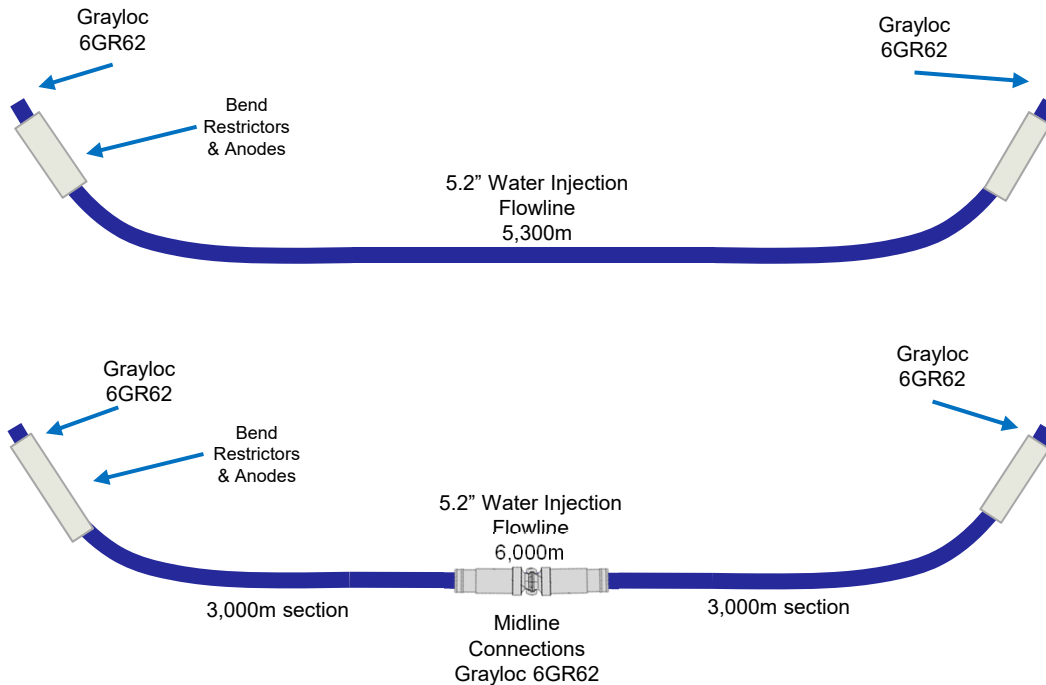


Water Injection Flowlines

Reel #	Reel Size Nominal OD	Packing Contents	Estimated weight
1	9.2m	5.2" Water Injection (5300m)	265.5Te
2	8.6m	5.2" Water Injection (3000m) (1 of 2)	160.5Te
3	8.6m	5.2" Water Injection (3000m) (2 of 2)	160.5Te



INTERNAL DIAMETER 5.20" SWEET SERVICE
 DESIGN PRESSURE 3495 psi 241 bars
 DESIGN TEMPERATURE 45 °C
 FACTORY TEST PRESSURE 4554 psi 314 bars
 FTP/DP 1.30

N°	LAYER DESCRIPTION	UTS (MPa)	MYS (MPa)	Mass (Kg/m)	I.D. (mm)	Th. (mm)	SDP (MPa)
1	TUBE TP35			2.00	132.08	4.90	
2	ZETA WIRE 6.2 FI 11	1000	-	19.28	141.88	6.20	319
3	ANTI-COLLAPSE SH. POLYETHYLENE TP11 TRANSLUCENT			2.08	154.28	4.40	
4	FIRST ARMOUR LAY. FI41 83 Flat wires: 7 x 2 at -25 deg.	1400	-	7.24	163.08	2.00	205
5	SECOND ARMOUR LAY FI41 85 Flat wires: 7 x 2 at 25 deg.	1400	-	7.47	167.08	2.00	271
6	HIGH STRENGTH TAPE G1/G2/G2/ESTER/ESTER			0.57	171.08	1.40	
7	EXTERNAL SHEATH POLYETHYLENE TP14 YELLOW			2.10	173.88	4.00	

THEORETICAL CHARACTERISTICS	IMPERIAL	METRIC
DIAMETER inside	5.20 in	132.08 mm
DIAMETER outside	7.16 in	181.88 mm
VOLUME internal	0.147 cfft	13.70 l/m
VOLUME external	0.280 cfft	25.98 l/m
WEIGHT in air empty	27.35 lbf/ft	40.70 kgf/m
WEIGHT in air full of seawater	36.79 lbf/ft	54.74 kgf/m
WEIGHT in seawater empty	9.45 lbf/ft	14.07 kgf/m
WEIGHT in seawater full of seawater	18.89 lbf/ft	28.11 kgf/m
SPECIFIC GRAVITY in sea water empty	1.53	1.53
PRESSURE Nominal bursting	9862 psi	680 bars
HYDROSTATIC collapse pressure lay 3	2146 psi	148 bars
DAMAGING PULL in straight line	42480 lbf	1889.87 kN
MINIMUM BENDING RADIUS for STORAGE	4.35 ft	1.33 m
BENDING STIFFNESS at 20°C	44639 lbf.ft2	18.45 kN.m2
RELATIVE ELONGATION at design pressure	0.117 %	0.117 %
RELATIVE ELONGATION for 100 kN	0.040278 %	0.040278 %
THERMAL EXCHANGE COEFFICIENT at 20°C	5.99 Btu/hftF	10.36 W/m.K