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Vacuum Insulated Tubing and Casing (VIT and VIC)\_


[English](#) [简体中文](#)
[Home](#)[About us](#)[News](#)[Products](#)[Certification](#)[Contact Us](#)[1](#)[1](#)  
[2](#)

## Products

### Vacuum Insulated Tubing and Casing (VIT and VIC)



Vacuum insulated tubing and casing (VIT and VIC) is composed of inner pipe, outer pipe, insulated layer, connection and seal donut, etc. The multi-layer insulation structure, which applies material of high insulation property and high radiation rate combined with special technical processing, can highly reduce heat loss caused by heat conduction, heat convection and heat radiation.



FREET has developed six generations of VIT and VIC from anti-hydrogen insulated tubing and casing, pre-stressed insulated tubing and casing, supercritical insulated tubing and casing to special structure insulated tubing and casing since 1988. FREET VIT and VIC has been awarded 9 patents by leading domestic and international advanced level, filling the gaps of a number in heavy oil thermal recovery territory. As SHELL unique qualified supplier of VIT and VIC products in China, FREET is the unique manufacturer among the drafters of National Industry Standard SY/T 5324-2013 Pre-stressed Insulated Tubing. FREET possesses annual capacity of one million meters and is one of the three most powerful VIT and VIC manufacturers among the world.



VIT & VIC mainly apply to heavy oil thermal recovery such as "steam flooding", "CSS", "SAGD", and "VIC well completion", etc. with following effects:

- Reduce heat loss, and improve steam quality to the oil layer;
- Elongate the working period and increase oil steam ratio;
- Lower down casing temperature, reduce casing expansion and avoid casing damage of thermal well;
- Maintain the temperature of oil transportation and effectively inhibit paraffin wax crystallization and frost.





## Technical Parameters of VIT and VIC

NO.	Spec. OD of Outer pipe & ID of Inner pipe mm in	Basic Parameter			Key Performance Parameters							Service Parameters			
		Grade	OD & WT of Outer Pipe and Inner pipe mm X mm	Connection	Thermal Conductivity (inner wall of inner pipe 350°C) W / (m · °C)	Tensile Strength at Normal Temp kN	Internal pressure strength M Pa		Collapse Resistance M Pa		Fibres %	Well depth m	Temperature °C		Casing (ft)
							Normal Temp	Steam Injection	Normal Temp	Steam Injection			Regular condition	Over heating (3~4h)	
1	73×40 (2-7/8×1.61)	N80	73.02×5.51 (48.26×3.68)	USS/SLF-M S1 /SLF-M S2	<0.02	644	32	20	30	28	≤0.2	≤1500	350	380	4-1/2
2	88×40 (3-1/2×1.61)	N80	88.9×6.45 (48.26×3.68)	USS/SLF-M S1 /SLF-M S2	<0.02	921	32	20	30	28	≤0.2	≤1500	350	380	5
3	88×50 (3-1/2×1.995)	N80	88.9×6.45 (60.32×4.83)	USS/SLF-M S1 /SLF-M S2/SLF-NF1	<0.02	921	32	20	30	28	≤0.2	≤1500	350	380	5
4	114×62 (4-1/2×2.441)	N80	114.3×6.88 (73.02×5.51)	BC/SLF-M S1 /SLF-M S2/SLF-NF1	<0.02	1280	32	20	26	24	≤0.2	≤1900	350	380	7
5	114×76 (4-1/2×2.992)	N80	114.3×6.88 (88.9×6.45)	BC/SLF-M S1 /SLF-M S2/SLF-NF1	<0.02	1280	32	20	26	24	≤0.2	≤1700	350	380	7
6	127×76 (5×2.992)	N80	127.0×9.19 (88.9×6.45)	BC/SLF-M S1 /SLF-M S2/SLF-NF1	<0.02	1875	32	20	23	21	≤0.2	≤1900	350	380	9-5/8
7	139×101 (5-1/2×3.976)	N80	139.7×7.72 (114.3×6.35)	BC/SLF-M S1 /SLF-M S2	<0.02	1764	32	20	23	21	≤0.2	≤1700	350	380	NA
8	177×124 (7×4.882)	N80	177.8×9.19 (139.7×7.72)	BC/SLF-M S1 /SLF-M S2	<0.02	2687	32	20	23	21	≤0.2	≤1700	350	380	NA

Note: the green pipes of VIT and VIC can be J55, N80-1, N80-Q, L80-1, and other corrosion resistance material such as anti-H<sub>2</sub>S and anti-CO<sub>2</sub>, etc. The table is just an example by N80-1 for technical parameters instruction.

Preview : API Tubing & Casing

Next : OCTG