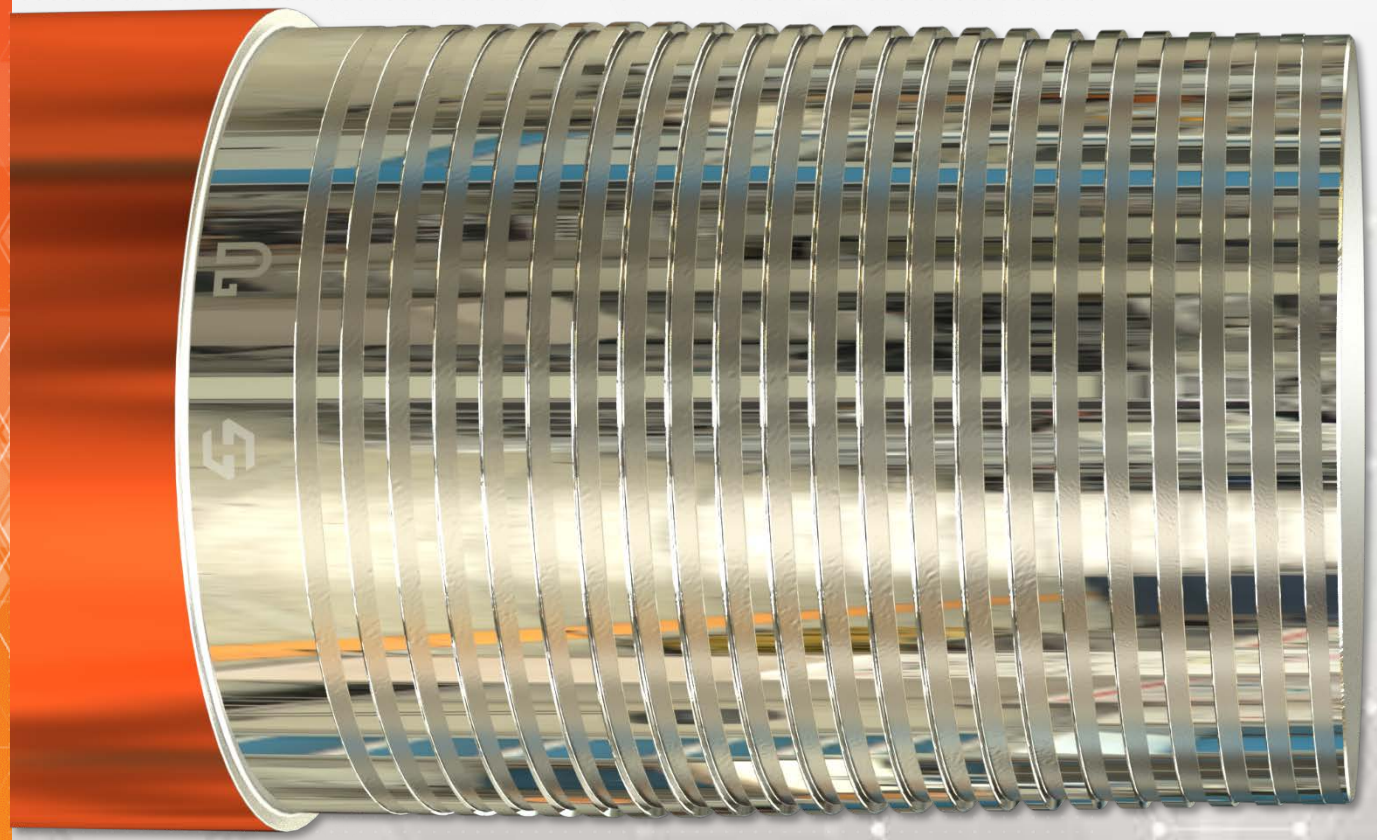
- Tensile and Compressive strength are designed to 60% of pipe body ratings.



- Internal Pressure rated to 80% of pipe body internal yield pressure.

- Collapse resistance equal to API collapse pressures.

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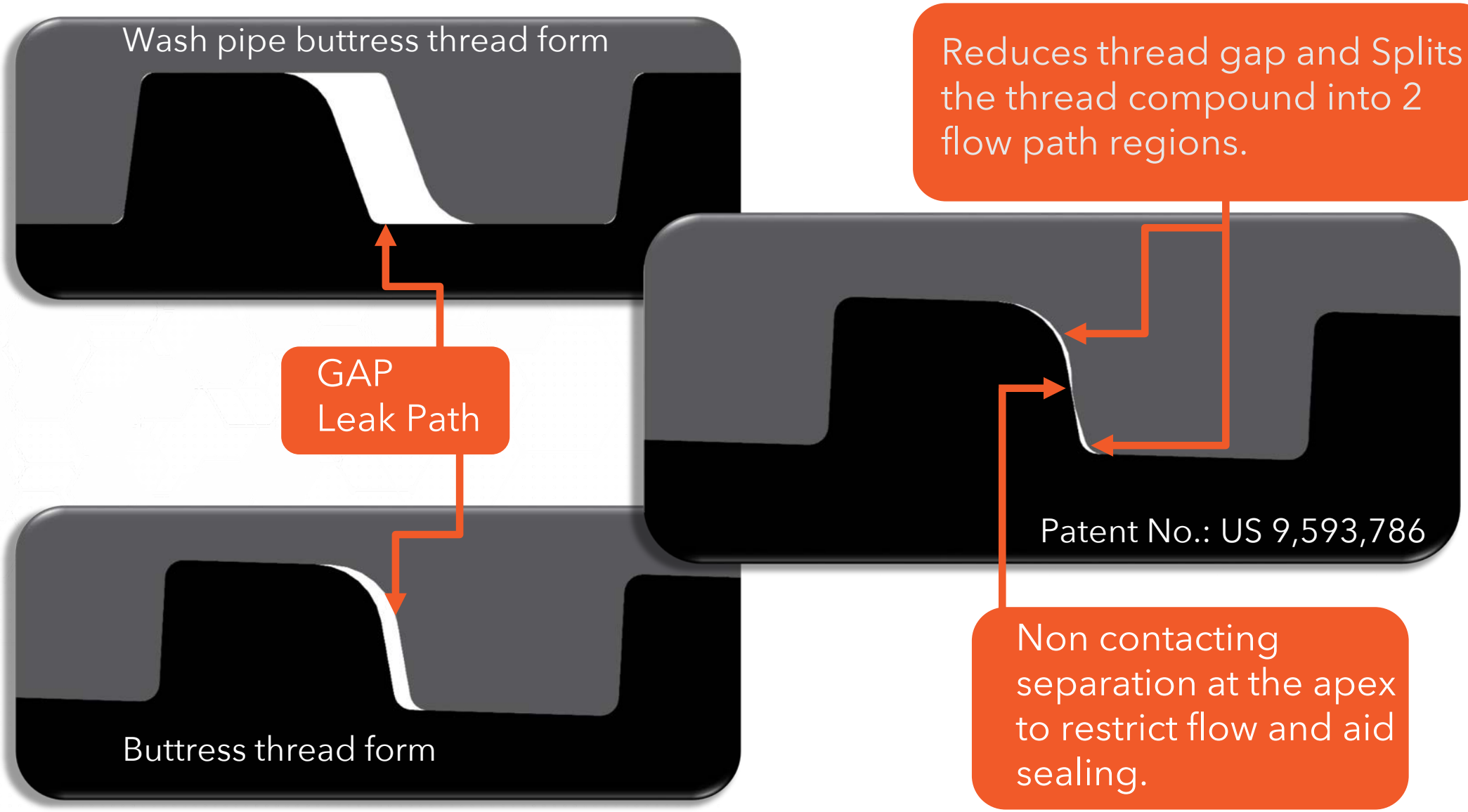
Patented Leak Tight Thread Form



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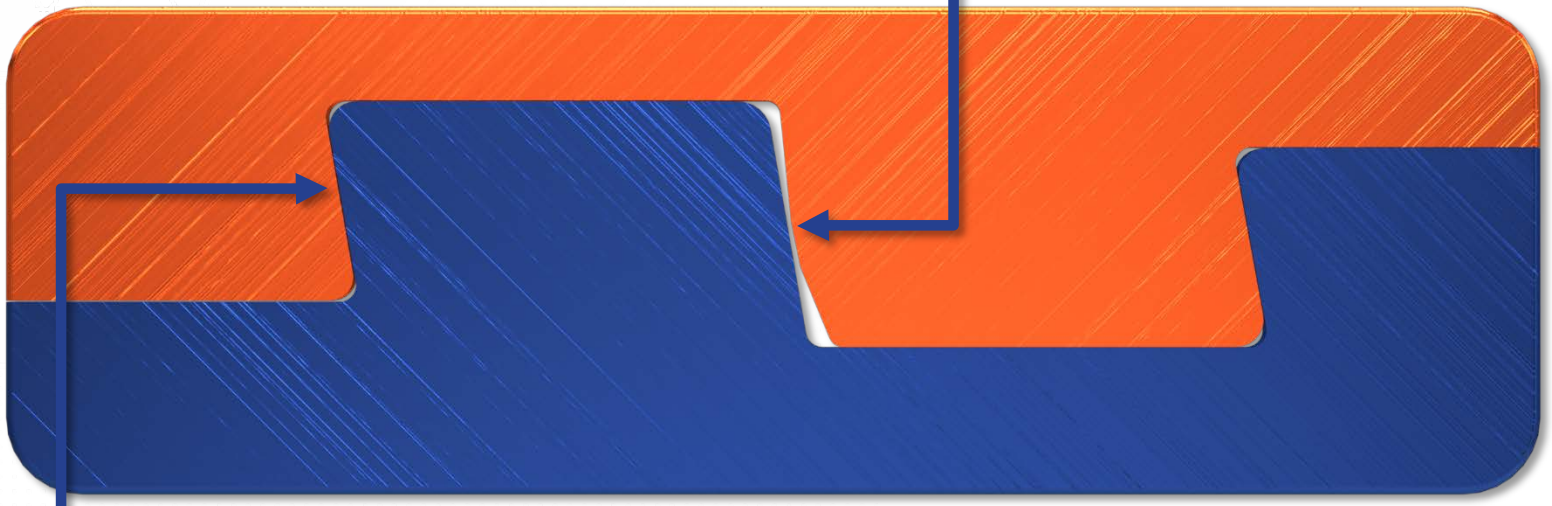
Patented Leak Tight Thread Form

Tight Contact: Contacts on 3 of the 4 possible mating surfaces.

Square threads for deep stabbing and easy make up .

Tight thread spacing for sealing.

Tight to restrict movement in a bend or compression.



Uses taller Square Stepped Threads. Flat Crests and Roots.

Negative load flanks for bending and jumpout resistance.

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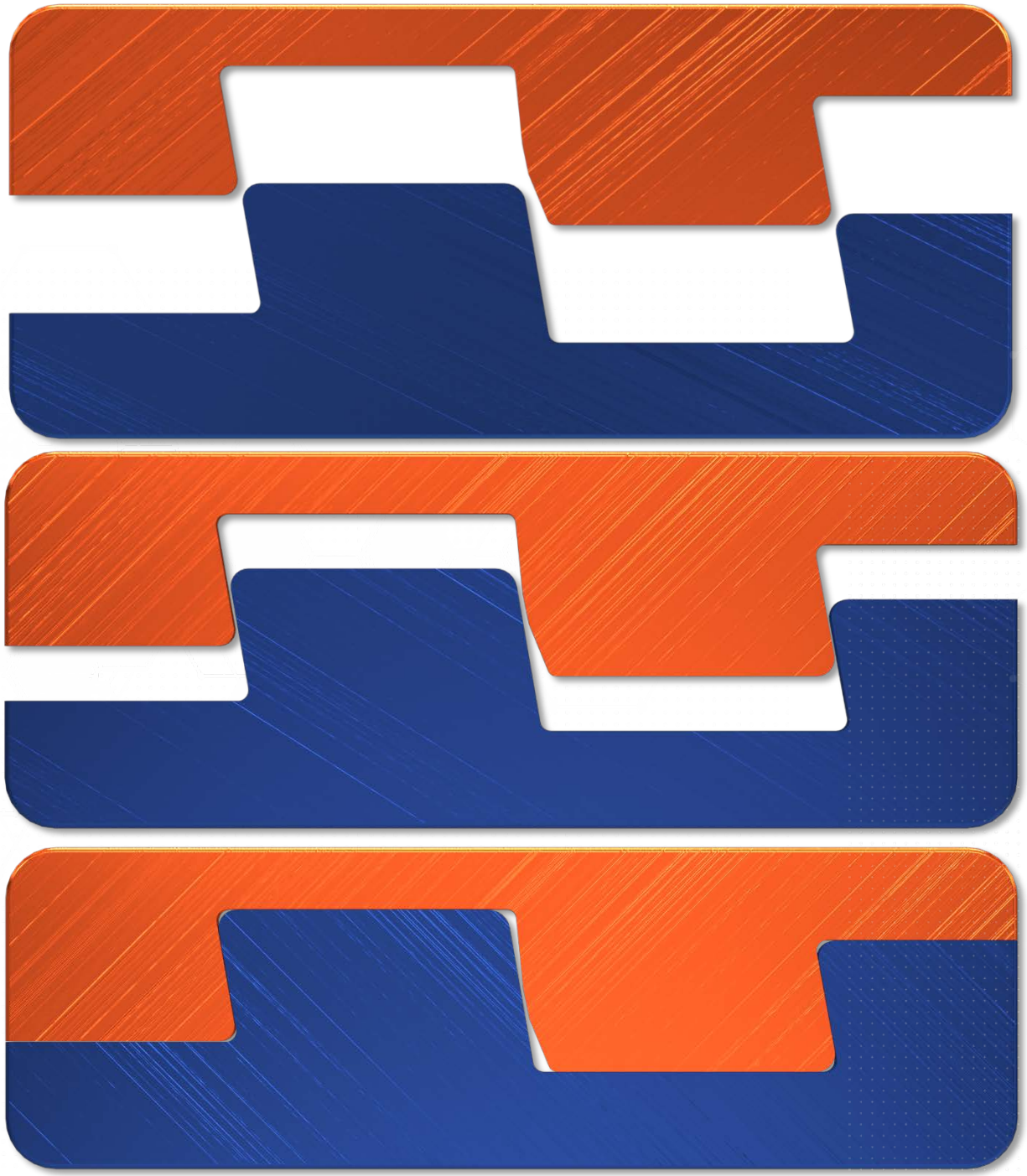


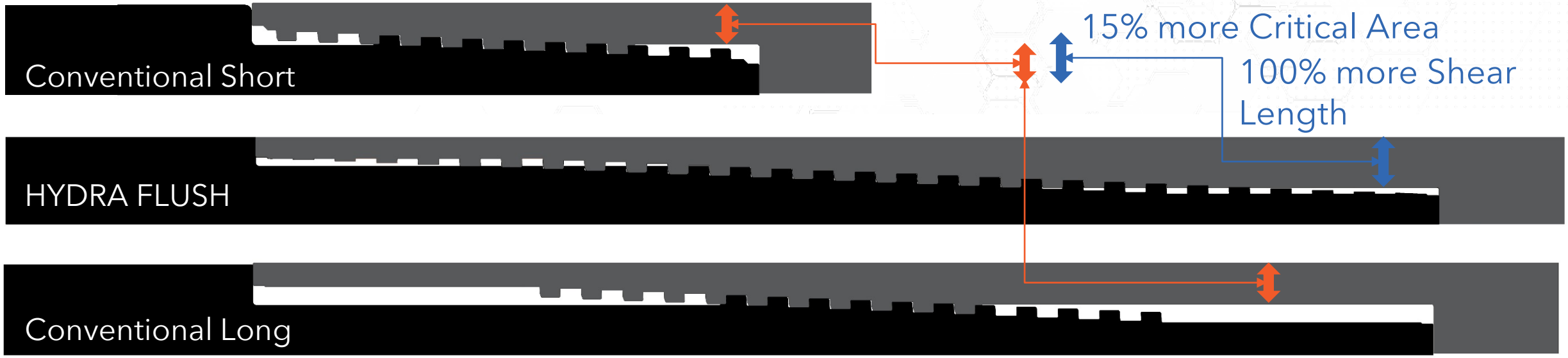
Thread Assembly

Square stepped threads assemble quickly. They are resistant to bind up.

They stab deep just like tapered threads for stable make ups.

Fewer threads per inch for a faster stab and makeup.

Thin Wall: 8 pitch VS 10.
Medium Wall: 6 pitch VS 8.
Thick Wall: 5 pitch VS 6.



Specialized Run-In/Run Out threads:

- Maximize critical area. From 45% to 60%.
- Increase compressive and tensile & shear strength.
- Allow taller threads, steeper tapers and fewer threads per inch.
- Require square threads for proper interlocking.

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CONNECTION DATA

Pipe Body						Connection		L80		P110		Q125	
Pipe Size	Wall	Weight	ID	Pipe Area	Drift	Make-up Loss	Efficiency	Yield Load	Reference Depth	Yield Load	Reference Depth	Yield Load	Reference Depth
3.5	0.254	9.20	2.992	2.590	2.867	3.938	60%	124,329	9,400	170,953	12,900	194,264	14,700
4	0.286	11.60	3.428	3.337	3.303	4.088	60%	160,177	9,400	220,243	12,900	250,276	14,700
4.5	0.250	11.60	4.000	3.338	3.875	4.038	60%	160,221	9,400	220,304	12,900	250,346	14,700
5	0.362	18.00	4.276	5.275	4.151	4.625	60%	253,181	9,400	348,123	12,900	395,595	14,700
5.5	0.361	20.00	4.778	5.828	4.653	4.738	60%	279,754	9,400	384,662	12,900	437,116	14,700
7.625	0.375	29.70	6.875	8.541	6.750	4.230	60%	409,978	9,400	563,720	12,900	640,590	14,700
8.625	0.352	32.00	7.921	9.149	7.875	4.230	60%	439,134	9,400	603,809	12,900	686,146	14,700

Common sizes and grades. Data for other sizes and grades available upon request.

The performance properties given in these data tables are calculated per API 5C3. Calculations are based on nominal wall thickness. Loads do not reflect a design safety factor for walls thinner than nominal or wall defects.

Reference depth includes a 1.5 design factor. However, it does not consider bending, temperature, buoyancy or other load considerations.)

Reference Depth = Yield Load / (PE Wt./Ft)*(1.5)

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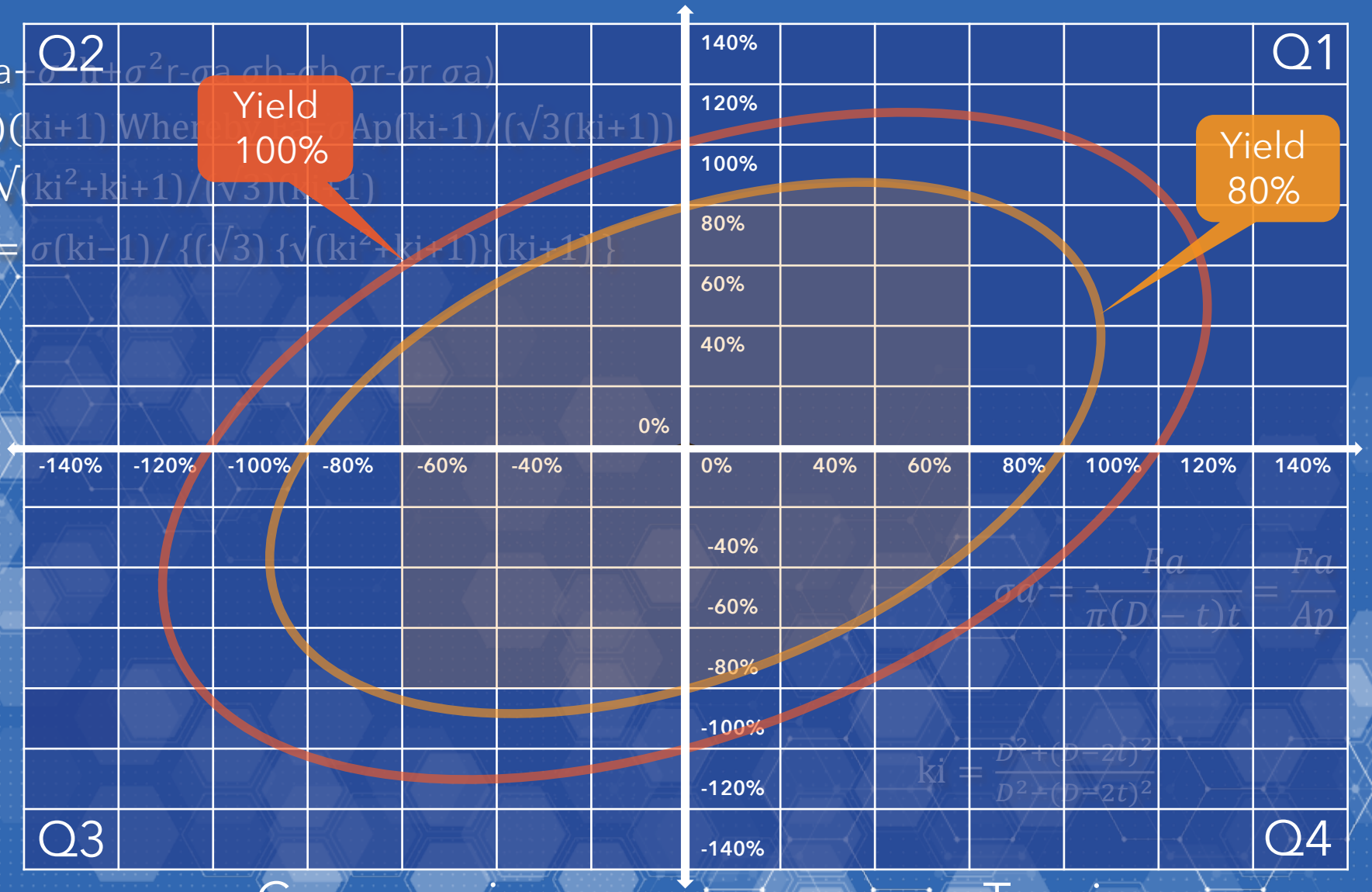
Combined Load Service Envelope

$$\sigma V = \sqrt{(\sigma^2 a - \sigma a\,\sigma b + \sigma^2 r - \sigma a\,\sigma b - \sigma b\,\sigma r - \sigma r\,\sigma a)}$$

$$Pi, max = 2\sigma/(\sqrt{3})(ki+1)$$ Whereby $Ap(ki-1)/(\sqrt{3}(ki+1))$

$$Fa, max = 2\sigma Ap\sqrt{(ki^2+ki+1)/(\sqrt{3})(ki+1)}$$

Whereby $pi = \sigma(ki-1)/\{(\sqrt{3})\{\sqrt{(ki^2+ki+1)}\}(ki+1)\}$



$$\sigma a = \frac{Fa}{\pi(D-t)t} = \frac{Fa}{Ap}$$

$$ki = \frac{D^2+(D-2t)^2}{D^2-(D-2t)^2}$$

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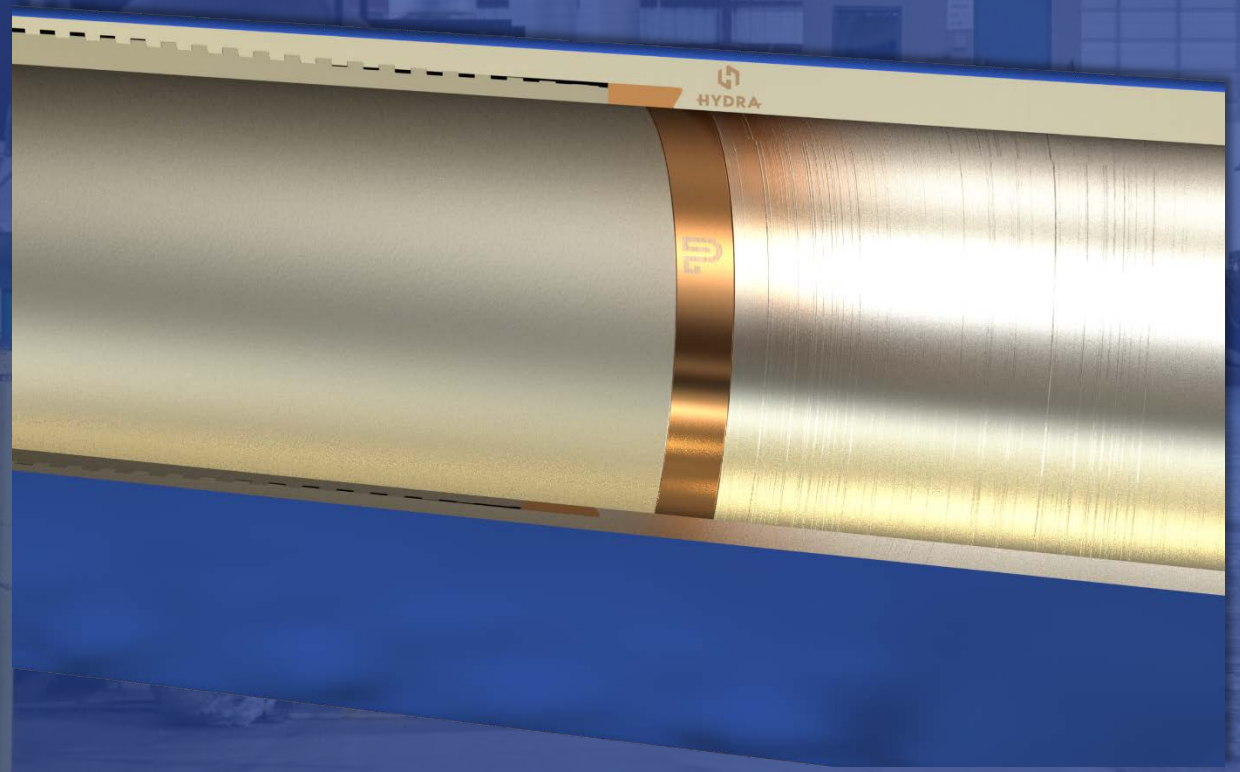
HYDRA Flush Corrosion Barrier Ring



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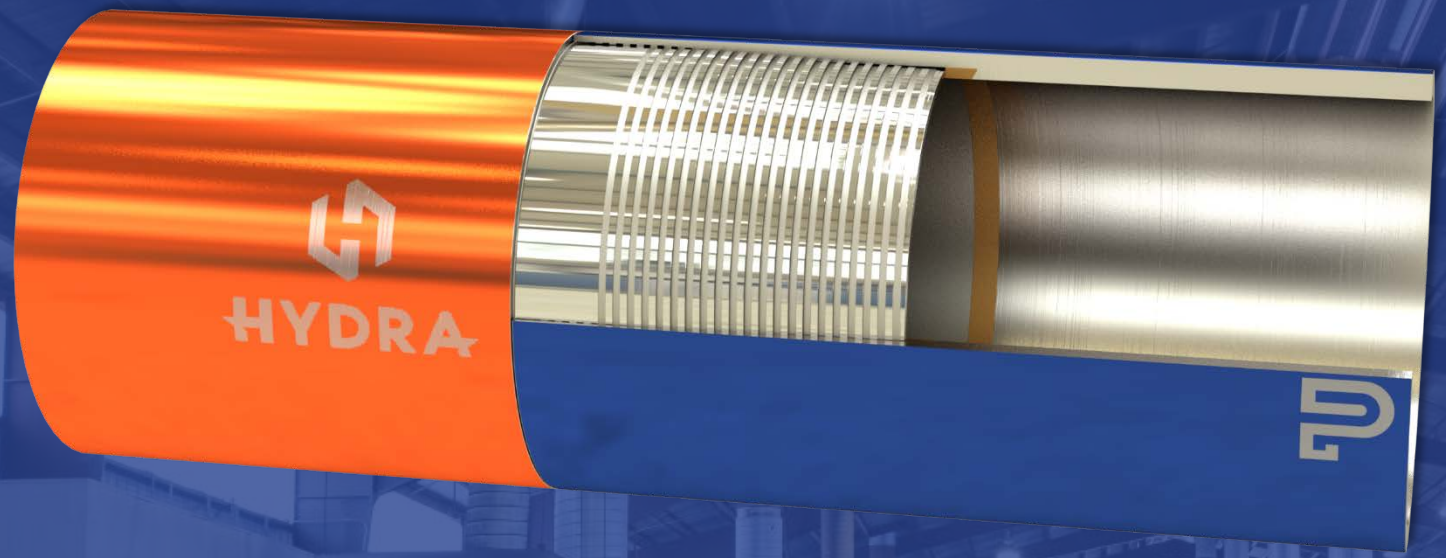

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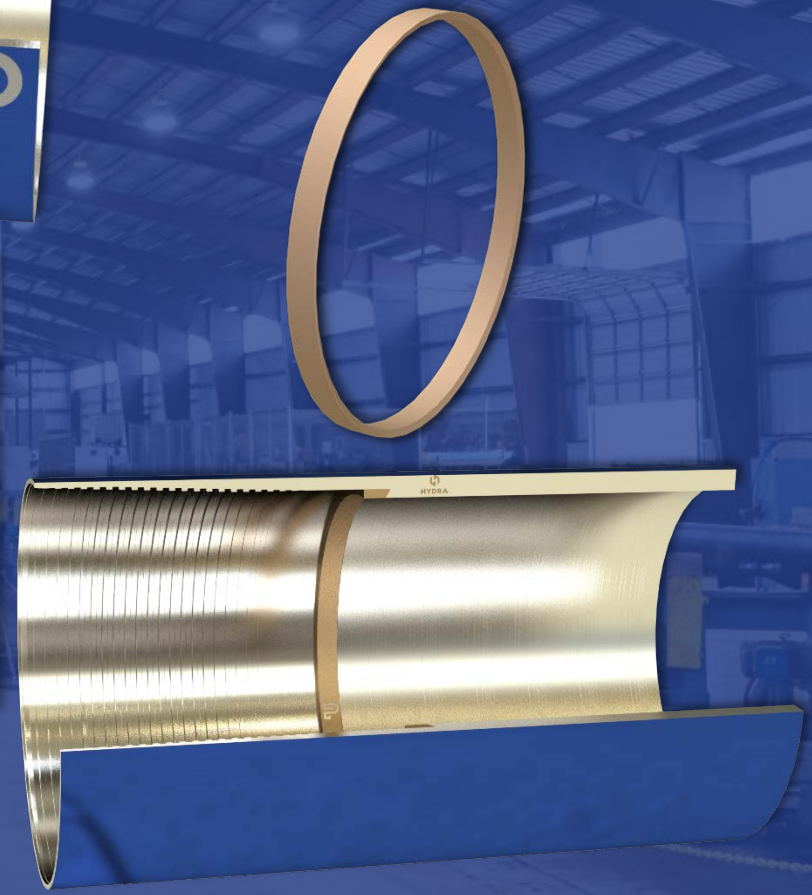

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4.5	0.250	11.60	4.000	3.338	3.875	4.038	60%	160,221	9,400	220,304	12,900	250,346	14,700
4.5	0.290	13.50	3.920	3.836	3.795	4.250	60%	184,107	9,400	253,148	12,900	287,668	14,700
4.5	0.337	15.10	3.826	4.407	3.701	4.488	60%	211,557	9,400	290,891	12,900	330,558	14,700
5	0.362	18.00	4.276	5.275	4.151	4.625	60%	253,181	9,400	348,123	12,900	395,595	14,700
5.5	0.275	15.50	4.950	4.514	4.825	4.225	60%	216,676	9,400	297,929	12,900	338,556	14,700
5.5	0.304	17.00	4.892	4.962	4.767	4.463	60%	238,196	9,400	327,519	12,900	372,181	14,700
5.5	0.361	20.00	4.778	5.828	4.653	4.738	60%	279,754	9,400	384,662	12,900	437,116	14,700
5.5	0.415	23.00	4.670	6.630	4.545	5.000	60%	318,222	9,400	437,555	12,900	497,222	14,700

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Applications

- CASING
  - Liners
  - Casing Repair
  - Side Tracking
  - Screens
  - Special Clearance
  - Premium Flush/Semi-Flush cutoff & rethread
  - Disposal Wells

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- TUBING
  - Worn Upset Reclamation
  - De-liquification
  - Tail Pipe
  - Wash Pipe
  - Special Clearance
  - Premium Flush/Semi-Flush cutoff & rethread

THANK YOU.

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QUESTIONS?