



Control Line & Flatpack

Make energy extraction efficient and safe

Jason Energy Technology Co., Ltd., as a globally leading tube manufacturer, has always aimed at making energy exploration more efficient, more reliable and safer, striving to create the best tube products.

We focus on the design, development, and manufacturing of coiled tubing products, control lines, and Flatpack systems. Adhering to the R&D spirit of diligence, dedication to research, pursuit of excellence, and creating with heart, we continuously enhance the core competitiveness of our products. Jason Company always focus on customer needs. carefully crafting each inch of tube, providing high-quality, diverse, and customizable coiled tubing and capillary tube products for global customers, maximizing the satisfaction of different customer needs.

Control Line

Small-diameter corrosion-resistant alloy longitudinally welded continuous tubing is available for applications including downhole valve control, chemical injection, and hydraulic control lines. In addition, continuous metal armored tubing with integrated electrical cables can be supplied. Leveraging customized manufacturing capabilities, tubing products are offered with various surface qualities and strength grades to meet the requirements of diverse and complex operating environments.



Table 1 Control Line Chemical Composition

UNS	Material	C	Si	Mn	P	S	Cr	Ni	Mo	Cu	N
S31603	316L	≤ 0.03	≤ 0.75	≤ 2.00	≤ 0.045	≤ 0.03	16.0-18.0	10.0-14.0	2.00-3.00	—	≤ 0.10
S32205	2205	≤ 0.03	≤ 1.00	≤ 2.00	≤ 0.03	≤ 0.02	22.0-23.0	4.5-6.5	3.0-3.5	—	0.14-0.20
S32750	2507	≤ 0.03	≤ 0.80	≤ 1.20	≤ 0.035	≤ 0.02	24.0-26.0	6.0-8.0	3.0-5.0	≤ 0.50	0.24-0.32

Table 2 Nickel-based Control Line Chemical Composition

UNS	Material	C	Si	Mn	P	S	Cr	Ni	Mo
N08825	825	≤ 0.05	≤ 0.5	≤ 1.0	—	≤ 0.03	19.5-23.5	38.0-46.0	≥ 22.0
N06625	625	≤ 0.1	≤ 0.5	≤ 0.5	≤ 0.015	≤ 0.015	20.0-23.0	≥ 58.0	≤ 5.0

UNS	Material	Ti	Co	Cu	Nb+Ta	Al	Mo
N08825	825	0.6-1.2	—	1.5-3.0	—	≤ 0.2	2.5-3.5
N06625	625	≤ 0.4	≤ 1.0	—	3.15-4.15	≤ 0.4	8.0-10.0

Table 3 Annealing Heat Treatment Product Performance Parameter

UNS	Material	Hardness Max	Tensile Strength Min. psi	Yield Strength Min. psi	Yield Strength Min. %
S31603	316L	200HV / 90HRB	70000	25000	35
S31603	316L	200HV / 90HRB	70000	30000	35
S32205	2205	290HV / 30HRC	95000	70000	25
S32205	2205	290HV / 30HRC	95000	80000	25
S32750	2507	300HV / 32HRC	116000	80000	15
N08825	N08825	210HV / 95HRC	85000	35000	30
N08825	N08825	210HV / 95HRC	95000	65000	20
N08825	N08825	210HV / 95HRC	108000	90000	5
N06625	N06625	270HV / 25.5HRC	120000	60000	30

Table 4 Size Specification Sheet for Main Contracted Control Lines and Cables

Out Diameter		Wall Thickness				
Unit	In	0.028	0.035	0.049	0.065	0.083
In	mm	0.711	0.889	1.2446	1.651	2.11
0.125	3.175	O	—	—	—	—
0.250	6.350	O	O	O	O	—
0.375	9.525	—	O	O	O	O
0.500	12.700	—	O	O	O	O
0.625	15.880	—	—	O	O	O

Note:

- 1) Marked 'O' refers to the main specifications and sizes.
- 2) Other specifications can be customized according to customer needs.

TEC/Flat Pack Products

Extrusion package can be applied such as control lines, cables, fibers and other products, and supplies CL/TEC/TEF/Flat Pack products. According to customer needs, single or multiple channels of different types can be packaged, designed and manufactured to meet the needs of different working conditions.

Available packaging materials include but are not limited to the table below.

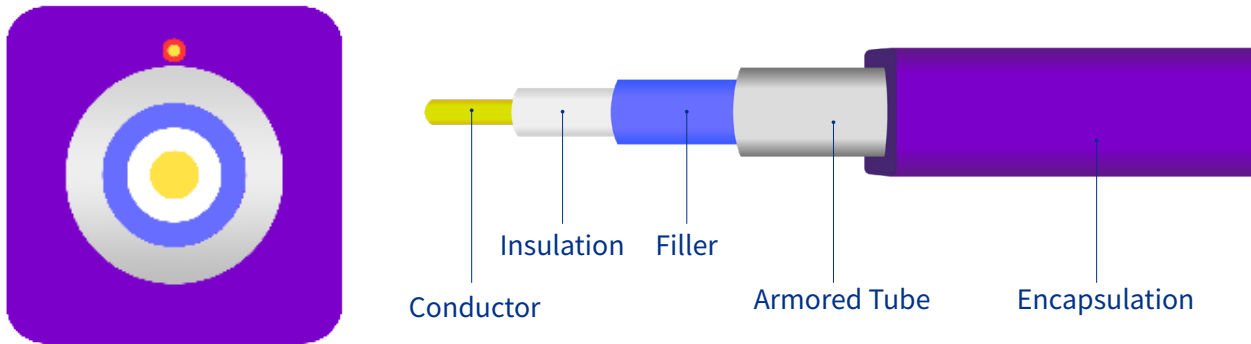


Table 6 Materials For Packaging, Filling, and Insulation

Material Abbreviation	Applicable Temperature °C	Applicable Temperature °C
FEP	Fluorinated Ethylene Propylene	-70°C ~200°C
PFA	Perfluoroalkoxy	-70°C ~260°C
ETFE	Ethylene-tetrafluoroethylene	-60°C ~150°C
PVDF	Polyvinylidene Fluoride	-30°C ~150°C
PP	Polypropylene	-30°C ~130°C
TPV	Thermoplastic Vulcanizate	-30°C ~150°C
PA	Polyamide	-30°C ~ 95°C
HDPE	High Density Polyethylene	-40°C ~100°C

Table 7 Cable Selection

Fill	PP	PP	FEP	PFA
Insulation	FEP	ETFE	FEP	PFA
Max Temperature °C	150	150	200	260

Conductor Size	Core Size / mm		Maximum Resistance Value (Ω / km)
	Solid Core	7 stranded	20°C
12AWG	1 / 2.05	7 / 0.78	5.31
14AWG	1 / 1.62	7 / 0.62	8.5
16AWG	1 / 1.29	7 / 0.49	13.5
18AWG	1 / 1.02	7 / 0.39	23
20AWG	1 / 0.93	7 / 0.31	34.8
22AWG	1 / 0.64	7 / 0.22	54.6

Electrical Performance	
Insulation Resistance	$\geq 3050 \text{ M}\Omega \cdot \text{km}$
Withstanding Voltage Insulation Test	DC voltage 3KV, no breakdown in 5 minutes.

There are multiple configuration options for copper conductors.

- Size: 12, 14, 16, 18, 20, 22AWG, etc.
- Type: Solid Core or Stranded Conductor.
- Material: bare copper, tin-plated, silver-plated, and other copper conductors.

Control Line Product Performance Data Sheet

Material	Standard Out Diameter	Standard Wall Thickness	Unit Weight	Standard Inner Diameter	Cross-sectional Area	Minimum Yield Ytrength	Minimum Tensile Strength	Pipe load		Minimum Test Pressure	Minimum Internal Yield Pressure	Minimum External Collapse Strength	Minimum Internal Burst Pressure
								Minimum Yield load	Minimum Tensile Load				
UNS	in	in	lbs/ft	in	sq.in	psi	psi	lbs	lbs	psig	psi	psig	psi
S31603	0.125	0.028	0.03	0.069	0.009	25000	70000	200	600	10700	11900	8100	28700
	0.25	0.028	0.07	0.194	0.020	25000	70000	500	1400	5000	5600	4600	13100
	0.25	0.035	0.09	0.18	0.024	25000	70000	600	1700	6400	7100	5600	16700
	0.25	0.049	0.11	0.152	0.031	25000	70000	800	2200	9300	10300	7300	24500
	0.25	0.065	0.14	0.12	0.038	25000	70000	900	2600	12600	14000	9000	34300
	0.375	0.035	0.13	0.305	0.037	25000	70000	900	2600	4100	4600	3900	10800
	0.375	0.049	0.18	0.277	0.050	25000	70000	1300	3500	5900	6600	5200	15500
	0.375	0.065	0.22	0.245	0.063	25000	70000	1600	4400	8100	9000	6600	21300
	0.375	0.083	0.27	0.209	0.076	25000	70000	1900	5300	10600	11800	8000	28200
	0.5	0.049	0.24	0.402	0.069	25000	70000	1700	4900	4400	4800	4100	11300
	0.5	0.065	0.31	0.37	0.089	25000	70000	2200	6200	5900	6600	5200	15400
	0.5	0.083	0.38	0.334	0.109	25000	70000	2700	7600	7700	8600	6400	20200
	0.625	0.049	0.31	0.527	0.089	25000	70000	2200	6200	3400	3800	3300	8900
	0.625	0.065	0.4	0.495	0.114	25000	70000	2900	8000	4600	5200	4300	12100
	0.625	0.083	0.49	0.459	0.141	25000	70000	3500	9900	6000	6700	5300	15800
S31603	0.125	0.028	0.03	0.069	0.009	30000	70000	300	600	12900	14300	9700	28700
	0.25	0.028	0.07	0.194	0.02	30000	70000	600	1400	6000	6700	5500	13100
	0.25	0.035	0.09	0.18	0.024	30000	77000	700	1700	7700	8500	6700	16700
	0.25	0.049	0.11	0.152	0.031	30000	70000	900	2200	11100	12300	8800	24500
	0.25	0.065	0.14	0.12	0.038	30000	70000	1100	2600	15100	16800	10800	34300
	0.375	0.035	0.13	0.305	0.037	30000	70000	1100	2600	5000	5500	4700	10800
	0.375	0.049	0.18	0.277	0.050	30000	70000	1500	3500	7100	7900	6300	15500
	0.375	0.065	0.22	0.245	0.063	30000	70000	1900	4400	9700	10800	7900	21300
	0.375	0.083	0.27	0.209	0.076	30000	70000	2300	5300	12700	14100	9600	28200
	0.5	0.035	0.18	0.43	0.051	30000	70000	1500	3600	3700	4100	3600	7900
	0.5	0.049	0.24	0.402	0.069	30000	70000	2100	4900	5200	5800	4900	11300
	0.5	0.065	0.31	0.37	0.089	30000	70000	2700	6200	7100	7900	6200	15400
	0.5	0.083	0.38	0.334	0.109	30000	70000	3300	7600	9300	10300	7700	20200
	0.625	0.049	0.31	0.527	0.089	30000	70000	2700	6200	4100	4600	4000	8900
	0.625	0.065	0.4	0.495	0.114	30000	70000	3400	8000	5600	6200	5100	12100
	0.625	0.083	0.49	0.459	0.141	30000	70000	4200	9900	7200	8000	6400	15800
S32205	0.125	0.028	0.03	0.069	0.009	70000	95000	600	800	18000	33300	22600	38900
	0.25	0.028	0.07	0.194	0.020	70000	95000	1400	1900	14000	15500	12700	17800
	0.25	0.035	0.08	0.18	0.024	70000	95000	1700	2200	17800	19800	15500	22700
	0.25	0.049	0.11	0.152	0.031	70000	95000	2200	2900	18000	28700	20400	33200
	0.25	0.065	0.13	0.12	0.038	70000	95000	2600	3600	18000	39200	25100	46500
	0.375	0.035	0.13	0.305	0.037	70000	95000	2600	3600	11500	12800	10800	14600
	0.375	0.049	0.17	0.277	0.050	70000	95000	3500	4800	16500	18400	14600	21000
	0.375	0.065	0.22	0.245	0.063	70000	95000	4400	6000	18000	25100	18500	28800
	0.375	0.083	0.26	0.209	0.076	70000	95000	5300	7200	18000	32800	22400	38300
	0.5	0.035	0.18	0.43	0.051	70000	95000	3600	4900	8500	9400	8300	10800
	0.5	0.049	0.24	0.402	0.069	70000	95000	4900	6600	12100	13500	11300	15400
	0.5	0.065	0.31	0.37	0.089	70000	95000	6200	8400	16500	18300	14500	20900
	0.5	0.083	0.37	0.334	0.109	70000	95000	7600	10300	18000	23900	17800	27500
	0.625	0.049	0.3	0.527	0.089	70000	95000	6200	8400	9600	10600	9200	12100
	0.625	0.065	0.39	0.495	0.114	70000	95000	8000	10900	12900	14400	11900	16400
	0.625	0.083	0.48	0.459	0.141	70000	95000	9900	13400	16800	18700	14800	21400

Material	Standard Out Diameter	Standard Wall Thickness	Unit Weight	Standard Inner Diameter	Cross-sectional Area	Minimum Yield Ytrength	Minimum Tensile Strength	Pipe load		Minimum Test Pressure	Minimum Internal Yield Pressure	Minimum External Collapse Strength	Minimum Internal Burst Pressure
								Minimum Yield load	Minimum Tensile Load				
UNS	in	in	lbs/ft	in	sq.in	psi	psi	lbs	lbs	psig	psi	psig	psi
S32205	0.125	0.028	0.03	0.069	0.009	80000	95000	700	800	18000	38000	25800	38900
	0.25	0.028	0.07	0.194	0.020	80000	95000	1600	1900	16000	17800	14600	17800
	0.25	0.035	0.08	0.18	0.024	80000	95000	1900	2200	18000	22600	17700	22700
	0.25	0.049	0.11	0.152	0.031	80000	95000	2500	2900	18000	32800	23300	33200
	0.25	0.065	0.13	0.12	0.038	80000	95000	3000	3600	18000	44800	28700	46500
	0.375	0.035	0.13	0.305	0.037	80000	95000	3000	3600	13100	14600	12400	14600
	0.375	0.049	0.17	0.277	0.050	80000	95000	4000	4800	18000	21000	16700	21000
	0.375	0.065	0.22	0.245	0.063	80000	95000	5100	6000	18000	28600	21100	28800
	0.375	0.083	0.26	0.209	0.076	80000	95000	6100	7200	18000	37500	25600	38300
	0.5	0.035	0.18	0.43	0.051	80000	95000	4100	4900	9700	10800	9500	10800
	0.5	0.049	0.24	0.402	0.069	80000	95000	5600	6600	13900	15400	12900	15400
	0.5	0.065	0.31	0.37	0.089	80000	95000	7100	8400	18000	20900	16600	20900
	0.5	0.083	0.37	0.334	0.109	80000	95000	8700	10300	18000	27300	20400	27500
	0.625	0.049	0.3	0.527	0.089	80000	95000	7100	8400	10900	12100	10500	12100
	0.625	0.065	0.39	0.495	0.114	80000	95000	9100	10900	14800	16400	13600	16400
	0.625	0.083	0.48	0.459	0.141	80000	95000	11300	13400	18000	21400	16900	21400
S32750	0.125	0.028	0.03	0.069	0.009	79800	116000	700	1000	18000	37900	25700	47500
	0.25	0.028	0.07	0.194	0.020	79800	116000	1600	2300	16000	17700	14500	21700
	0.25	0.035	0.09	0.18	0.024	79800	116000	1900	2700	18000	22600	17600	27700
	0.25	0.049	0.11	0.152	0.031	79800	116000	2500	3600	18000	32700	23200	40600
	0.25	0.065	0.14	0.12	0.038	79800	116000	3000	4400	18000	44600	28700	56800
	0.375	0.035	0.14	0.305	0.037	79800	116000	3000	4300	13100	14600	12300	17800
	0.375	0.049	0.18	0.277	0.050	79800	116000	4000	5800	18000	20900	16600	25600
	0.375	0.065	0.23	0.245	0.063	79800	116000	5100	7300	18000	28600	21100	35200
	0.375	0.083	0.27	0.209	0.076	79800	116000	6100	8800	18000	37400	25500	46800
	0.5	0.049	0.25	0.402	0.069	79800	116000	5500	8100	13800	15300	12900	18800
	0.5	0.065	0.31	0.37	0.089	79800	116000	7100	10300	18000	20800	16500	25500
	0.5	0.083	0.38	0.334	0.109	79800	116000	8700	12600	18000	27200	20300	33500
	0.625	0.049	0.31	0.527	0.089	79800	116000	7100	10300	10900	12100	10500	14800
	0.625	0.065	0.4	0.495	0.114	79800	116000	9100	13300	14700	16400	13600	20000
	0.625	0.083	0.5	0.459	0.141	79800	116000	11300	16400	18000	21300	16800	26100
N08825	0.125	0.028	0.04	0.069	0.009	35000	85000	300	700	15000	16700	11300	34800
	0.25	0.028	0.07	0.194	0.020	35000	85000	700	1700	7000	7800	6400	15900
	0.25	0.035	0.09	0.18	0.024	35000	85000	800	2000	8900	9900	7800	20300
	0.25	0.049	0.11	0.152	0.031	35000	85000	1100	2600	13000	14400	10200	29700
	0.25	0.065	0.14	0.12	0.038	35000	85000	1300	3200	17700	19600	12600	41700
	0.375	0.035	0.14	0.305	0.037	35000	85000	1300	3200	5800	6400	5400	13100
	0.375	0.049	0.18	0.277	0.050	35000	85000	1800	4300	8300	9200	7300	18800
	0.375	0.065	0.23	0.245	0.063	35000	85000	2200	5400	11300	12600	9300	25800
	0.375	0.083	0.27	0.209	0.076	35000	85000	2700	6500	14800	16400	11200	34300
	0.5	0.035	0.19	0.43	0.051	35000	85000	1800	4300	4300	4700	4200	9600
	0.5	0.049	0.25	0.402	0.069	35000	85000	2400	5900	6100	6800	5700	13800
	0.5	0.065	0.32	0.37	0.089	35000	85000	3100	7600	8300	9200	7300	18700
	0.5	0.083	0.39	0.334	0.109	35000	85000	3800	9200	10800	12000	8900	24600
	0.625	0.049	0.32	0.527	0.089	35000	85000	3100	7500	4800	5300	4600	10900
	0.625	0.065	0.41	0.495	0.114	35000	85000	4000	9700	6500	7200	6000	14700
	0.625	0.083	0.5	0.459	0.141	35000	85000	4900	12000	8400	9400	7400	19100

Material	Standard Out Diameter	Standard Wall Thickness	Unit Weight	Standard Inner Diameter	Cross-sectional Area	Minimum Yield Ytrength	Minimum Tensile Strength	Pipe load		Minimum Test Pressure	Minimum Internal Yield Pressure	Minimum External Collapse Strength	Minimum Internal Burst Pressure
								Minimum Yield load	Minimum Tensile Load				
UNS	in	in	lbs/ft	in	sq.in	psi	psi	lbs	lbs	psig	psi	psig	psi
N08825	0.125	0.028	0.04	0.069	0.009	65000	95000	600	800	18000	30900	21000	38900
	0.25	0.028	0.07	0.194	0.020	65000	95000	1300	1900	13000	14400	11800	17800
	0.25	0.035	0.09	0.18	0.024	65000	95000	1500	2200	16600	18400	14400	22700
	0.25	0.049	0.11	0.152	0.031	65000	95000	2000	2900	18000	26700	18900	33200
	0.25	0.065	0.14	0.12	0.038	65000	95000	2500	3600	18000	36400	23400	46500
	0.375	0.035	0.14	0.305	0.037	65000	95000	2400	3600	10700	11900	10100	14600
	0.375	0.049	0.18	0.277	0.050	65000	95000	3300	4800	15400	17100	13500	21000
	0.375	0.065	0.23	0.245	0.063	65000	95000	4100	6000	18000	23300	17200	28800
	0.375	0.083	0.27	0.209	0.076	65000	95000	4900	7200	18000	30500	20800	38300
	0.5	0.035	0.19	0.43	0.051	65000	95000	3300	4900	7900	8800	7700	10800
	0.5	0.049	0.25	0.402	0.069	65000	95000	4500	6600	11300	12500	10500	15400
	0.5	0.065	0.32	0.37	0.089	65000	95000	5800	8400	15300	17000	13500	20900
	0.5	0.083	0.39	0.334	0.109	65000	95000	7100	10300	18000	22200	16600	27500
	0.625	0.049	0.32	0.527	0.089	65000	95000	5800	8400	8900	9900	8600	12100
	0.625	0.065	0.41	0.495	0.114	65000	95000	7400	10900	12000	13300	11100	16400
	0.625	0.083	0.5	0.459	0.141	65000	95000	9200	13400	15600	17400	13700	21400
N08825	0.125	0.028	0.03	0.069	0.009	90000	108000	800	900	18000	42800	29000	44200
	0.25	0.028	0.07	0.194	0.020	90000	108000	1800	2100	18000	20000	16400	20200
	0.25	0.035	0.09	0.18	0.024	90000	108000	2100	2600	18000	25500	19900	25800
	0.25	0.049	0.11	0.152	0.031	90000	108000	2800	3300	18000	36900	26200	37800
	0.25	0.065	0.14	0.12	0.038	90000	108000	3400	4100	18000	50300	32300	52900
	0.375	0.035	0.14	0.305	0.037	90000	108000	3400	4000	14800	16400	13900	16600
	0.375	0.049	0.18	0.277	0.050	90000	108000	4500	5400	18000	23600	18700	23900
	0.375	0.065	0.23	0.245	0.063	90000	108000	5700	6800	18000	32200	23700	32800
	0.375	0.083	0.27	0.209	0.076	90000	108000	6900	8200	18000	42200	28800	43600
	0.5	0.049	0.25	0.402	0.069	90000	108000	6200	7500	15600	17300	14500	17500
	0.5	0.065	0.31	0.37	0.089	90000	108000	8000	9600	18000	23500	18600	23700
	0.5	0.083	0.38	0.334	0.109	90000	108000	9800	11700	18000	30700	22900	31200
	0.625	0.049	0.31	0.527	0.089	90000	108000	8000	9600	12300	13600	11900	13800
	0.625	0.065	0.4	0.495	0.114	90000	108000	10300	12400	16600	18400	15300	18600
	0.625	0.083	0.5	0.459	0.141	90000	108000	12700	15300	18000	24000	19000	24300
N06625	0.125	0.028	0.04	0.069	0.009	60000	120000	500	1000	18000	28500	19400	49100
	0.25	0.028	0.08	0.194	0.020	60000	120000	1200	2300	12000	13300	10900	22400
	0.25	0.035	0.09	0.18	0.024	60000	120000	1400	2800	15300	17000	13300	28600
	0.25	0.049	0.12	0.152	0.031	60000	120000	1900	3700	18000	24600	17500	41900
	0.25	0.065	0.14	0.12	0.038	60000	120000	2300	4500	18000	33600	21600	58800
	0.375	0.035	0.14	0.305	0.037	60000	120000	2200	4500	9900	11000	9300	18400
	0.375	0.049	0.19	0.277	0.050	60000	120000	3000	6000	14200	15800	12500	26500
	0.375	0.065	0.24	0.245	0.063	60000	120000	3800	7600	18000	21500	15800	36400
	0.375	0.083	0.28	0.209	0.076	60000	120000	4600	9100	18000	28200	19200	48400
	0.5	0.049	0.26	0.402	0.069	60000	120000	4200	8300	10400	11600	9700	19400
	0.5	0.065	0.33	0.37	0.089	60000	120000	5300	10700	14100	15700	12400	26400
	0.5	0.083	0.4	0.334	0.109	60000	120000	6500	13000	18000	20500	15300	34700
	0.625	0.049	0.33	0.527	0.089	60000	120000	5300	10600	8200	9100	7900	15300
	0.625	0.065	0.42	0.495	0.114	60000	120000	6900	13700	11100	12300	10200	20700
	0.625	0.083	0.52	0.459	0.141	60000	120000	8500	17000	14400	16000	12700	27000



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