

BlueCoil® Technology



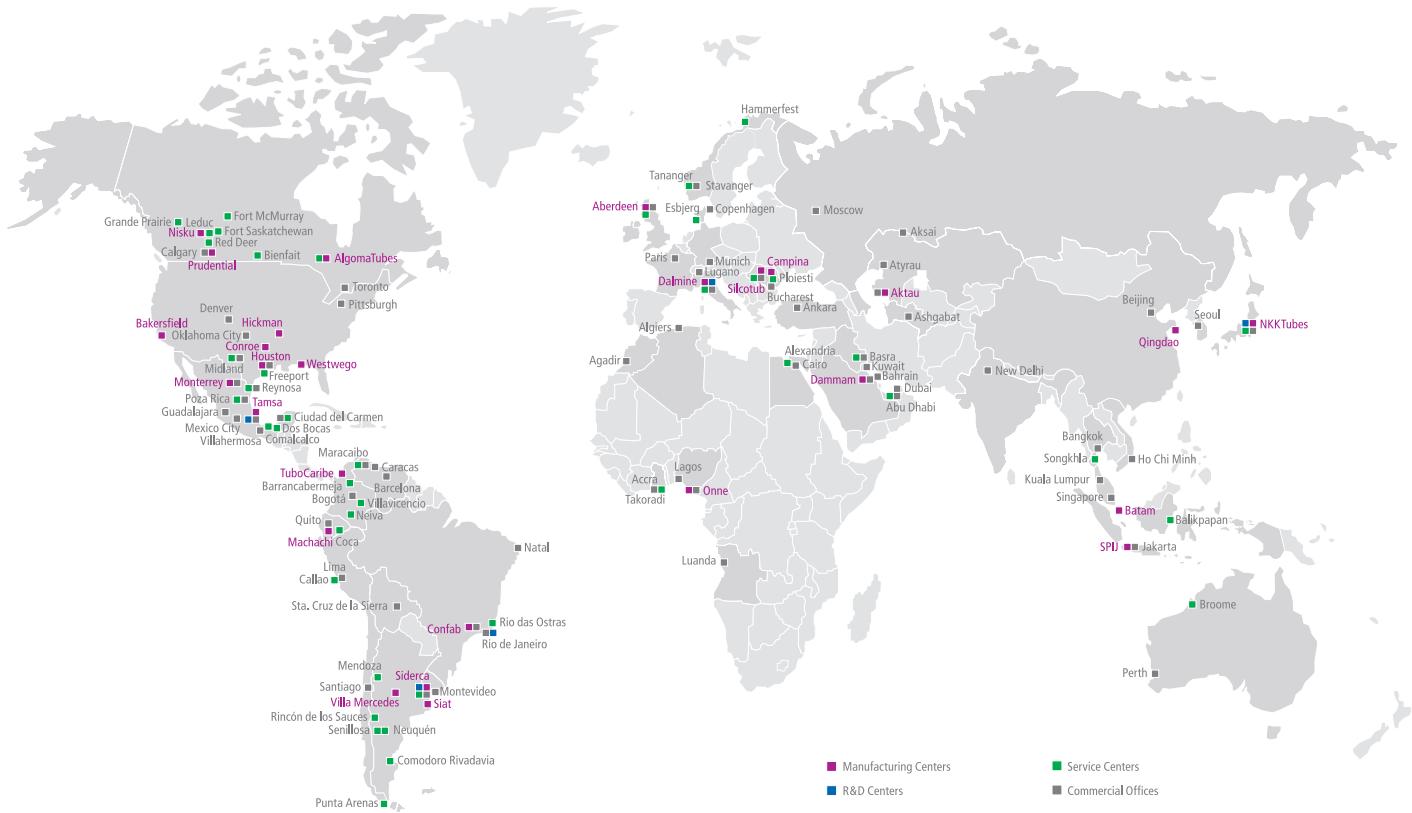
 **Tenaris**

Tenaris

Tenaris is a leading supplier of tubes and related services for the world's energy industry and certain other industrial applications. Our mission is to deliver value to our customers through product development, manufacturing excellence, and supply chain management. We seek to minimize

risk for our customers and help them reduce costs, increase flexibility and improve time-to-market.

Tenaris employees around the world are committed to continuous improvement by sharing knowledge across a single global organization.



The new standard in coiled tubing

BlueCoil® technology is a unique technology designed to expand the capabilities of coiled tubing and raise the operational quality and performance to the next level. It is also a technology platform for extending coiled tubing capabilities and reliability to meet future extreme operational demands. BlueCoil® technology is based on proprietary steel designs and manufacturing processes to produce coiled tubing that is stronger and more fatigue and environmentally resistant throughout its structure.

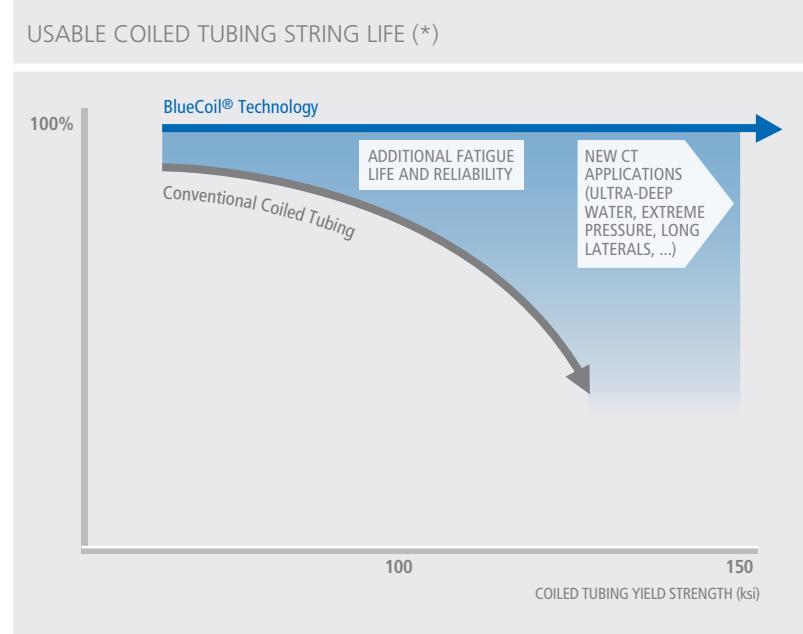
The life of a conventional coiled tubing string is normally limited by the fatigue life of its bias welds. As the required yield strength of coiled tubing increases, the fatigue life of the conventional bias weld decreases relative to the rest of the coiled

tubing string, limiting the useful life of the entire string to the shorter life of the bias weld.

In contrast, the bias weld and base tube fatigue performance of a BlueCoil® string remain comparable for high strength coiled tubing grades, allowing greater utilization of the entire string, bringing additional strength, reliability and longer string life for coiled tubing applications.

BlueCoil® technology is backed by Tenaris's decades of experience and research in pipe manufacturing and metallurgy. BlueCoil® products have undergone comprehensive testing to validate their advanced metallurgical, mechanical, fatigue and environmental performance. Field experience has confirmed quantifiable benefits of BlueCoil® products in real-life operations.

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BlueCoil® technology provides extra strength and longer string life.



(*) Based on bias-weld fatigue performance

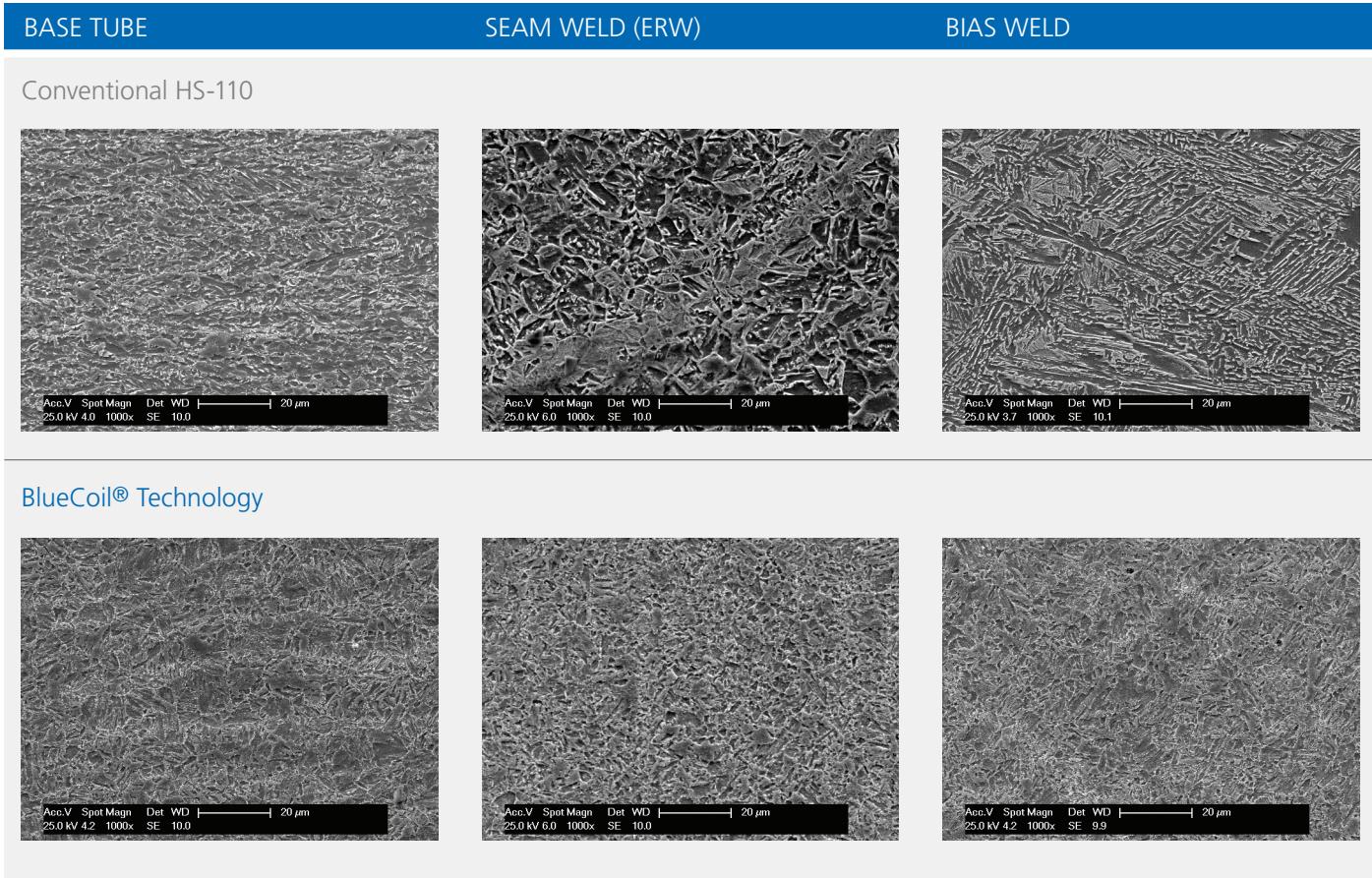
An innovative manufacturing process

To create BlueCoil® technology Tenaris developed steel chemistries and welding and heat-treatment processes that are exclusive for coiled tubing (patents pending.) They were designed to obtain higher strength grades and provide significant improvements in fatigue performance and sulfide stress cracking (SSC) resistance.

Most of the conventional coiled tubing properties are obtained when the flat strips are manufactured at the steel mill. The optimized microstructure and properties of the original flat strip material are later degraded in the bias and seam weld areas.

On the contrary, the final properties of a BlueCoil® string are obtained at the last stage of the manufacturing process. As a result, there is an improved microstructure and more uniform material properties across the entire string, including the bias and seam welds.

Comparisons of typical microstructures.



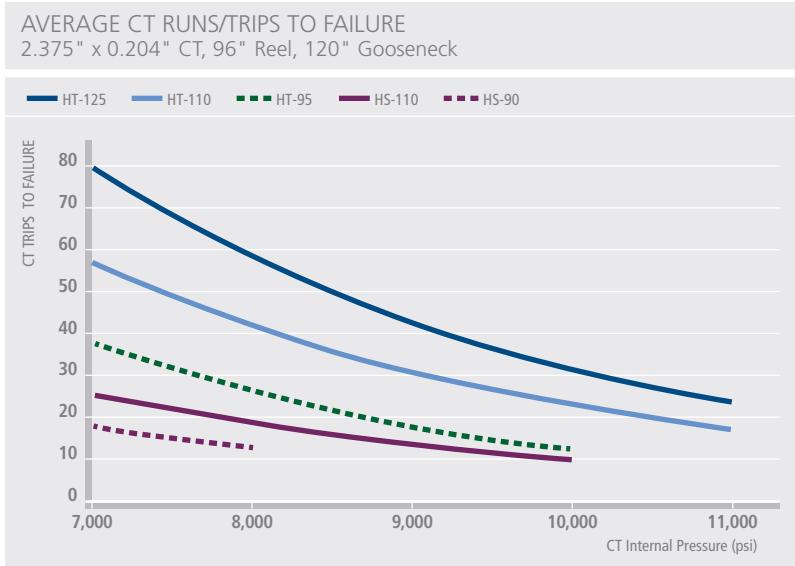
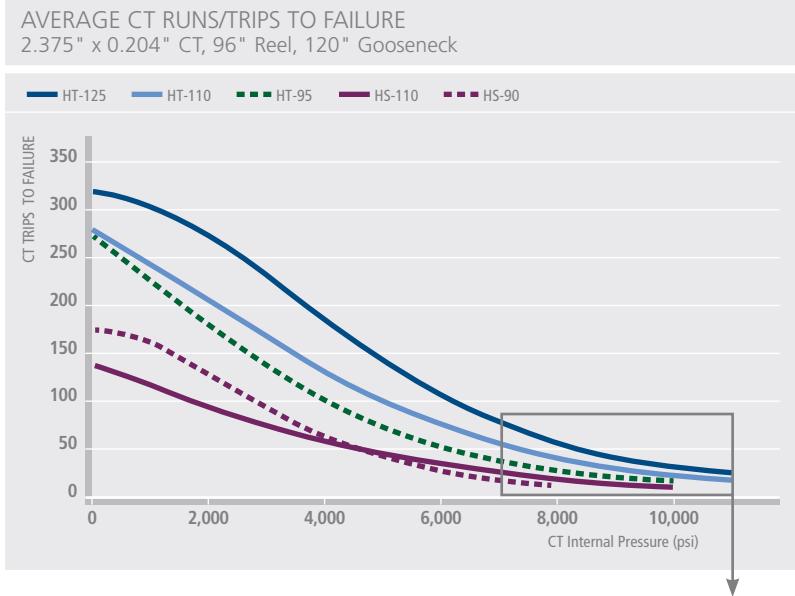
Advantages that make a difference

GREATLY IMPROVED GENERAL AND SOUR FATIGUE PERFORMANCE

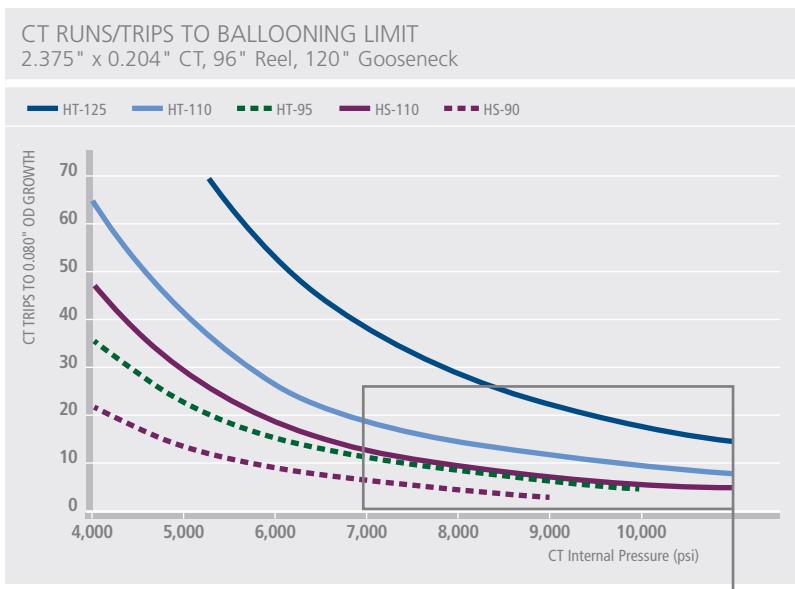
BlueCoil® technology brings improved fatigue performance over conventional coiled tubing grades. This benefit extends to the bias welds,

as they have the same improved microstructure as the base tube. In conventional coiled tubing, the shorter fatigue life of the bias weld limits the useful life of the entire string. With BlueCoil® technology, the fatigue life of the bias weld is similar to that of the base tube.

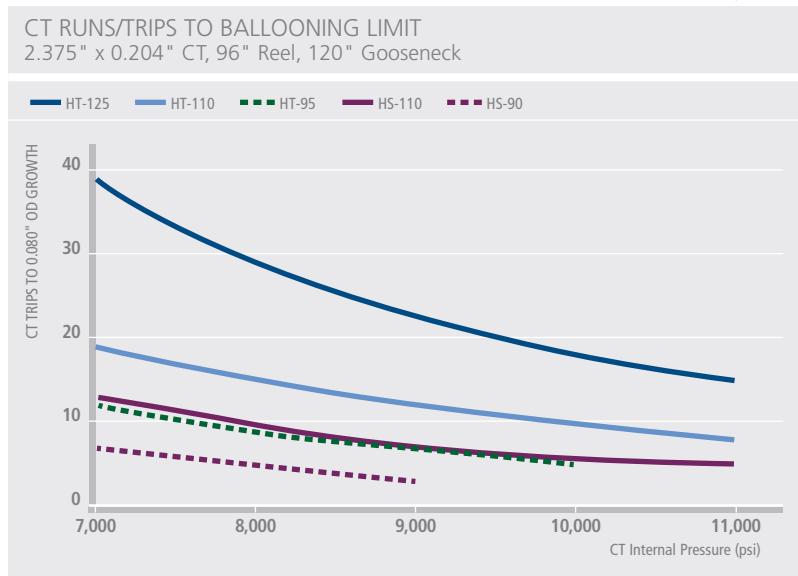
Fatigue performance of BlueCoil® tubing grades vs. conventional HS-110 and HS-90 grades for a typical coiled tubing setup.



BlueCoil® products resist ballooning better than conventional coiled tubing, making them ideal for high-pressure applications.



A comparison of ballooning performance for BlueCoil® Technology grades vs. conventional HS-110 and HS-90 grades.



Extensive testing shows that fatigue performance of BlueCoil® products after sour (aqueous H₂S) exposure is markedly improved when compared to conventional coiled tubing grades. Additionally, fatigue life of conventional coiled tubing grades after sour exposure decreases as the coiled tubing's yield strength increases. BlueCoil® technology enables a more effective and more reliable usage of higher yield strength grades, as the sour fatigue life of BlueCoil® grades did not show to be adversely affected by yield strength increases in mild sour environments.

With BlueCoil® technology, the performance of the bias weld in sour fatigue is very similar to the performance of the base tube. The improved and homogeneous microstructure of BlueCoil® products results in significant sour fatigue improvements for both the base tube and bias

welds. In conventional coiled tubing, bias welds typically fail in sour fatigue much sooner than the base tube, even for the lower-strength grades.

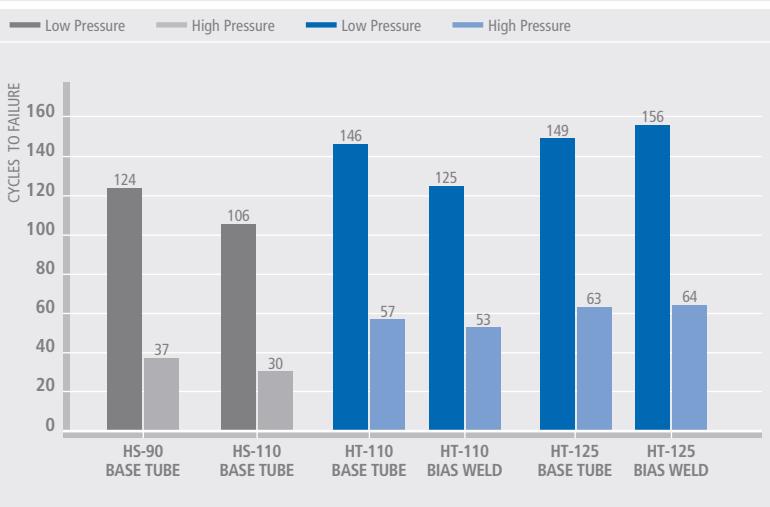
BlueCoil® HT-95 grade has shown much better fatigue performance after 4-day exposure to severe sour environments than the conventional HS-90 grade under the same test conditions. The conventional 90 grade is the previously highest strength coiled tubing grade generally accepted for sour applications.

SIGNIFICANTLY BETTER SULFIDE STRESS CRACKING (SSC) RESISTANCE

BlueCoil® technology shows improved SSC performance, allowing the use of 20 ksi to 30 ksi higher yield strength grades in SSC environments compared to conventional coiled tubing grades.

Sour fatigue test results for MILD sour conditions

SOUR FATIGUE RESULTS

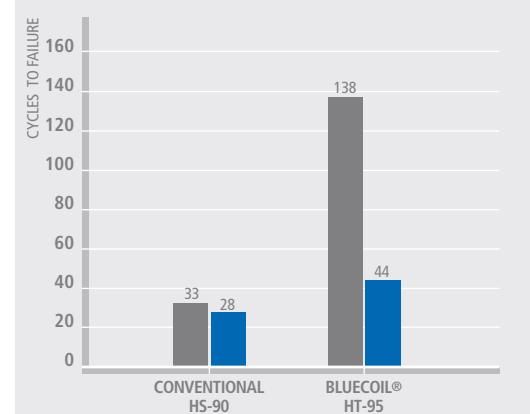


Sour fatigue test results for SEVERE sour conditions for HT-95 and HS-90 grades

BASE TUBE SOUR FATIGUE TEST RESULTS - 100% H₂S

14.5 psi (1 bar) H₂S partial pressure, 4-day exposure

— Low Pressure — High Pressure



VASTLY BETTER FIELD PERFORMANCE

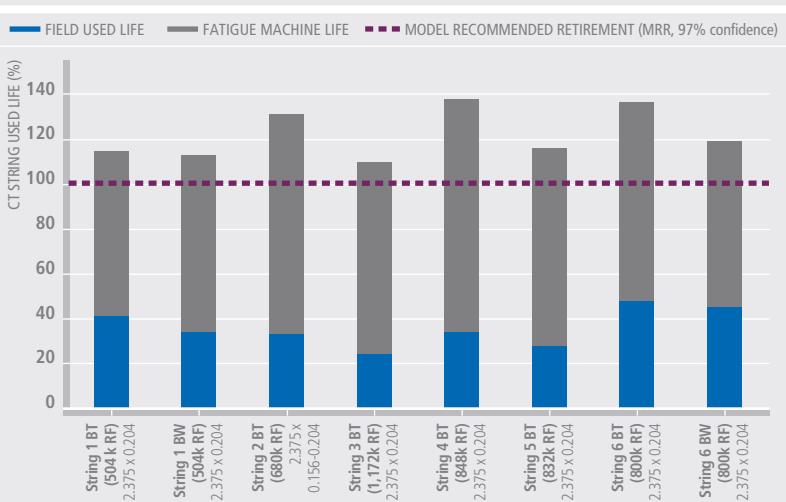
Testing of BlueCoil® HT-125 strings, including bias welds, after extensive field use in terms of both field used life and running feet (RF) shows that there is still a lot of remaining fatigue life even when HT-125 strings were used in field operations much longer than any other conventional coiled tubing strings under similar operating conditions. All tested HT-125 field string sections lasted beyond the statistical model recommended retirement(MRR) limit. The much improved predictability and reliability of BlueCoil® technology service life, in addition to significantly reduced risks of string parting even after string damage, can have profound effects on reducing operational risks, including quality, safety and environmental risks.

Greatly improved fatigue and ballooning performance of BlueCoil® technology also enables larger diameters for longer extended reach in lateral well sections, as well as higher pressures and flow rates for improved solids transport and more efficient coiled tubing jobs.

Easy to handle

- BlueCoil® products are compatible with the equipment currently used with conventional coiled tubing, so there is no need for special handling or equipment requirements.
- This includes injector handling under high pull load, BHA connectors, pipe cutters and BOP shear and slip performance.

FIELD LIFE AND REMAINING FATIGUE LIFE OF BLUECOIL® HT-125 FIELD CT STRINGS



Field used life and remaining fatigue life of HT-125 field CT strings.

BT = base tube

BW = bias weld

RF = running feet

Mechanical Properties

Mechanical Properties of BlueCoil® Products

GRADE	YIELD STRENGTH		TENSILE STRENGTH		MAXIMUM HARDNESS
	MIN psi	MPa	MIN psi	MPa	
HT-95	95,000	655	105,000	724	26
HT-110	110,000	758	118,000	814	30
HT-125	125,000	862	132,000	910	33

Technical Tables

HT-95 | 1.250" TO 2.875"

DIMENSIONS				NOMINAL WEIGHT	TUBE LOAD BODY		INTERNAL PRESSURE	TUBING AREA	TORSIONAL YIELD		INTERNAL CAPACITY	EXTERNAL DISPLACEMENT
Specified OD	Specified Wall	Minimum Wall	ID (calculated)		Yield Minimum	Tensile Minimum			Wall Area Min. Wall	Yield	Ultimate	
in	in	in	in	lb/ft	lb	psi	in ²	ft.lb	ft.lb	Barrels/1000 ft	Barrels/1000 ft	
1.250	0.109	0.104	1.032	1.332	37,100	41,000	15,500	0.374	906	983	1.03	1.52
	0.116	0.108	1.018	1.408	39,300	43,400	16,100	0.387	932	1,014	1.01	1.52
	0.125	0.117	1.000	1.506	42,000	46,400	17,400	0.416	987	1,081	0.97	1.52
	0.134	0.126	0.982	1.601	44,600	49,300	18,700	0.445	1,040	1,147	0.94	1.52
	0.145	0.137	0.960	1.715	47,800	52,900	20,200	0.479	1,101	1,224	0.90	1.52
	0.156	0.148	0.938	1.827	50,900	56,300	21,700	0.512	1,157	1,297	0.85	1.52
	0.175	0.167	0.900	2.014	56,100	62,100	24,300	0.568	1,247	1,417	0.79	1.52
1.500	0.116	0.108	1.268	1.719	47,900	53,000	13,500	0.472	1,402	1,505	1.56	2.19
	0.125	0.117	1.250	1.840	51,300	56,700	14,600	0.508	1,491	1,610	1.52	2.19
	0.134	0.126	1.232	1.960	54,600	60,400	15,700	0.544	1,577	1,712	1.47	2.19
	0.145	0.137	1.210	2.104	58,600	64,800	17,000	0.587	1,676	1,832	1.42	2.19
	0.156	0.148	1.188	2.245	62,600	69,200	18,300	0.629	1,771	1,949	1.37	2.19
	0.175	0.167	1.150	2.483	69,200	76,500	20,500	0.699	1,922	2,140	1.28	2.19
	0.190	0.178	1.120	2.665	74,300	82,100	21,800	0.739	2,003	2,246	1.22	2.19
1.750	0.116	0.108	1.518	2.029	56,600	62,500	11,600	0.557	1,969	2,092	2.24	2.97
	0.125	0.117	1.500	2.175	60,600	67,000	12,600	0.600	2,100	2,243	2.19	2.97
	0.134	0.126	1.482	2.318	64,600	71,400	13,500	0.643	2,226	2,389	2.13	2.97
	0.145	0.137	1.460	2.492	69,500	76,800	14,600	0.694	2,374	2,564	2.07	2.97
	0.156	0.148	1.438	2.662	74,200	82,000	15,800	0.745	2,516	2,733	2.01	2.97
	0.175	0.167	1.400	2.951	82,300	90,900	17,700	0.831	2,746	3,014	1.90	2.97
	0.190	0.178	1.370	3.173	88,500	97,800	18,800	0.879	2,872	3,170	1.82	2.97
2.000	0.116	0.108	1.768	2.340	65,200	72,100	10,200	0.642	2,633	2,777	3.04	3.89
	0.125	0.117	1.750	2.509	69,900	77,300	11,000	0.692	2,813	2,980	2.97	3.89
	0.134	0.126	1.732	2.677	74,600	82,500	11,800	0.742	2,988	3,180	2.91	3.89
	0.145	0.137	1.710	2.880	80,300	88,700	12,900	0.802	3,195	3,418	2.84	3.89
	0.156	0.148	1.688	3.080	85,900	94,900	13,900	0.861	3,394	3,650	2.77	3.89
	0.175	0.167	1.650	3.419	95,300	105,400	15,600	0.962	3,721	4,037	2.64	3.89
	0.190	0.178	1.620	3.682	102,600	113,400	16,600	1.019	3,899	4,253	2.55	3.89
2.375	0.192	0.192	1.592	3.923	109,300	120,900	17,800	1.091	4,117	4,520	2.46	3.89
	0.204	0.192	1.552	4.259	118,700	131,200	19,600	1.191	4,409	4,886	2.34	3.89
	0.224	0.212	1.522	5.159	143,800	158,900	16,600	1.441	6,544	7,140	3.61	5.48
	0.250	0.238	1.500	4.684	130,600	144,300	21,800	1.317	4,756	5,334	2.19	3.89
	0.125	0.117	2.125	3.011	83,900	92,800	9,300	0.830	4,080	4,284	4.39	5.48
	0.134	0.126	2.107	3.215	89,600	99,100	10,000	0.890	4,344	4,578	4.31	5.48
	0.145	0.137	2.085	3.462	96,500	106,700	10,900	0.963	4,657	4,930	4.22	5.48
2.625	0.148	0.148	2.063	3.706	103,300	114,200	11,700	1.035	4,960	5,274	4.13	5.48
	0.175	0.167	2.025	4.122	114,900	127,000	13,200	1.158	5,462	5,853	3.98	5.48
	0.190	0.178	1.995	4.445	123,900	136,900	14,000	1.229	5,740	6,178	3.87	5.48
	0.204	0.192	1.967	4.742	132,200	146,100	15,100	1.317	6,081	6,582	3.76	5.48
	0.224	0.212	1.927	5.159	143,800	158,900	16,600	1.441	6,544	7,140	3.61	5.48
	0.250	0.238	1.875	5.688	158,600	175,200	18,600	1.598	7,104	7,831	3.42	5.48
	0.134	0.126	2.357	3.574	99,600	110,100	9,100	0.989	5,389	5,651	5.40	6.69
2.875	0.145	0.137	2.585	4.238	118,100	130,600	9,000	1.178	7,036	7,375	6.49	8.03
	0.156	0.148	2.563	4.541	126,600	139,900	9,700	1.268	7,513	7,905	6.38	8.03
	0.175	0.167	2.525	5.059	141,000	155,900	10,900	1.421	8,308	8,798	6.19	8.03
	0.190	0.178	2.495	5.462	152,300	168,300	11,600	1.508	8,753	9,304	6.05	8.03
	0.204	0.192	2.467	5.834	162,600	179,700	12,500	1.618	9,302	9,934	5.91	8.03
	0.224	0.212	2.427	6.358	177,200	195,900	13,800	1.774	10,055	10,810	5.72	8.03
	0.250	0.238	2.375	7.026	195,900	216,500	15,500	1.972	10,981	11,907	5.48	8.03

- The coiled tubing data in this handbook is for new tubing at specified minimum strength.
- Strips with continuous gradual tapers are used for all wall thickness transitions within tapered string design.
- Tube Body Load: Yield & Tensile minimums calculated based on specified wall.
- Internal Yield: Internal pressure to cause yielding based on minimum yield strength and minimum wall thickness.
- Torsional Yield is calculated using minimum wall thickness and minimum yield strength.

HT-110 | 1.250" TO 2.875"

DIMENSIONS				NOMINAL WEIGHT	TUBE LOAD BODY		INTERNAL PRESSURE	TUBING AREA	TORSIONAL YIELD		INTERNAL CAPACITY	EXTERNAL DISPLACEMENT
Specified OD	Specified Wall	Minimum Wall	ID (calculated)		Yield Minimum	Tensile Minimum			Wall Area Min. Wall	Yield	Ultimate	
in	in	in	in	lb/ft	lb	psi	in ²	ft.lb	ft.lb	Barrels/1000 ft	Barrels/1000 ft	
1.250	0.109	0.104	1.032	1.332	43,000	46,100	18,000	0.374	1,049	1,138	1.03	1.52
	0.116	0.108	1.018	1.408	45,500	48,800	18,600	0.387	1,079	1,174	1.01	1.52
	0.125	0.117	1.000	1.506	48,600	52,100	20,100	0.416	1,143	1,252	0.97	1.52
	0.134	0.126	0.982	1.601	51,700	55,400	21,600	0.445	1,204	1,328	0.94	1.52
	0.145	0.137	0.960	1.715	55,400	59,400	23,400	0.479	1,274	1,417	0.90	1.52
	0.156	0.148	0.938	1.827	59,000	63,300	25,100	0.512	1,340	1,502	0.85	1.52
	0.175	0.167	0.900	2.014	65,000	69,700	28,100	0.568	1,443	1,640	0.79	1.52
1.500	0.116	0.108	1.268	1.719	55,500	59,500	15,600	0.472	1,623	1,742	1.56	2.19
	0.125	0.117	1.250	1.840	59,400	63,700	16,900	0.508	1,726	1,864	1.52	2.19
	0.134	0.126	1.232	1.960	63,300	67,900	18,200	0.544	1,826	1,982	1.47	2.19
	0.145	0.137	1.210	2.104	67,900	72,800	19,700	0.587	1,941	2,122	1.42	2.19
	0.156	0.148	1.188	2.245	72,500	77,700	21,200	0.629	2,050	2,257	1.37	2.19
	0.175	0.167	1.150	2.483	80,100	86,000	23,700	0.699	2,225	2,478	1.28	2.19
	0.190	0.178	1.120	2.665	86,000	92,300	25,200	0.739	2,319	2,600	1.22	2.19
1.750	0.116	0.108	1.518	2.029	65,500	70,300	13,400	0.557	2,280	2,423	2.24	2.97
	0.125	0.117	1.500	2.175	70,200	75,300	14,500	0.600	2,431	2,597	2.19	2.97
	0.134	0.126	1.482	2.318	74,800	80,300	15,600	0.643	2,578	2,766	2.13	2.97
	0.145	0.137	1.460	2.492	80,400	86,300	17,000	0.694	2,749	2,969	2.07	2.97
	0.156	0.148	1.438	2.662	85,900	92,200	18,300	0.745	2,913	3,165	2.01	2.97
	0.175	0.167	1.400	2.951	95,200	102,200	20,500	0.831	3,180	3,490	1.90	2.97
	0.190	0.178	1.370	3.173	102,400	109,900	21,800	0.879	3,325	3,670	1.82	2.97
2.000	0.116	0.108	1.768	2.340	75,500	81,000	11,800	0.642	3,048	3,215	3.04	3.89
	0.125	0.117	1.750	2.509	81,000	86,900	12,800	0.692	3,258	3,451	2.97	3.89
	0.134	0.126	1.732	2.677	86,400	92,700	13,700	0.742	3,460	3,682	2.91	3.89
	0.145	0.137	1.710	2.880	93,000	99,700	14,900	0.802	3,700	3,958	2.84	3.89
	0.156	0.148	1.688	3.080	99,400	106,600	16,100	0.861	3,930	4,226	2.77	3.89
	0.175	0.167	1.650	3.419	110,400	118,400	18,000	0.962	4,308	4,675	2.64	3.89
	0.190	0.178	1.620	3.682	118,800	127,500	19,200	1.019	4,515	4,925	2.55	3.89
2.375	0.192	0.192	1.592	3.923	126,600	135,800	20,600	1.091	4,767	5,234	2.46	3.89
	0.224	0.212	1.552	4.259	137,500	147,500	22,700	1.191	5,105	5,657	2.34	3.89
	0.250	0.238	1.500	4.684	151,200	162,200	25,300	1.317	5,507	6,176	2.19	3.89
	0.125	0.117	2.125	3.011	97,200	104,300	10,800	0.830	4,725	4,961	4.39	5.48
	0.134	0.126	2.107	3.215	103,800	111,300	11,600	0.890	5,030	5,300	4.31	5.48
	0.145	0.137	2.085	3.462	111,700	119,900	12,600	0.963	5,392	5,708	4.22	5.48
	0.156	0.148	2.063	3.706	119,600	128,300	13,600	1.035	5,744	6,107	4.13	5.48
2.625	0.167	0.167	2.025	4.122	133,000	142,700	15,300	1.158	6,325	6,777	3.98	5.48
	0.175	0.178	1.995	4.445	143,500	153,900	16,300	1.229	6,647	7,154	3.87	5.48
	0.204	0.192	1.967	4.742	153,000	164,200	17,500	1.317	7,041	7,621	3.76	5.48
	0.224	0.212	1.927	5.159	166,500	178,600	19,200	1.441	7,577	8,267	3.61	5.48
	0.250	0.238	1.875	5.688	183,600	196,900	21,500	1.598	8,226	9,067	3.42	5.48
	0.134	0.126	2.357	3.574	115,400	123,700	10,500	0.989	6,240	6,543	5.40	6.69
	0.145	0.137	2.335	3.850	124,300	133,300	11,400	1.071	6,698	7,053	5.30	6.69
2.875	0.175	0.167	2.217	5.288	170,700	183,100	15,900	1.152	7,144	7,553	5.20	6.69
	0.204	0.192	2.177	5.758	185,900	199,400	17,500	1.207	8,806	9,462	4.77	6.69
	0.224	0.212	2.127	6.357	205,200	220,100	19,500	1.285	10,347	11,304	4.39	6.69
	0.145	0.137	2.585	4.238	136,800	146,700	10,400	1.178	8,147	8,540	6.49	8.03
	0.156	0.148	2.563	4.541	146,600	157,200	11,200	1.268	8,699	9,153	6.38	8.03
	0.175	0.167	2.525	5.059	163,300	175,200	12,700	1.421	9,620	10,188	6.19	8.03
	0.190	0.178	2.495	5.462	176,300	189,100	13,500	1.508	10,135	10,773	6.05	8.03
3.000	0.204	0.192	2.467	5.834	188,300	202,000	14,500	1.618	10,771	11,502	5.91	8.03
	0.224	0.212	2.427	6.358	205,200	220,100	16,000	1.774	11,643	12,517	5.72	8.03
	0.250	0.238	2.375	7.026	226,800	243,300	17,900	1.972	12,715	13,787	5.48	8.03

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- Strips with continuous gradual tapers are used for all wall thickness transitions within tapered string design.
- Tube Body Load: Yield & Tensile minimums calculated based on specified wall.
- Internal Yield: Internal pressure to cause yielding based on minimum yield strength and minimum wall thickness.
- Torsional Yield is calculated using minimum wall thickness and minimum yield strength.

HT-125 | 1.250" TO 2.875"

DIMENSIONS				NOMINAL WEIGHT	TUBE LOAD BODY		INTERNAL PRESSURE	TUBING AREA	TORSIONAL YIELD		INTERNAL CAPACITY	EXTERNAL DISPLACEMENT
Specified OD	Specified Wall	Minimum Wall	ID (calculated)		Yield Minimum	Tensile Minimum			Wall Area Min. Wall	Yield	Ultimate	
in	in	in	in	lb/ft	lb	psi	in ²	ft.lb	ft.lb	Barrels/1000 ft	Barrels/1000 ft	
1.250	0.109	0.104	1.032	1.332	48,800	51,600	20,400	0.374	1,192	1,293	1.03	1.52
	0.116	0.108	1.018	1.408	51,700	54,600	21,200	0.387	1,226	1,334	1.01	1.52
	0.125	0.117	1.000	1.506	55,200	58,300	22,900	0.416	1,299	1,423	0.97	1.52
	0.134	0.126	0.982	1.601	58,700	62,000	24,600	0.445	1,368	1,509	0.94	1.52
	0.145	0.137	0.960	1.715	62,900	66,400	26,600	0.479	1,448	1,610	0.90	1.52
	0.156	0.148	0.938	1.827	67,000	70,800	28,600	0.512	1,523	1,707	0.85	1.52
	0.175	0.167	0.900	2.014	73,900	78,000	31,900	0.568	1,640	1,864	0.79	1.52
1.500	0.116	0.108	1.268	1.719	63,000	66,600	17,800	0.472	1,845	1,980	1.56	2.19
	0.125	0.117	1.250	1.840	67,500	71,300	19,200	0.508	1,962	2,118	1.52	2.19
	0.134	0.126	1.232	1.960	71,900	75,900	20,600	0.544	2,074	2,252	1.47	2.19
	0.145	0.137	1.210	2.104	77,200	81,500	22,400	0.587	2,205	2,411	1.42	2.19
	0.156	0.148	1.188	2.245	82,300	86,900	24,100	0.629	2,330	2,564	1.37	2.19
	0.175	0.167	1.150	2.483	91,100	96,200	27,000	0.699	2,529	2,816	1.28	2.19
	0.190	0.178	1.120	2.665	97,700	103,200	28,600	0.739	2,635	2,955	1.22	2.19
1.750	0.116	0.108	1.518	2.029	74,400	78,600	15,300	0.557	2,591	2,753	2.24	2.97
	0.125	0.117	1.500	2.175	79,800	84,200	16,500	0.600	2,763	2,951	2.19	2.97
	0.134	0.126	1.482	2.318	85,000	89,800	17,800	0.643	2,929	3,144	2.13	2.97
	0.145	0.137	1.460	2.492	91,400	96,500	19,300	0.694	3,124	3,373	2.07	2.97
	0.156	0.148	1.438	2.662	97,700	103,100	20,800	0.745	3,311	3,596	2.01	2.97
	0.175	0.167	1.400	2.951	108,200	114,300	23,300	0.831	3,614	3,966	1.90	2.97
	0.190	0.178	1.370	3.173	116,400	122,900	24,800	0.879	3,778	4,171	1.82	2.97
2.000	0.116	0.108	1.768	2.340	85,800	90,600	13,400	0.642	3,464	3,654	3.04	3.89
	0.125	0.117	1.750	2.509	92,000	97,200	14,500	0.692	3,702	3,922	2.97	3.89
	0.134	0.126	1.732	2.677	98,200	103,700	15,600	0.742	3,932	4,184	2.91	3.89
	0.145	0.137	1.710	2.880	105,600	111,500	16,900	0.802	4,204	4,497	2.84	3.89
	0.156	0.148	1.688	3.080	113,000	119,300	18,200	0.861	4,466	4,803	2.77	3.89
	0.175	0.167	1.650	3.419	125,400	132,400	20,500	0.962	4,895	5,312	2.64	3.89
	0.190	0.178	1.620	3.682	135,000	142,600	21,800	1.019	5,131	5,597	2.55	3.89
2.375	0.192	0.192	1.592	3.923	143,900	151,900	23,400	1.091	5,417	5,948	2.46	3.89
	0.224	0.212	1.552	4.259	156,200	165,000	25,800	1.191	5,801	6,429	2.34	3.89
	0.250	0.238	1.500	4.684	171,800	181,400	28,700	1.317	6,258	7,019	2.19	3.89
	0.125	0.117	2.125	3.011	110,400	116,600	12,200	0.830	5,369	5,637	4.39	5.48
	0.134	0.126	2.107	3.215	117,900	124,500	13,200	0.890	5,716	6,023	4.31	5.48
	0.145	0.137	2.085	3.462	127,000	134,100	14,300	0.963	6,128	6,486	4.22	5.48
	0.156	0.148	2.063	3.706	135,900	143,600	15,400	1.035	6,527	6,940	4.13	5.48
2.625	0.167	0.167	2.025	4.122	151,200	159,700	17,400	1.158	7,187	7,701	3.98	5.48
	0.175	0.178	1.995	4.445	163,000	172,200	18,500	1.229	7,553	8,129	3.87	5.48
	0.204	0.192	1.967	4.742	173,900	183,700	19,900	1.317	8,001	8,661	3.76	5.48
	0.224	0.212	1.927	5.159	189,200	199,800	21,900	1.441	8,610	9,394	3.61	5.48
	0.250	0.238	1.875	5.688	208,600	220,300	24,400	1.598	9,348	10,304	3.42	5.48
	0.134	0.126	2.357	3.574	131,100	138,400	11,900	0.989	7,090	7,435	5.40	6.69
	0.145	0.137	2.335	3.850	141,200	149,100	13,000	1.071	7,612	8,015	5.30	6.69
2.875	0.156	0.148	2.563	4.541	166,600	175,900	12,800	1.268	9,885	10,401	6.38	8.03
	0.175	0.167	2.525	5.059	185,600	195,900	14,400	1.421	10,932	11,577	6.19	8.03
	0.190	0.178	2.495	5.462	200,300	211,600	15,300	1.508	11,517	12,242	6.05	8.03
	0.204	0.192	2.467	5.834	214,000	226,000	16,500	1.618	12,240	13,071	5.91	8.03
	0.224	0.212	2.427	6.358	233,200	246,300	18,200	1.774	13,231	14,224	5.72	8.03
	0.250	0.238	2.375	7.026	257,700	272,100	20,300	1.972	14,448	15,667	5.48	8.03

- The coiled tubing data in this handbook is for new tubing at specified minimum strength.
- Strips with continuous gradual tapers are used for all wall thickness transitions within tapered string design.
- Tube Body Load: Yield & Tensile minimums calculated based on specified wall.
- Internal Yield: Internal pressure to cause yielding based on minimum yield strength and minimum wall thickness.
- Torsional Yield is calculated using minimum wall thickness and minimum yield strength.



For contact information, please visit
www.tenaris.com/bluecoil

For technical assistance, please contact
coiledtubes@tenaris.com



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