



FEATURES & BENEFITS

- Rated at 675°F and 3000psi
- Accommodates up to 20ft of liner travel
- Scrapes and conditions casing wall to protect the seal and improve sealing efficiency
- Backup seal skid rings accommodate travel and reduce stress on seal
- Thermal element developed over 20 years of thermal experience and testing
- Tie-back nipple kit eliminates need for long tie-back receptacle

PRO-FRAC

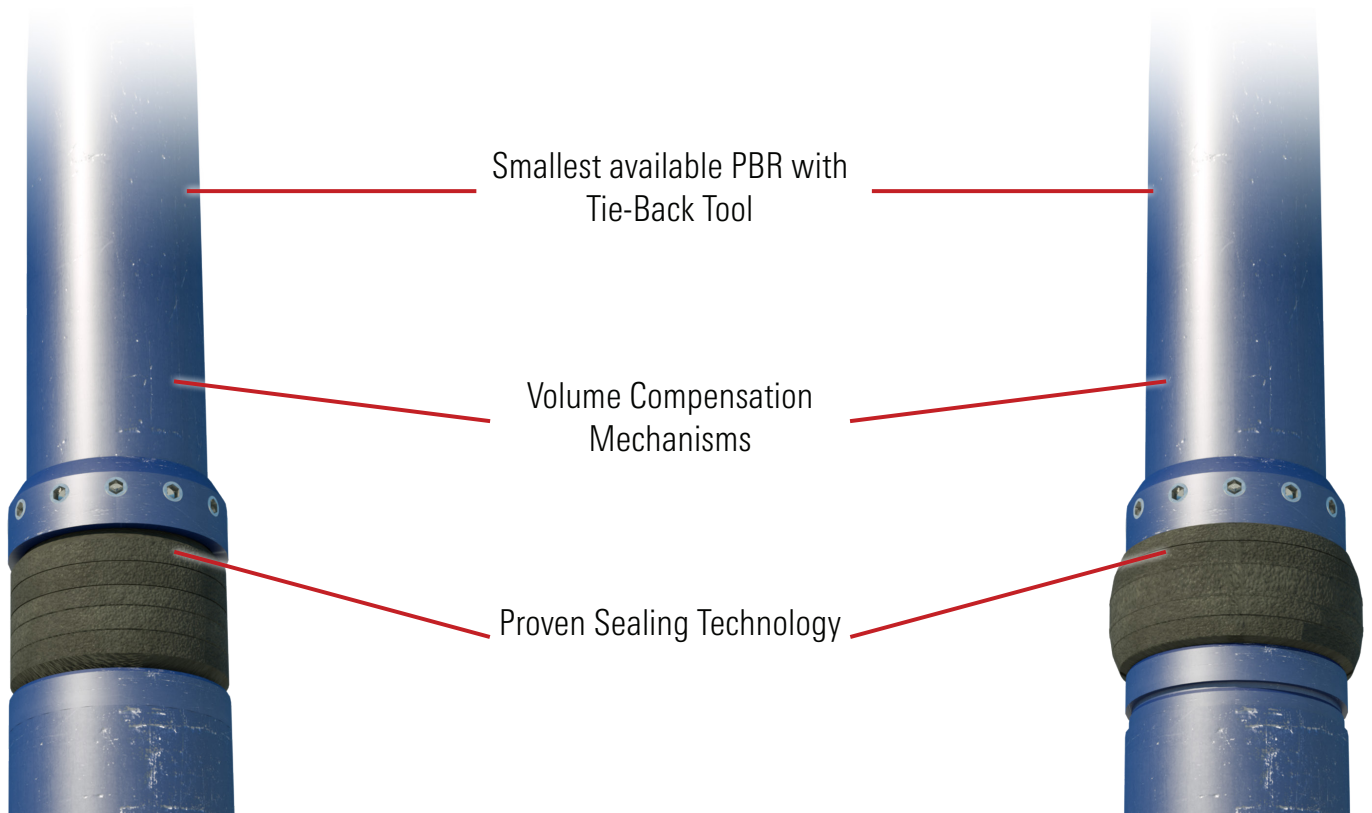
ProTherm Thermal Liner Top Seal

The Thermal Liner Top Seal is a dynamic, durable, and field proven packer that is simply reliable. The Thermal Liner Top Seal is used in applications where both the liner does not need to be anchored and where thermal expansion is expected.

The ProTherm is a robust seal designed to accommodate thermal expansion liner movement up to as much as 20 ft. It incorporates an extremely short setting sleeve that considerably shortens the tools profile improving its mobility, and provides the shortest available PBR which can be adapted with our Thermal and Primary Tie-back Nipples.

The smallest OD and the elimination of a long and rigid tie-back results in significantly less friction when circulating to clean out the hole, and leads to more success when trying to convey to depth into tight radius horizontal wells. The Tie-Back Nipple can be released and re-engaged to simplify the spacing out of completions.

All of Pro ESI's Hangers are conveyed and retrieved via tubing or drill pipe with our Running and Setting Tools. The running/ setting tools are designed for extreme high torque operations, including rotating and drilling the liner into position.



IMPERIAL						METRIC					
Liner Hanger Size	Casing		Liner			Liner Hanger Size	Casing		Liner		
Liner x Casing (in)	Casing Size (in)	Weight (lb/ft)	Size (in)	Weight (lb/ft)	Max OD (in)	Liner x Casing (mm)	Casing Size (mm)	Weight (kg/m)	Size (mm)	Weight (kg/m)	Max OD (mm)
5 x 7	7	23 - 26	5	11.5 - 18	6.05	127.0 x 177.8	177.8	34.23 - 38.69	127	17.10 - 26.79	153.67
		26 - 29	5	11.5 - 18	5.95			38.69 - 43.16	127	17.10 - 26.79	151.13
		29 - 38	5	11.5 - 18	5.69			43.16 - 56.55	127	17.10 - 26.79	144.53
5.5 x 7	7	17 - 20	5.5	13 - 23	6.13	139.7 x 177.8	177.8	25.30 - 29.7	139.7	19.34 - 34.22	155.70
		20 - 26	5.5	13 - 23	5.95			29.76 - 38.69	139.7	19.34 - 34.22	150.88
6.625 x 8.625	8.625	24 - 32	6.625	17 - 32	7.625	168.1 x 219	219	35.71 - 47.62	168.1	25.30 - 47.62	193.68
7 x 9.625	9.625	29 - 40	7	17 - 35	8.43	177.8 x 244.5	244.5	43.60 - 59.52	177.8	25.30 - 52.08	214.12
		40 - 53.5	7	17 - 35	8.30			59.52 - 79.61	177.8	25.30 - 52.08	210.82
8.625 x 11.75	11.75	42 - 54	8.625	24 - 49	10.44	219 x 298.4	298.4	62.50 x 80.35	219	35.71 - 72.91	265.18
9.625 x 13.375	13.375	48 - 61	9.625	29.30 - 53.5	12	244.5 x 339.7	339.7	71.42 - 90.77	244.5	43.60 - 79.61	304.8
		61 - 72	9.625	29.30 - 53.5	11.88			90.77 - 107.14	244.5	43.60 - 79.61	301.75
		72 - 85	9.625	29.30 - 53.5	11.69			107.14 - 126.49	244.5	43.60 - 79.61	296.92
10.75 x 13.375	13.375	48 - 61	10.75	32.75 - 55.5	12.06	273.0 x 339.7	339.7	71.42 - 90.77	273.0	48.73 - 82.58	306.32
		61 - 68	10.75	32.75 - 55.5	11.91			90.77 - 101.18	273.0	48.73 - 82.58	302.51