

REBIS
AutoPIPE 6.20 MODEL PAGE 1

REBIS Industrial Workgroup Software
1600 Riviera Ave., Suite 300
Walnut Creek, CA 94596

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**
** AUTOPIPE SYSTEM INFORMATION **
**

SYSTEM NAME : 79319821_KOMPLETT

PROJECT ID : ASU KOSICE

DESCRIPTION :

PREPARED BY : _____
WEGSTEIN

CHECKED BY : _____
FRICKHOEFER

PIPING CODE : B31.3
VERTICAL AXIS : Z
AMBIENT TEMPERATURE : 20.0 deg C
COMPONENT LIBRARY : HANAU_AL
MATERIAL LIBRARY : AUTOB313
MODEL REVISION NUMBER : 4

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COMPONENT DATA LISTING

*** SEGMENT A , LINE # 79319821

From A00 to A02, DX= 348.76 mm, DY= -348.76 mm, L= 493.22 mm Run

PIPE DATA (A00 to A02 N):

Pipe Id= 200MX6.4, Material= AL, Poisson= 0.300, Nom Size= 200 mm,
OD= 219.10 mm, Sch= 6.4, Wall Thk= 6.400 mm, Mill= 0.800 mm, Cor= 0 mm,
Pipe Density= 2707.12 kg/m3, Pipe Unit Wgt= 113.53 N/m, Insul Thk= 0 mm,
Lining Thk= 0 mm, Long Weld factor= 1.00, Circ Weld factor= 1.00,
Long Modulus= 0.06899 x10⁶ N/m, Hoop Modulus= 0.06899 x10⁶ N/m,
Shear Modulus= 0.02653 x10⁶ N/m, Sc= 103.4 N/mm2, Syc= 0 N/mm2

OPERATING DATA:

P1= 0 N/mm2, T1= -196.00 deg C, Expl= -3.84587 mm/m,
E1= 0.07646 x10⁶ N/m, Sh1= 71.00 N/mm2

POINT DATA:

A00, Coordinates, X= 0.00 mm, Y= 0.00 mm, Z= 0.00 mm

SUPPORT DATA:

A00, Anchor, KTX= Rigid, KTY= Rigid, KTZ= Rigid, KRX= Rigid, KRY= Rigid,
KRZ= Rigid

From A02 to A04, DX= -495.07 mm, DY= -495.07 mm, L= 700.13 mm Bend

COMPONENT DATA (Bend, TIP= A02, Near= A02 N, Far= A02 F):

Elbow, Radius= 304.99 mm, Bend angle= 90.00 deg, End flanges= 0,
Flex= 9.561, SIFI= 2.90, SIFO= 2.42

PIPE DATA (A02 N to A02 F):

Pipe Id= 200MX6.4, Nom Size= 200 mm

PIPE DATA (A02 F to A04 N):

Pipe Id= 200MX6.4, Nom Size= 200 mm

POINT DATA:

A02, Coordinates, X= 348.76 mm, Y= -348.76 mm, Z= 0.00 mm
A02 N, Coordinates, X= 133.10 mm, Y= -133.10 mm, Z= 0.00 mm
A02 F, Coordinates, X= 133.10 mm, Y= -564.42 mm, Z= 0.00 mm

From A04 to A05, DX= -482.38 mm Bend

COMPONENT DATA (Bend, TIP= A04, Near= A04 N, Far= A04 F):

Elbow, Radius= 304.99 mm, Bend angle= 45.00 deg, End flanges= 0,
Flex= 9.561, SIFI= 2.90, SIFO= 2.42

PIPE DATA (A04 N to A04 F):

Pipe Id= 200MX6.4, Nom Size= 200 mm

PIPE DATA (A04 F to A05):

Pipe Id= 200MX6.4, Nom Size= 200 mm

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C O M P O N E N T D A T A L I S T I N G

POINT DATA:

A04, Coordinates, X= -146.31 mm, Y= -843.83 mm, Z= 0.00 mm
A04 N, Coordinates, X= -56.98 mm, Y= -754.50 mm, Z= 0.00 mm
A04 F, Coordinates, X= -272.64 mm, Y= -843.83 mm, Z= 0.00 mm

From A05 to A06, DX= -152.00 mm

Redu

COMPONENT DATA (Reducer):

Length= 152.00 mm, SIF= 1.00

POINT DATA:

A05, Coordinates, X= -628.69 mm, Y= -843.83 mm, Z= 0.00 mm

From A06 to A07, DX= -229.00 mm

Run

PIPE DATA:

Pipe Id= 150MX6.0, Nom Size= 150 mm, OD= 168.30 mm, Sch= NS,
Wall Thk= 6.000 mm, Mill= 0.750 mm

POINT DATA:

A06, Coordinates, X= -780.69 mm, Y= -843.83 mm, Z= 0.00 mm

From A07 to A08, DZ= -6229.00 mm

Bend

COMPONENT DATA (Bend, TIP= A07, Near= A07 N, Far= A07 F):

Elbow, Radius= 228.99 mm, Bend angle= 90.00 deg, End flanges= 0,
Flex= 7.908, SIFI= 2.56, SIFO= 2.13

POINT DATA:

A07, Coordinates, X= -1009.69 mm, Y= -843.83 mm, Z= 0.00 mm
A07 N, Coordinates, X= -780.70 mm, Y= -843.83 mm, Z= 0.00 mm
A07 F, Coordinates, X= -1009.69 mm, Y= -843.83 mm, Z= -228.99 mm

From A08 to A09, DZ= -771.00 mm

Run

POINT DATA:

A08, Coordinates, X= -1009.69 mm, Y= -843.83 mm, Z= -6229.00 mm

From A09 to A10, DX= 964.89 mm

Bend

COMPONENT DATA (Bend, TIP= A09, Near= A09 N, Far= A09 F):

Elbow, Radius= 228.99 mm, Bend angle= 90.00 deg, End flanges= 0,
Flex= 7.908, SIFI= 2.56, SIFO= 2.13

POINT DATA:

A09, Coordinates, X= -1009.69 mm, Y= -843.83 mm, Z= -7000.00 mm
A09 N, Coordinates, X= -1009.69 mm, Y= -843.83 mm, Z= -6771.01 mm
A09 F, Coordinates, X= -780.70 mm, Y= -843.83 mm, Z= -7000.00 mm

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C O M P O N E N T D A T A L I S T I N G

From A10 to A11, DX= 858.43 mm, DY= 858.43 mm, L= 1214.00 mm Bend

COMPONENT DATA (Bend, TIP= A10, Near= A10 N, Far= A10 F):
Elbow, Radius= 228.99 mm, Bend angle= 45.00 deg, End flanges= 0,
Flex= 7.908, SIFI= 2.56, SIFO= 2.13

POINT DATA:

A10, Coordinates, X= -44.80 mm, Y= -843.83 mm, Z= -7000.00 mm
A10 N, Coordinates, X= -139.65 mm, Y= -843.83 mm, Z= -7000.00 mm
A10 F, Coordinates, X= 22.27 mm, Y= -776.76 mm, Z= -7000.00 mm

From A11 to A12, DY= 1131.37 mm Bend

COMPONENT DATA (Bend, TIP= A11, Near= A11 N, Far= A11 F):
Elbow, Radius= 228.99 mm, Bend angle= 45.00 deg, End flanges= 0,
Flex= 7.908, SIFI= 2.56, SIFO= 2.13

POINT DATA:

A11, Coordinates, X= 813.63 mm, Y= 14.60 mm, Z= -7000.00 mm
A11 N, Coordinates, X= 746.56 mm, Y= -52.47 mm, Z= -7000.00 mm
A11 F, Coordinates, X= 813.63 mm, Y= 109.45 mm, Z= -7000.00 mm

From A12 to A13, DZ= -6229.00 mm Bend

COMPONENT DATA (Bend, TIP= A12, Near= A12 N, Far= A12 F):
Elbow, Radius= 228.99 mm, Bend angle= 90.00 deg, End flanges= 0,
Flex= 7.908, SIFI= 2.56, SIFO= 2.13

POINT DATA:

A12, Coordinates, X= 813.63 mm, Y= 1145.97 mm, Z= -7000.00 mm
A12 N, Coordinates, X= 813.63 mm, Y= 916.98 mm, Z= -7000.00 mm
A12 F, Coordinates, X= 813.63 mm, Y= 1145.97 mm, Z= -7228.99 mm

From A13 to A14, DZ= -7329.00 mm Run

POINT DATA:

A13, Coordinates, X= 813.63 mm, Y= 1145.97 mm, Z= -13229.00 mm

From A14 to A15, DY= -1131.37 mm Bend

COMPONENT DATA (Bend, TIP= A14, Near= A14 N, Far= A14 F):
Elbow, Radius= 228.99 mm, Bend angle= 90.00 deg, End flanges= 0,
Flex= 7.908, SIFI= 2.56, SIFO= 2.13

POINT DATA:

A14, Coordinates, X= 813.63 mm, Y= 1145.97 mm, Z= -20558.00 mm
A14 N, Coordinates, X= 813.63 mm, Y= 1145.97 mm, Z= -20329.01 mm
A14 F, Coordinates, X= 813.63 mm, Y= 916.98 mm, Z= -20558.00 mm

From A15 to A16, DX= -414.11 mm, DY= -414.11 mm, L= 585.64 mm Bend

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C O M P O N E N T D A T A L I S T I N G

COMPONENT DATA (Bend, TIP= A15, Near= A15 N, Far= A15 F):

Elbow, Radius= 228.99 mm, Bend angle= 45.00 deg, End flanges= 0,
Flex= 7.908, SIFI= 2.56, SIFO= 2.13

POINT DATA:

A15, Coordinates, X= 813.63 mm, Y= 14.60 mm, Z= -20558.00 mm
A15 N, Coordinates, X= 813.63 mm, Y= 109.45 mm, Z= -20558.00 mm
A15 F, Coordinates, X= 746.56 mm, Y= -52.47 mm, Z= -20558.00 mm

From A16 to A17, DZ= -5129.00 mm

Bend

COMPONENT DATA (Bend, TIP= A16, Near= A16 N, Far= A16 F):

Elbow, Radius= 228.99 mm, Bend angle= 90.00 deg, End flanges= 0,
Flex= 7.908, SIFI= 2.56, SIFO= 2.13

POINT DATA:

A16, Coordinates, X= 399.52 mm, Y= -399.51 mm, Z= -20558.00 mm
A16 N, Coordinates, X= 561.44 mm, Y= -237.59 mm, Z= -20558.00 mm
A16 F, Coordinates, X= 399.52 mm, Y= -399.51 mm, Z= -20786.99 mm

From A17 to A18, DZ= -6000.00 mm

Run

POINT DATA:

A17, Coordinates, X= 399.52 mm, Y= -399.51 mm, Z= -25687.00 mm

From A18 to A19, DZ= -4381.91 mm

Run

POINT DATA:

A18, Coordinates, X= 399.52 mm, Y= -399.51 mm, Z= -31687.00 mm

From A19 to A20, DZ= -198.24 mm

Tee

COMPONENT DATA (Tee Header, Center= A19):

B16.9 welding tee, SIFI= 2.05, SIFO= 2.40

POINT DATA:

A19, Coordinates, X= 399.52 mm, Y= -399.51 mm, Z= -36068.91 mm

From A20 to A21, DX= 282.84 mm, DY= -282.84 mm, DZ= -1492.82 mm,

L= 1545.48 mm

Bend

COMPONENT DATA (Bend, TIP= A20, Near= A20 N, Far= A20 F):

Elbow, Radius= 229.00 mm, Bend angle= 15.00 deg, End flanges= 0,
Flex= 7.908, SIFI= 2.56, SIFO= 2.13

POINT DATA:

A20, Coordinates, X= 399.52 mm, Y= -399.51 mm, Z= -36267.15 mm
A20 N, Coordinates, X= 399.52 mm, Y= -399.51 mm, Z= -36237.00 mm
A20 F, Coordinates, X= 405.04 mm, Y= -405.03 mm, Z= -36296.27 mm

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From A21 to A22, DZ= -5193.42 mm Bend

COMPONENT DATA (Bend, TIP= A21, Near= A21 N, Far= A21 F):

Elbow, Radius= 228.97 mm, Bend angle= 15.00 deg, End flanges= 0,
Flex= 7.909, SIFI= 2.56, SIFO= 2.13

POINT DATA:

A21, Coordinates, X= 682.36 mm, Y= -682.35 mm, Z= -37759.97 mm
A21 N, Coordinates, X= 676.84 mm, Y= -676.83 mm, Z= -37730.85 mm
A21 F, Coordinates, X= 682.36 mm, Y= -682.35 mm, Z= -37790.11 mm

From A22 to A23, DY= -935.79 mm, DZ= -250.74 mm, L= 968.80 mm Bend

COMPONENT DATA (Bend, TIP= A22, Near= A22 N, Far= A22 F):

Elbow, Radius= 228.99 mm, Bend angle= 75.00 deg, End flanges= 0,
Flex= 7.908, SIFI= 2.56, SIFO= 2.13

POINT DATA:

A22, Coordinates, X= 682.36 mm, Y= -682.35 mm, Z= -42953.39 mm
A22 N, Coordinates, X= 682.36 mm, Y= -682.35 mm, Z= -42777.68 mm
A22 F, Coordinates, X= 682.36 mm, Y= -852.07 mm, Z= -42998.87 mm

From A23 to A24, DX= 900.00 mm, DY= -900.00 mm, L= 1272.79 mm Bend

COMPONENT DATA (Bend, TIP= A23, Near= A23 N, Far= A23 F):

Elbow, Radius= 228.99 mm, Bend angle= 46.92 deg, End flanges= 0,
Flex= 7.908, SIFI= 2.56, SIFO= 2.13

POINT DATA:

A23, Coordinates, X= 682.36 mm, Y= -1618.14 mm, Z= -43204.13 mm
A23 N, Coordinates, X= 682.36 mm, Y= -1522.15 mm, Z= -43178.41 mm
A23 F, Coordinates, X= 752.63 mm, Y= -1688.41 mm, Z= -43204.13 mm

From A24 to A25, DX= 804.68 mm Bend

COMPONENT DATA (Bend, TIP= A24, Near= A24 N, Far= A24 F):

Elbow, Radius= 228.99 mm, Bend angle= 45.00 deg, End flanges= 0,
Flex= 7.908, SIFI= 2.56, SIFO= 2.13

POINT DATA:

A24, Coordinates, X= 1582.36 mm, Y= -2518.14 mm, Z= -43204.13 mm
A24 N, Coordinates, X= 1515.29 mm, Y= -2451.07 mm, Z= -43204.13 mm
A24 F, Coordinates, X= 1677.21 mm, Y= -2518.14 mm, Z= -43204.13 mm

From A25 to A26, DX= 293.23 mm, DZ= -1094.35 mm, L= 1132.95 mm Bend

COMPONENT DATA (Bend, TIP= A25, Near= A25 N, Far= A25 F):

Elbow, Radius= 228.99 mm, Bend angle= 75.00 deg, End flanges= 0,
Flex= 7.908, SIFI= 2.56, SIFO= 2.13

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C O M P O N E N T D A T A L I S T I N G

POINT DATA:

A25, Coordinates, X= 2387.04 mm, Y= -2518.14 mm, Z= -43204.13 mm
A25 N, Coordinates, X= 2211.33 mm, Y= -2518.14 mm, Z= -43204.13 mm
A25 F, Coordinates, X= 2432.52 mm, Y= -2518.14 mm, Z= -43373.86 mm

From A26 to A27, DX= 56.94 mm, DZ= -212.50 mm, L= 220.00 mm Valv

COMPONENT DATA (Valve):

NS, Rating= 40, Length= 220.00 mm, Weight= 65 kg, Surface factor= 0.00,
End cond= Butt welded, SIF= 1.00, Without taper, Offset= 0.000 mm

POINT DATA:

A26, Coordinates, X= 2680.27 mm, Y= -2518.14 mm, Z= -44298.48 mm

From A27 to A28, DX= -212.50 mm, DZ= -56.94 mm, L= 220.00 mm Valv

COMPONENT DATA (Valve):

NS, Rating= 40, Length= 220.00 mm, Weight= 65 kg, Surface factor= 0.00,
End cond= Butt welded, SIF= 1.00, Without taper, Offset= 0.000 mm

POINT DATA:

A27, Coordinates, X= 2737.21 mm, Y= -2518.14 mm, Z= -44510.98 mm

From A28 to A29, DX= -787.50 mm, DZ= -211.01 mm, L= 815.28 mm Run

POINT DATA:

A28, Coordinates, X= 2524.71 mm, Y= -2518.14 mm, Z= -44567.92 mm

From A29 to A30, DZ= -1600.00 mm Bend

COMPONENT DATA (Bend, TIP= A29, Near= A29 N, Far= A29 F):

Elbow, Radius= 228.99 mm, Bend angle= 75.00 deg, End flanges= 0,
Flex= 7.908, SIFI= 2.56, SIFO= 2.13

POINT DATA:

A29, Coordinates, X= 1737.21 mm, Y= -2518.14 mm, Z= -44778.93 mm
A29 N, Coordinates, X= 1906.93 mm, Y= -2518.14 mm, Z= -44733.45 mm
A29 F, Coordinates, X= 1737.21 mm, Y= -2518.14 mm, Z= -44954.64 mm

From A30 to A31, DY= 2425.00 mm, DZ= -1149.78 mm, L= 2683.77 mm Bend

COMPONENT DATA (Bend, TIP= A30, Near= A30 N, Far= A30 F):

Elbow, Radius= 228.99 mm, Bend angle= 64.63 deg, End flanges= 0,
Flex= 7.908, SIFI= 2.56, SIFO= 2.13

POINT DATA:

A30, Coordinates, X= 1737.21 mm, Y= -2518.14 mm, Z= -46378.93 mm
A30 N, Coordinates, X= 1737.21 mm, Y= -2518.14 mm, Z= -46234.08 mm
A30 F, Coordinates, X= 1737.21 mm, Y= -2387.25 mm, Z= -46440.99 mm

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C O M P O N E N T D A T A L I S T I N G

From A31 to A32, DX= -1040.12 mm, DZ= -278.70 mm, L= 1076.81 mm Bend

COMPONENT DATA (Bend, TIP= A31, Near= A31 N, Far= A31 F):
Elbow, Radius= 228.99 mm, Bend angle= 83.63 deg, End flanges= 0,
Flex= 7.908, SIFI= 2.56, SIFO= 2.13

POINT DATA:

A31, Coordinates, X= 1737.21 mm, Y= -93.14 mm, Z= -47528.71 mm
A31 N, Coordinates, X= 1737.21 mm, Y= -278.25 mm, Z= -47440.94 mm
A31 F, Coordinates, X= 1539.33 mm, Y= -93.14 mm, Z= -47581.73 mm

From A32 to A33, DZ= -1375.72 mm Bend

COMPONENT DATA (Bend, TIP= A32, Near= A32 N, Far= A32 F):
Elbow, Radius= 228.99 mm, Bend angle= 75.00 deg, End flanges= 0,
Flex= 7.908, SIFI= 2.56, SIFO= 2.13

POINT DATA:

A32, Coordinates, X= 697.09 mm, Y= -93.14 mm, Z= -47807.41 mm
A32 N, Coordinates, X= 866.81 mm, Y= -93.14 mm, Z= -47761.93 mm
A32 F, Coordinates, X= 697.09 mm, Y= -93.14 mm, Z= -47983.12 mm

From A33 to A34, DZ= -140.00 mm Run

COMPONENT DATA (Run):
Rigid, Include weight= Yes, Include expansion= Yes

POINT DATA:

A33, Coordinates, X= 697.09 mm, Y= -93.14 mm, Z= -49183.13 mm

From A34 to A35, DZ= -6000.00 mm Run

POINT DATA:

A34, Coordinates, X= 697.09 mm, Y= -93.14 mm, Z= -49323.13 mm
A34, Added Weight= 10.00 kg

From A35 to A36, DZ= -2942.65 mm Run

POINT DATA:

A35, Coordinates, X= 697.09 mm, Y= -93.14 mm, Z= -55323.13 mm

From A36 to A37, DX= 466.51 mm, DY= -125.00 mm, L= 482.97 mm Bend

COMPONENT DATA (Bend, TIP= A36, Near= A36 N, Far= A36 F):
Elbow, Radius= 228.99 mm, Bend angle= 90.00 deg, End flanges= 0,
Flex= 7.908, SIFI= 2.56, SIFO= 2.13

POINT DATA:

A36, Coordinates, X= 697.09 mm, Y= -93.14 mm, Z= -58265.78 mm

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C O M P O N E N T D A T A L I S T I N G

A36 N, Coordinates, X= 697.09 mm, Y= -93.14 mm, Z= -58036.79 mm
A36 F, Coordinates, X= 918.28 mm, Y= -152.41 mm, Z= -58265.78 mm

From A37 to A38, DX= 4679.55 mm

Bend

COMPONENT DATA (Bend, TIP= A37, Near= A37 N, Far= A37 F):
Elbow, Radius= 228.99 mm, Bend angle= 15.00 deg, End flanges= 0,
Flex= 7.908, SIFI= 2.56, SIFO= 2.13

POINT DATA:

A37, Coordinates, X= 1163.60 mm, Y= -218.14 mm, Z= -58265.78 mm
A37 N, Coordinates, X= 1134.48 mm, Y= -210.34 mm, Z= -58265.78 mm
A37 F, Coordinates, X= 1193.75 mm, Y= -218.14 mm, Z= -58265.78 mm

*** SEGMENT B , LINE # 79319821

From A19 to B01, DX= 119.95 mm

Tee

COMPONENT DATA (Tee Branch, Center= A19):
B16.9 welding tee, SIFI= 2.05, SIFO= 2.40

PIPE DATA:

Pipe Id= 50MMX3.9, Nom Size= 50 mm, OD= 60.300 mm, Sch= 3.9,
Wall Thk= 3.900 mm, Mill= 0.487 mm

POINT DATA:

A19, Coordinates, X= 399.52 mm, Y= -399.51 mm, Z= -36068.91 mm
B01, Coordinates, X= 519.47 mm, Y= -399.51 mm, Z= -36068.91 mm

*** SEGMENT C , LINE # 79319821

From C00 to C01, DY= 500.00 mm

Run

PIPE DATA:

Pipe Id= 150MX7.1, Nom Size= 150 mm, OD= 168.30 mm, Sch= 7.1,
Wall Thk= 7.100 mm, Mill= 0.887 mm

POINT DATA:

C00, Coordinates, X= 7718.63 mm, Y= -90.91 mm, Z= -58265.78 mm

SUPPORT DATA:

C00, Anchor, KTX= Rigid, KTY= Rigid, KTZ= Rigid, KRX= Rigid, KRY= Rigid,
KRZ= Rigid

From C01 to C02, DX= -329.00 mm

Bend

COMPONENT DATA (Bend, TIP= C01, Near= C01 N, Far= C01 F):

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C O M P O N E N T D A T A L I S T I N G

Elbow, Radius= 228.99 mm, Bend angle= 90.00 deg, End flanges= 0,
Flex= 6.593, SIFI= 2.27, SIFO= 1.89

POINT DATA:

C01, Coordinates, X= 7718.63 mm, Y= 409.09 mm, Z= -58265.78 mm
C01 N, Coordinates, X= 7718.63 mm, Y= 180.10 mm, Z= -58265.78 mm
C01 F, Coordinates, X= 7489.64 mm, Y= 409.09 mm, Z= -58265.78 mm

From C02 to C03, DX= -517.48 mm

Tee

COMPONENT DATA (Tee Header, Center= C02):

B16.9 welding tee, SIFI= 1.85, SIFO= 2.14

POINT DATA:

C02, Coordinates, X= 7389.63 mm, Y= 409.09 mm, Z= -58265.78 mm

From C03 to C04, DX= -529.00 mm

Tee

COMPONENT DATA (Tee Header, Center= C03):

B16.9 welding tee, SIFI= 1.85, SIFO= 2.14

POINT DATA:

C03, Coordinates, X= 6872.15 mm, Y= 409.09 mm, Z= -58265.78 mm

From C04 to C05, DY= -627.23 mm

Bend

COMPONENT DATA (Bend, TIP= C04, Near= C04 N, Far= C04 F):

Elbow, Radius= 228.99 mm, Bend angle= 90.00 deg, End flanges= 0,
Flex= 6.593, SIFI= 2.27, SIFO= 1.89

POINT DATA:

C04, Coordinates, X= 6343.15 mm, Y= 409.09 mm, Z= -58265.78 mm
C04 N, Coordinates, X= 6572.14 mm, Y= 409.09 mm, Z= -58265.78 mm
C04 F, Coordinates, X= 6343.15 mm, Y= 180.10 mm, Z= -58265.78 mm

From C05 to A38, DX= -500.00 mm

Bend

COMPONENT DATA (Bend, TIP= C05, Near= C05 N, Far= C05 F):

Elbow, Radius= 228.99 mm, Bend angle= 90.00 deg, End flanges= 0,
Flex= 6.593, SIFI= 2.27, SIFO= 1.89

POINT DATA:

C05, Coordinates, X= 6343.15 mm, Y= -218.14 mm, Z= -58265.78 mm
C05 N, Coordinates, X= 6343.15 mm, Y= 10.85 mm, Z= -58265.78 mm
C05 F, Coordinates, X= 6114.16 mm, Y= -218.14 mm, Z= -58265.78 mm

*** SEGMENT D , LINE #

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C O M P O N E N T D A T A L I S T I N G

From C02 to D01, DY= 119.95 mm

Tee

COMPONENT DATA (Tee Branch, Center= C02):
B16.9 welding tee, SIFI= 1.85, SIFO= 2.14

PIPE DATA:

Pipe Id= 50MMX3.9, Nom Size= 50 mm, OD= 60.300 mm, Sch= 3.9,
Wall Thk= 3.900 mm, Mill= 0.487 mm

POINT DATA:

C02, Coordinates, X= 7389.63 mm, Y= 409.09 mm, Z= -58265.78 mm

*** SEGMENT E , LINE #

From C03 to E01, DY= 133.82 mm, DZ= 9.36 mm, L= 134.15 mm

Tee

COMPONENT DATA (Tee Branch, Center= C03):
B16.9 welding tee, SIFI= 1.85, SIFO= 2.14

PIPE DATA:

Pipe Id= 25MMX3.4, Nom Size= 25 mm, OD= 33.400 mm, Sch= 3.4,
Wall Thk= 3.400 mm, Mill= 0.425 mm

POINT DATA:

C03, Coordinates, X= 6872.15 mm, Y= 409.09 mm, Z= -58265.78 mm
E01, Coordinates, X= 6872.15 mm, Y= 542.91 mm, Z= -58256.43 mm

*** SEGMENT F , LINE #

From F00 to F01, DY= -74.60 mm

Run

COMPONENT DATA (Run):
Rigid, Include weight= Yes, Include expansion= Yes

PIPE DATA:

Pipe Id= 25MMX3.4, Nom Size= 25 mm

POINT DATA:

F00, Coordinates, X= 7389.63 mm, Y= 806.60 mm, Z= -58139.78 mm

*** SEGMENT G , LINE #

From G00 to G01, DX= 700.00 mm

Junc

PIPE DATA:

Pipe Id= 50MMX3.9, Nom Size= 50 mm, OD= 60.300 mm, Sch= 3.9,

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C O M P O N E N T D A T A L I S T I N G

Wall Thk= 3.900 mm, Mill= 0.487 mm

POINT DATA:

G00, Coordinates, X= 5843.15 mm, Y= -1543.41 mm, Z= -57580.18 mm

From G01 to G02, DY= 2775.41 mm

Bend

COMPONENT DATA (Bend, TIP= G01, Near= G01 N, Far= G01 F):

Elbow, Radius= 75.99 mm, Bend angle= 90.00 deg, End flanges= 0,
Flex= 4.428, SIFI= 1.74, SIFO= 1.45

POINT DATA:

G01, Coordinates, X= 6543.15 mm, Y= -1543.41 mm, Z= -57580.18 mm

G01 N, Coordinates, X= 6467.16 mm, Y= -1543.41 mm, Z= -57580.18 mm

G01 F, Coordinates, X= 6543.15 mm, Y= -1467.42 mm, Z= -57580.18 mm

From G02 to G03, DZ= -238.73 mm

Bend

COMPONENT DATA (Bend, TIP= G02, Near= G02 N, Far= G02 F):

Elbow, Radius= 75.99 mm, Bend angle= 90.00 deg, End flanges= 0,
Flex= 4.428, SIFI= 1.74, SIFO= 1.45

POINT DATA:

G02, Coordinates, X= 6543.15 mm, Y= 1232.00 mm, Z= -57580.18 mm

G02 N, Coordinates, X= 6543.15 mm, Y= 1156.01 mm, Z= -57580.18 mm

G02 F, Coordinates, X= 6543.15 mm, Y= 1232.00 mm, Z= -57656.17 mm

From G03 to G04, DX= 702.88 mm

Bend

COMPONENT DATA (Bend, TIP= G03, Near= G03 N, Far= G03 F):

Elbow, Radius= 75.99 mm, Bend angle= 90.00 deg, End flanges= 0,
Flex= 4.428, SIFI= 1.74, SIFO= 1.45

POINT DATA:

G03, Coordinates, X= 6543.15 mm, Y= 1232.00 mm, Z= -57818.91 mm

G03 N, Coordinates, X= 6543.15 mm, Y= 1232.00 mm, Z= -57742.92 mm

G03 F, Coordinates, X= 6619.14 mm, Y= 1232.00 mm, Z= -57818.91 mm

From G04 to G05, DX= 845.00 mm

Run

COMPONENT DATA (Run):

Rigid, Include weight= Yes, Include expansion= Yes

POINT DATA:

G04, Coordinates, X= 7246.03 mm, Y= 1232.00 mm, Z= -57818.91 mm

From G05 to G06, DX= 747.50 mm

Run

POINT DATA:

G05, Coordinates, X= 8091.03 mm, Y= 1232.00 mm, Z= -57818.91 mm

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C O M P O N E N T D A T A L I S T I N G

From G06 to G07, DY= -500.00 mm

Bend

COMPONENT DATA (Bend, TIP= G06, Near= G06 N, Far= G06 F):
Elbow, Radius= 75.99 mm, Bend angle= 90.00 deg, End flanges= 0,
Flex= 4.428, SIFI= 1.74, SIFO= 1.45

POINT DATA:

G06, Coordinates, X= 8838.53 mm, Y= 1232.00 mm, Z= -57818.91 mm
G06 N, Coordinates, X= 8762.54 mm, Y= 1232.00 mm, Z= -57818.91 mm
G06 F, Coordinates, X= 8838.53 mm, Y= 1156.01 mm, Z= -57818.91 mm

From G07 to G08, DX= -1448.90 mm

Bend

COMPONENT DATA (Bend, TIP= G07, Near= G07 N, Far= G07 F):
Elbow, Radius= 75.99 mm, Bend angle= 90.00 deg, End flanges= 0,
Flex= 4.428, SIFI= 1.74, SIFO= 1.45

POINT DATA:

G07, Coordinates, X= 8838.53 mm, Y= 732.00 mm, Z= -57818.91 mm
G07 N, Coordinates, X= 8838.53 mm, Y= 807.99 mm, Z= -57818.91 mm
G07 F, Coordinates, X= 8762.54 mm, Y= 732.00 mm, Z= -57818.91 mm

From G08 to F01, DZ= -320.87 mm

Bend

COMPONENT DATA (Bend, TIP= G08, Near= G08 N, Far= G08 F):
Elbow, Radius= 75.99 mm, Bend angle= 90.00 deg, End flanges= 0,
Flex= 4.428, SIFI= 1.74, SIFO= 1.45

POINT DATA:

G08, Coordinates, X= 7389.63 mm, Y= 732.00 mm, Z= -57818.91 mm
G08 N, Coordinates, X= 7465.62 mm, Y= 732.00 mm, Z= -57818.91 mm
G08 F, Coordinates, X= 7389.63 mm, Y= 732.00 mm, Z= -57894.90 mm

From F01 to G10, DZ= -126.00 mm

Tee

COMPONENT DATA (Tee Header, Center= F01):
B16.9 welding tee, SIFI= 1.44, SIFO= 1.58

POINT DATA:

F01, Coordinates, X= 7389.63 mm, Y= 732.00 mm, Z= -58139.78 mm

From G10 to D01, DY= -202.96 mm

Bend

COMPONENT DATA (Bend, TIP= G10, Near= G10 N, Far= G10 F):
Elbow, Radius= 75.99 mm, Bend angle= 90.00 deg, End flanges= 0,
Flex= 4.428, SIFI= 1.74, SIFO= 1.45

POINT DATA:

G10, Coordinates, X= 7389.63 mm, Y= 732.00 mm, Z= -58265.78 mm
G10 N, Coordinates, X= 7389.63 mm, Y= 732.00 mm, Z= -58189.79 mm

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G10 F, Coordinates, X= 7389.63 mm, Y= 656.01 mm, Z= -58265.78 mm

*** SEGMENT H , LINE #

From H00 to H01, DX= 69.95 mm

Run

PIPE DATA:

Pipe Id= 40MMX5.1, Nom Size= 40 mm, OD= 48.300 mm, Sch= 5.1,
Wall Thk= 5.100 mm, Mill= 0.637 mm

POINT DATA:

H00, Coordinates, X= 4423.20 mm, Y= -1818.51 mm, Z= -57056.48 mm

*** SEGMENT I , LINE #

From I00 to I01, DY= 301.50 mm

Run

PIPE DATA:

Pipe Id= 50MMXP, Nom Size= 50 mm, OD= 60.300 mm, Sch= NS,
Wall Thk= 3.900 mm, Mill= 0.488 mm

POINT DATA:

I00, Coordinates, X= -2228.19 mm, Y= -4916.16 mm, Z= -55268.92 mm

SUPPORT DATA:

I00, Anchor, KTX= Rigid, KTY= Rigid, KTZ= Rigid, KRX= Rigid, KRY= Rigid,
KRZ= Rigid

From I01 to I02, DY= 206.00 mm

Run

COMPONENT DATA (Run):

Rigid (I01 to I02 N), Include weight= Yes, Include expansion= Yes

PIPE DATA:

Pipe Id= 50MMX3.9, Nom Size= 50 mm, Sch= 3.9, Mill= 0.487 mm

POINT DATA:

I01, Coordinates, X= -2228.19 mm, Y= -4614.66 mm, Z= -55268.92 mm

From I02 to I03, DZ= -800.00 mm

Bend

COMPONENT DATA (Bend, TIP= I02, Near= I02 N, Far= I02 F):

Elbow, Radius= 75.50 mm, Bend angle= 90.00 deg, End flanges= 0,
Flex= 4.456, SIFT= 1.75, SIFO= 1.45

POINT DATA:

I02, Coordinates, X= -2228.19 mm, Y= -4408.66 mm, Z= -55268.92 mm

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C O M P O N E N T D A T A L I S T I N G

I02 N, Coordinates, X= -2228.19 mm, Y= -4484.16 mm, Z= -55268.92 mm
I02 F, Coordinates, X= -2228.19 mm, Y= -4408.66 mm, Z= -55344.42 mm

From I03 to I04, DX= 2321.34 mm

Bend

COMPONENT DATA (Bend, TIP= I03, Near= I03 N, Far= I03 F):
Elbow, Radius= 75.99 mm, Bend angle= 90.00 deg, End flanges= 0,
Flex= 4.428, SIFI= 1.74, SIFO= 1.45

POINT DATA:

I03, Coordinates, X= -2228.19 mm, Y= -4408.66 mm, Z= -56068.92 mm
I03 N, Coordinates, X= -2228.19 mm, Y= -4408.66 mm, Z= -55992.93 mm
I03 F, Coordinates, X= -2152.20 mm, Y= -4408.66 mm, Z= -56068.92 mm

From I04 to I05, DX= 703.14 mm, DY= 703.14 mm, L= 994.39 mm

Bend

COMPONENT DATA (Bend, TIP= I04, Near= I04 N, Far= I04 F):
Elbow, Radius= 75.99 mm, Bend angle= 45.00 deg, End flanges= 0,
Flex= 4.428, SIFI= 1.74, SIFO= 1.45

POINT DATA:

I04, Coordinates, X= 93.15 mm, Y= -4408.66 mm, Z= -56068.92 mm
I04 N, Coordinates, X= 61.67 mm, Y= -4408.66 mm, Z= -56068.92 mm
I04 F, Coordinates, X= 115.41 mm, Y= -4386.40 mm, Z= -56068.92 mm

From I05 to I06, DY= 1887.01 mm

Bend

COMPONENT DATA (Bend, TIP= I05, Near= I05 N, Far= I05 F):
Elbow, Radius= 75.15 mm, Bend angle= 45.00 deg, End flanges= 0,
Flex= 4.477, SIFI= 1.75, SIFO= 1.46

POINT DATA:

I05, Coordinates, X= 796.29 mm, Y= -3705.52 mm, Z= -56068.92 mm
I05 N, Coordinates, X= 774.28 mm, Y= -3727.53 mm, Z= -56068.92 mm
I05 F, Coordinates, X= 796.29 mm, Y= -3674.39 mm, Z= -56068.92 mm

From I06 to I07, DX= 3696.86 mm

Bend

COMPONENT DATA (Bend, TIP= I06, Near= I06 N, Far= I06 F):
Elbow, Radius= 75.50 mm, Bend angle= 90.00 deg, End flanges= 0,
Flex= 4.456, SIFI= 1.75, SIFO= 1.45

POINT DATA:

I06, Coordinates, X= 796.29 mm, Y= -1818.51 mm, Z= -56068.92 mm
I06 N, Coordinates, X= 796.29 mm, Y= -1894.01 mm, Z= -56068.92 mm
I06 F, Coordinates, X= 871.79 mm, Y= -1818.51 mm, Z= -56068.92 mm

From I07 to H01, DZ= -987.56 mm

Bend

COMPONENT DATA (Bend, TIP= I07, Near= I07 N, Far= I07 F):

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C O M P O N E N T D A T A L I S T I N G

Elbow, Radius= 75.50 mm, Bend angle= 90.00 deg, End flanges= 0,
Flex= 4.456, SIFI= 1.75, SIFO= 1.45

POINT DATA:

I07, Coordinates, X= 4493.15 mm, Y= -1818.51 mm, Z= -56068.92 mm
I07 N, Coordinates, X= 4417.65 mm, Y= -1818.51 mm, Z= -56068.92 mm
I07 F, Coordinates, X= 4493.15 mm, Y= -1818.51 mm, Z= -56144.42 mm

From H01 to I09, DZ= -177.64 mm

Tee

COMPONENT DATA (Tee Header, Center= H01):

B16.9 welding tee, SIFI= 1.44, SIFO= 1.58

POINT DATA:

H01, Coordinates, X= 4493.15 mm, Y= -1818.51 mm, Z= -57056.48 mm

From I09 to I10, DY= -277.28 mm

Bend

COMPONENT DATA (Bend, TIP= I09, Near= I09 N, Far= I09 F):

Elbow, Radius= 75.50 mm, Bend angle= 90.00 deg, End flanges= 0,
Flex= 4.456, SIFI= 1.75, SIFO= 1.45

POINT DATA:

I09, Coordinates, X= 4493.15 mm, Y= -1818.51 mm, Z= -57234.12 mm
I09 N, Coordinates, X= 4493.15 mm, Y= -1818.51 mm, Z= -57158.62 mm
I09 F, Coordinates, X= 4493.15 mm, Y= -1894.01 mm, Z= -57234.12 mm

From I10 to I11, DY= -15.88 mm, DZ= -59.27 mm, L= 61.36 mm

Bend

COMPONENT DATA (Bend, TIP= I10, Near= I10 N, Far= I10 F):

Elbow, Radius= 75.99 mm, Bend angle= 75.00 deg, End flanges= 0,
Flex= 4.428, SIFI= 1.74, SIFO= 1.45

PIPE DATA (I10 F to I11):

Pipe Id= 50MMXPN, Nom Size= 50 mm, Sch= NS, Mill= 0.488 mm

POINT DATA:

I10, Coordinates, X= 4493.15 mm, Y= -2095.79 mm, Z= -57234.12 mm
I10 N, Coordinates, X= 4493.15 mm, Y= -2037.48 mm, Z= -57234.12 mm
I10 F, Coordinates, X= 4493.15 mm, Y= -2110.88 mm, Z= -57290.44 mm

From I11 to I12, DY= -33.63 mm, DZ= -125.52 mm, L= 129.95 mm

Valv

COMPONENT DATA (Valve):

NS, Rating= 10, Length= 129.95 mm, Weight= 11 kg, Surface factor= 0.00,
End cond= Butt welded, SIF= 1.00, Without taper, Offset= 0.000 mm

POINT DATA:

I11, Coordinates, X= 4493.15 mm, Y= -2111.67 mm, Z= -57293.39 mm

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C O M P O N E N T D A T A L I S T I N G

From I12 to I13, DY= 128.47 mm, DZ= -34.42 mm, L= 133.00 mm Valv

COMPONENT DATA (Valve):

NS, Rating= 10, Length= 133.00 mm, Weight= 11 kg, Surface factor= 0.00,
End cond= Butt welded, SIF= 1.00, Without taper, Offset= 0.000 mm

POINT DATA:

I12, Coordinates, X= 4493.15 mm, Y= -2145.30 mm, Z= -57418.91 mm

From I13 to I14, DY= 72.45 mm, DZ= -19.41 mm, L= 75.00 mm Run

PIPE DATA:

Pipe Id= 50MMX3.9, Nom Size= 50 mm, Sch= 3.9, Mill= 0.487 mm

POINT DATA:

I13, Coordinates, X= 4493.15 mm, Y= -2016.83 mm, Z= -57453.33 mm

From I14 to I15, DY= 400.97 mm, DZ= -107.44 mm, L= 415.12 mm Tee

COMPONENT DATA (Tee Header, Center= I14):

B16.9 welding tee, SIFI= 1.44, SIFO= 1.58

POINT DATA:

I14, Coordinates, X= 4493.15 mm, Y= -1944.38 mm, Z= -57472.74 mm

From I15 to G00, DX= 1350.00 mm Bend

COMPONENT DATA (Bend, TIP= I15, Near= I15 N, Far= I15 F):

Elbow, Radius= 75.50 mm, Bend angle= 90.00 deg, End flanges= 0,
Flex= 4.456, SIFI= 1.75, SIFO= 1.45

POINT DATA:

I15, Coordinates, X= 4493.15 mm, Y= -1543.41 mm, Z= -57580.18 mm

I15 N, Coordinates, X= 4493.15 mm, Y= -1616.34 mm, Z= -57560.64 mm

I15 F, Coordinates, X= 4568.65 mm, Y= -1543.41 mm, Z= -57580.18 mm

*** SEGMENT J , LINE #

From I14 to J01, DX= -70.00 mm Tee

COMPONENT DATA (Tee Branch, Center= I14):

B16.9 welding tee, SIFI= 1.44, SIFO= 1.58

PIPE DATA:

Pipe Id= 50MMX3.9, Nom Size= 50 mm

POINT DATA:

I14, Coordinates, X= 4493.15 mm, Y= -1944.38 mm, Z= -57472.74 mm

J01, Coordinates, X= 4423.15 mm, Y= -1944.38 mm, Z= -57472.74 mm

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C O M P O N E N T D A T A L I S T I N G

Number of points in the system: 167

Weight of Empty Pipes + Weight of Contents = Total Weight of System
856.0 kg + 0.0 kg = 856.0 kg

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COORDINATES DATA LISTING

POINT NAME	-----COORDINATE (mm) X	Y	Z
*** SEGMENT A , LINE # 79319821			
A00	0.00	0.00	0.00
A02 N	133.10	-133.10	0.00
A02	348.76	-348.76	0.00
A02 F	133.10	-564.42	0.00
A04 N	-56.98	-754.50	0.00
A04	-146.31	-843.83	0.00
A04 F	-272.64	-843.83	0.00
A05	-628.69	-843.83	0.00
A06	-780.69	-843.83	0.00
A07 N	-780.70	-843.83	0.00
A07	-1009.69	-843.83	0.00
A07 F	-1009.69	-843.83	-228.99
A08	-1009.69	-843.83	-6229.00
A09 N	-1009.69	-843.83	-6771.01
A09	-1009.69	-843.83	-7000.00
A09 F	-780.70	-843.83	-7000.00
A10 N	-139.65	-843.83	-7000.00
A10	-44.80	-843.83	-7000.00
A10 F	22.27	-776.76	-7000.00
A11 N	746.56	-52.47	-7000.00
A11	813.63	14.60	-7000.00
A11 F	813.63	109.45	-7000.00
A12 N	813.63	916.98	-7000.00
A12	813.63	1145.97	-7000.00
A12 F	813.63	1145.97	-7228.99
A13	813.63	1145.97	-13229.00
A14 N	813.63	1145.97	-20329.01
A14	813.63	1145.97	-20558.00
A14 F	813.63	916.98	-20558.00
A15 N	813.63	109.45	-20558.00
A15	813.63	14.60	-20558.00
A15 F	746.56	-52.47	-20558.00
A16 N	561.44	-237.59	-20558.00
A16	399.52	-399.51	-20558.00
A16 F	399.52	-399.51	-20786.99
A17	399.52	-399.51	-25687.00
A18	399.52	-399.51	-31687.00
A19	399.52	-399.51	-36068.91
A20 N	399.52	-399.51	-36237.00
A20	399.52	-399.51	-36267.15
A20 F	405.04	-405.03	-36296.27
A21 N	676.84	-676.83	-37730.85
A21	682.36	-682.35	-37759.97
A21 F	682.36	-682.35	-37790.11
A22 N	682.36	-682.35	-42777.68
A22	682.36	-682.35	-42953.39
A22 F	682.36	-852.07	-42998.87
A23 N	682.36	-1522.15	-43178.41
A23	682.36	-1618.14	-43204.13
A23 F	752.63	-1688.41	-43204.13
A24 N	1515.29	-2451.07	-43204.13

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COORDINATES DATA LISTING

POINT NAME	-----COORDINATE (mm) X	Y	Z
A24	1582.36	-2518.14	-43204.13
A24 F	1677.21	-2518.14	-43204.13
A25 N	2211.33	-2518.14	-43204.13
A25	2387.04	-2518.14	-43204.13
A25 F	2432.52	-2518.14	-43373.86
A26	2680.27	-2518.14	-44298.48
A27	2737.21	-2518.14	-44510.98
A28	2524.71	-2518.14	-44567.92
A29 N	1906.93	-2518.14	-44733.45
A29	1737.21	-2518.14	-44778.93
A29 F	1737.21	-2518.14	-44954.64
A30 N	1737.21	-2518.14	-46234.08
A30	1737.21	-2518.14	-46378.93
A30 F	1737.21	-2387.25	-46440.99
A31 N	1737.21	-278.25	-47440.94
A31	1737.21	-93.14	-47528.71
A31 F	1539.33	-93.14	-47581.73
A32 N	866.81	-93.14	-47761.93
A32	697.09	-93.14	-47807.41
A32 F	697.09	-93.14	-47983.12
A33	697.09	-93.14	-49183.13
A34	697.09	-93.14	-49323.13
A35	697.09	-93.14	-55323.13
A36 N	697.09	-93.14	-58036.79
A36	697.09	-93.14	-58265.78
A36 F	918.28	-152.41	-58265.78
A37 N	1134.48	-210.34	-58265.78
A37	1163.60	-218.14	-58265.78
A37 F	1193.75	-218.14	-58265.78
A38	5843.15	-218.14	-58265.78
*** SEGMENT B , LINE # 79319821			
A19	399.52	-399.51	-36068.91
B01	519.47	-399.51	-36068.91
*** SEGMENT C , LINE # 79319821			
C00	7718.63	-90.91	-58265.78
C01 N	7718.63	180.10	-58265.78
C01	7718.63	409.09	-58265.78
C01 F	7489.64	409.09	-58265.78
C02	7389.63	409.09	-58265.78
C03	6872.15	409.09	-58265.78
C04 N	6572.14	409.09	-58265.78
C04	6343.15	409.09	-58265.78
C04 F	6343.15	180.10	-58265.78
C05 N	6343.15	10.85	-58265.78
C05	6343.15	-218.14	-58265.78
C05 F	6114.16	-218.14	-58265.78
A38	5843.15	-218.14	-58265.78
*** SEGMENT D , LINE #			
C02	7389.63	409.09	-58265.78

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C O O R D I N A T E S D A T A L I S T I N G

POINT NAME	-----COORDINATE (mm) X	Y	Z
D01	7389.63	529.04	-58265.78
*** SEGMENT E , LINE #			
C03	6872.15	409.09	-58265.78
E01	6872.15	542.91	-58256.43
*** SEGMENT F , LINE #			
F00	7389.63	806.60	-58139.78
F01	7389.63	732.00	-58139.78
*** SEGMENT G , LINE #			
G00	5843.15	-1543.41	-57580.18
G01 N	6467.16	-1543.41	-57580.18
G01	6543.15	-1543.41	-57580.18
G01 F	6543.15	-1467.42	-57580.18
G02 N	6543.15	1156.01	-57580.18
G02	6543.15	1232.00	-57580.18
G02 F	6543.15	1232.00	-57656.17
G03 N	6543.15	1232.00	-57742.92
G03	6543.15	1232.00	-57818.91
G03 F	6619.14	1232.00	-57818.91
G04	7246.03	1232.00	-57818.91
G05	8091.03	1232.00	-57818.91
G06 N	8762.54	1232.00	-57818.91
G06	8838.53	1232.00	-57818.91
G06 F	8838.53	1156.01	-57818.91
G07 N	8838.53	807.99	-57818.91
G07	8838.53	732.00	-57818.91
G07 F	8762.54	732.00	-57818.91
G08 N	7465.62	732.00	-57818.91
G08	7389.63	732.00	-57818.91
G08 F	7389.63	732.00	-57894.90
F01	7389.63	732.00	-58139.78
G10 N	7389.63	732.00	-58189.79
G10	7389.63	732.00	-58265.78
G10 F	7389.63	656.01	-58265.78
D01	7389.63	529.04	-58265.78
*** SEGMENT H , LINE #			
H00	4423.20	-1818.51	-57056.48
H01	4493.15	-1818.51	-57056.48
*** SEGMENT I , LINE #			
I00	-2228.19	-4916.16	-55268.92
I01	-2228.19	-4614.66	-55268.92
I02 N	-2228.19	-4484.16	-55268.92
I02	-2228.19	-4408.66	-55268.92
I02 F	-2228.19	-4408.66	-55344.42
I03 N	-2228.19	-4408.66	-55992.93
I03	-2228.19	-4408.66	-56068.92
I03 F	-2152.20	-4408.66	-56068.92
I04 N	61.67	-4408.66	-56068.92

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C O O R D I N A T E S D A T A L I S T I N G

POINT NAME	-----COORDINATE (mm)----- X	Y	Z
I04	93.15	-4408.66	-56068.92
I04 F	115.41	-4386.40	-56068.92
I05 N	774.28	-3727.53	-56068.92
I05	796.29	-3705.52	-56068.92
I05 F	796.29	-3674.39	-56068.92
I06 N	796.29	-1894.01	-56068.92
I06	796.29	-1818.51	-56068.92
I06 F	871.79	-1818.51	-56068.92
I07 N	4417.65	-1818.51	-56068.92
I07	4493.15	-1818.51	-56068.92
I07 F	4493.15	-1818.51	-56144.42
H01	4493.15	-1818.51	-57056.48
I09 N	4493.15	-1818.51	-57158.62
I09	4493.15	-1818.51	-57234.12
I09 F	4493.15	-1894.01	-57234.12
I10 N	4493.15	-2037.48	-57234.12
I10	4493.15	-2095.79	-57234.12
I10 F	4493.15	-2110.88	-57290.44
I11	4493.15	-2111.67	-57293.39
I12	4493.15	-2145.30	-57418.91
I13	4493.15	-2016.83	-57453.33
I14	4493.15	-1944.38	-57472.74
I15 N	4493.15	-1616.34	-57560.64
I15	4493.15	-1543.41	-57580.18
I15 F	4568.65	-1543.41	-57580.18
G00	5843.15	-1543.41	-57580.18

*** SEGMENT J , LINE #

I14	4493.15	-1944.38	-57472.74
J01	4423.15	-1944.38	-57472.74

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PIPE DATA LISTING

Pipe ID/ Material	Nom/ Sch	O.D. mm	-----Thickness(mm)----- W.Th. Corr Mill Insu Ling	Spec Grav	Weight(N/m) Pipe Other Total	ZL/ ZC
200MX6.4 AL	200 6.4	219.10	6.400 0 0.80 0 0	0	114 0 114	1.00 1.00
200MX6.4 AL	200 6.4	219.10	6.400 0 0.80 0 0	0	114 0 114	1.00 1.00
150MX6.0 AL	150 NS	168.30	6.000 0 0.75 0 0	0	81.22 0 81.22	1.00 1.00
50MMX3.9 AL	50 3.9	60.300	3.900 0 0.49 0 0	0	18.35 0 18.35	1.00 1.00
150MX7.1 AL	150 7.1	168.30	7.100 0 0.89 0 0	0	95.46 0 95.46	1.00 1.00
25MMX3.4 AL	25 3.4	33.400	3.400 0 0.43 0 0	0	8.51 0 8.51	1.00 1.00
40MMX5.1 AL	40 5.1	48.300	5.100 0 0.64 0 0	0	18.38 0 18.38	1.00 1.00
50MMXPN AL	50 NS	60.300	3.900 0 0.49 0 0	0	18.35 0 18.35	1.00 1.00

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M A T E R I A L D A T A L I S T I N G

Material Name	Pipe ID	Density kg/m3	Pois. Ratio	Temper. deg C	Modulus x10^6 N/ Axial	Hoop	Shear	Expans. mm/m
AL	200MX6,4	2707.1	0.30	20.0 -196.0	0.06899 0.07646	0.06899	0.02653	-3.8459
AL	200MX6.4	2707.1	0.30	20.0 -196.0	0.06899 0.07646	0.06899	0.02653	-3.8459
AL	150MX6.0	2707.1	0.30	20.0 -196.0	0.06899 0.07646	0.06899	0.02653	-3.8459
AL	50MMX3.9	2707.1	0.30	20.0 -196.0	0.06899 0.07646	0.06899	0.02653	-3.8459
AL	150MX7.1	2707.1	0.30	20.0 -196.0	0.06899 0.07646	0.06899	0.02653	-3.8459
AL	25MMX3.4	2707.1	0.30	20.0 -196.0	0.06899 0.07646	0.06899	0.02653	-3.8459
AL	40MMX5.1	2707.1	0.30	20.0 -196.0	0.06899 0.07646	0.06899	0.02653	-3.8459
AL	50MMXPN	2707.1	0.30	20.0 -196.0	0.06899 0.07646	0.06899	0.02653	-3.8459

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M A T E R I A L A L L O W A B L E D A T A L I S T I N G

Material Name	Pipe ID	Temper. deg C	Allow. N/mm2	Yield N/mm2
AL	200MX6,4	20.0 -196.0	103.42 71.00	0.00
AL	200MX6.4	20.0 -196.0	103.42 71.00	0.00
AL	150MX6.0	20.0 -196.0	103.42 71.00	0.00
AL	50MMX3.9	20.0 -196.0	103.42 71.00	0.00
AL	150MX7.1	20.0 -196.0	103.42 71.00	0.00
AL	25MMX3.4	20.0 -196.0	103.42 71.00	0.00
AL	40MMX5.1	20.0 -196.0	103.42 71.00	0.00
AL	50MMXPN	20.0 -196.0	103.42 71.00	0.00

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TEMPERATURE AND PRESSURE DATA

	-----C A S E 1-----	-----C A S E 2-----	-----C A S E 3-----
POINT	PRESS. TEMPER EXPAN.	PRESS. TEMPER EXPAN.	PRESS. TEMPER EXPAN.
NAME	N/mm2 deg C mm/m	N/mm2 deg C mm/m	N/mm2 deg C mm/m
*** SEGMENT A , LINE # 79319821			
A00	0 -196 -3.846		
A38	0 -196 -3.846		
*** SEGMENT B , LINE # 79319821			
A19	0 -196 -3.846		
B01	0 -196 -3.846		
*** SEGMENT C , LINE # 79319821			
C00	0 -196 -3.846		
A38	0 -196 -3.846		
*** SEGMENT D , LINE #			
C02	0 -196 -3.846		
D01	0 -196 -3.846		
*** SEGMENT E , LINE #			
C03	0 -196 -3.846		
E01	0 -196 -3.846		
*** SEGMENT F , LINE #			
F00	0 -196 -3.846		
F01	0 -196 -3.846		
*** SEGMENT G , LINE #			
G00	0 -196 -3.846		
D01	0 -196 -3.846		
*** SEGMENT H , LINE #			
H00	0 -196 -3.846		
H01	0 -196 -3.846		
*** SEGMENT I , LINE #			
I00	0 -196 -3.846		
G00	0 -196 -3.846		
*** SEGMENT J , LINE #			
I14	0 -196 -3.846		
J01	0 -196 -3.846		

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H O T M O D U L U S (x10⁶ N/)

POINT NAME	CASE 1	CASE 2	CASE 3
---------------	--------	--------	--------

*** SEGMENT A , LINE # 79319821
A00 0.07646
A38 0.07646

*** SEGMENT B , LINE # 79319821
A19 0.07646
B01 0.07646

*** SEGMENT C , LINE # 79319821
C00 0.07646
A38 0.07646

*** SEGMENT D , LINE #
C02 0.07646
D01 0.07646

*** SEGMENT E , LINE #
C03 0.07646
E01 0.07646

*** SEGMENT F , LINE #
F00 0.07646
F01 0.07646

*** SEGMENT G , LINE #
G00 0.07646
D01 0.07646

*** SEGMENT H , LINE #
H00 0.07646
H01 0.07646

*** SEGMENT I , LINE #
I00 0.07646
G00 0.07646

*** SEGMENT J , LINE #
I14 0.07646
J01 0.07646

* Non-standard material

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	H O T			A L L O W A B L E S (N/mm2)					
	C A S E 1			C A S E 2			C A S E 3		
POINT	NOT	NOT		NOT	NOT		NOT	NOT	
NAME	ALLOW	USED	USED	ALLOW	USED	USED	ALLOW	USED	USED

*** SEGMENT A , LINE # 79319821
A00 71.00*
A38 71.00*

*** SEGMENT B , LINE # 79319821
A19 71.00*
B01 71.00*

*** SEGMENT C , LINE # 79319821
C00 71.00*
A38 71.00*

*** SEGMENT D , LINE #
C02 71.00*
D01 71.00*

*** SEGMENT E , LINE #
C03 71.00*
E01 71.00*

*** SEGMENT F , LINE #
F00 71.00*
F01 71.00*

*** SEGMENT G , LINE #
G00 71.00*
D01 71.00*

*** SEGMENT H , LINE #
H00 71.00*
H01 71.00*

*** SEGMENT I , LINE #
I00 71.00*
G00 71.00*

*** SEGMENT J , LINE #
I14 71.00*
J01 71.00*

< User-defined code allowable
* Non-code material

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AutoPIPE 6.20 MODEL PAGE 30

THERMAL ANCHOR MOVEMENTS AND DISPLACEMENTS

POINT NAME	LOAD CASE	DX (mm)	DY (mm)	DZ (mm)	RX (deg)	RY (deg)	RZ (deg)
A00	Thermal 1	-2.80	2.80	-232.10	0.000	0.000	0.000
C00	Thermal 1	0.00	-3.50	34.30	0.000	0.000	0.000

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AutoPIPE 6.20 RESULT PAGE 1

D I S P L A C E M E N T S

Point name	Load combination	TRANSLATIONS (mm)			ROTATIONS (deg)		
		X	Y	Z	X	Y	Z
*** Segment A begin *** Line # 79319821							
A00	T1	-2.800	2.800	-232.100	0.000	0.000	0.000
A02 N	T1	-3.312	3.312	-232.100	0.000	0.000	0.000
A02 F	T1	-3.312	4.971	-232.123	0.006	0.003	0.000
A04 N	T1	-2.581	5.702	-232.132	0.007	0.004	0.000
A04 F	T1	-1.751	6.045	-232.129	0.008	0.004	0.000
A05	T1	-0.382	6.043	-232.104	0.009	0.004	0.000
A06	T1	0.202	6.042	-232.093	0.010	0.004	0.000
A07 N	T1	0.202	6.042	-232.093	0.010	0.004	0.000
A07 F	T1	1.093	6.113	-231.210	0.023	-0.007	-0.005
A08	T1	3.462	10.852	-208.132	0.067	-0.041	-0.002
A09 N	T1	3.867	11.505	-206.047	0.071	-0.045	-0.002
A09 F	T1	3.194	11.819	-204.938	0.083	-0.063	0.004
A10 N	T1	0.729	11.862	-204.217	0.089	-0.065	0.004
A10 F	T1	0.101	11.615	-203.926	0.091	-0.066	0.004
A11 N	T1	-2.738	8.884	-201.923	0.096	-0.061	0.004
A11 F	T1	-3.008	8.266	-201.588	0.093	-0.057	0.004
A12 N	T1	-3.062	5.160	-200.300	0.089	-0.048	0.004
A12 F	T1	-2.914	4.572	-199.099	0.063	-0.036	0.009
A13	T1	-1.472	8.039	-176.020	0.002	0.006	0.004
A14 N	T1	-4.203	3.667	-148.711	-0.074	0.035	-0.002
A14 F	T1	-4.370	4.207	-147.457	-0.104	0.040	-0.005
A15 N	T1	-4.450	7.312	-145.956	-0.108	0.043	-0.006
A15 F	T1	-4.209	7.942	-145.595	-0.111	0.044	-0.006
A16 N	T1	-3.517	8.674	-145.090	-0.111	0.045	-0.006
A16 F	T1	-3.088	8.877	-143.772	-0.108	0.043	-0.007

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AutoPIPE 6.20 RESULT PAGE 2

D I S P L A C E M E N T S

Point name	Load combination	TRANSLATIONS (mm)			ROTATIONS (deg)		
		X	Y	Z	X	Y	Z
A17	T1	-6.424	0.017	-124.924	-0.100	0.033	-0.007
A18	T1	-8.733	-10.056	-101.846	-0.093	0.008	-0.007
A19	T1	-8.358	-17.073	-84.992	-0.091	-0.019	-0.006
A20 N	T1	-8.299	-17.339	-84.345	-0.091	-0.021	-0.006
A20 F	T1	-8.298	-17.412	-84.107	-0.090	-0.024	-0.006
A21 N	T1	-8.647	-18.641	-78.026	-0.088	-0.034	-0.007
A21 F	T1	-8.633	-18.711	-77.786	-0.087	-0.036	-0.006
A22 N	T1	-4.137	-25.759	-58.602	-0.075	-0.069	-0.006
A22 F	T1	-3.855	-25.389	-57.539	-0.069	-0.081	0.000
A23 N	T1	-3.595	-23.023	-56.058	-0.065	-0.088	0.000
A23 F	T1	-3.823	-22.409	-55.678	-0.055	-0.087	0.002
A24 N	T1	-6.727	-19.447	-53.828	-0.038	-0.095	0.003
A24 F	T1	-7.346	-19.180	-53.532	-0.030	-0.088	0.004
A25 N	T1	-9.401	-19.144	-52.716	-0.018	-0.086	0.004
A25 F	T1	-10.022	-19.133	-51.751	0.003	-0.072	0.017
A26	T1	-9.877	-18.866	-47.901	0.020	-0.064	0.017
A27	T1	-9.858	-18.773	-47.020	0.020	-0.064	0.017
A28	T1	-8.978	-18.816	-47.038	0.021	-0.064	0.017
A29 N	T1	-6.422	-18.926	-47.072	0.035	-0.061	0.018
A29 F	T1	-5.540	-18.785	-46.399	0.062	-0.059	0.007
A30 N	T1	-4.234	-17.164	-41.478	0.084	-0.058	0.008
A30 F	T1	-4.042	-17.310	-40.439	0.118	-0.058	0.009
A31 N	T1	-3.361	-23.152	-31.808	0.135	-0.059	0.009
A31 F	T1	-2.481	-23.573	-31.049	0.130	-0.063	0.010
A32 N	T1	0.308	-23.285	-31.115	0.127	-0.067	0.010
A32 F	T1	1.266	-22.836	-30.484	0.122	-0.088	0.012

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AutoPIPE 6.20 RESULT PAGE 3

Point name	Load combination	TRANSLATIONS (mm)			ROTATIONS (deg)		
		X	Y	Z	X	Y	Z
A33	T1	3.237	-20.333	-25.868	0.117	-0.100	0.012
A34	T1	3.482	-20.047	-25.330	0.117	-0.100	0.012
A35	T1	17.385	-8.928	-2.252	0.094	-0.168	0.011
A36 N	T1	26.170	-4.731	8.186	0.083	-0.204	0.010
A36 F	T1	26.198	-4.153	9.868	0.071	-0.241	0.009
A37 N	T1	25.376	-3.895	10.711	0.071	-0.243	0.009
A37 F	T1	25.149	-3.855	10.955	0.070	-0.248	0.009
A38	T1	7.268	-3.161	30.424	0.049	-0.201	0.008
*** Segment A end *** Line # 79319821							
*** Segment B begin *** Line # 79319821							
A19	T1	-8.358	-17.073	-84.992	-0.091	-0.019	-0.006
B01	T1	-8.819	-17.087	-84.951	-0.091	-0.019	-0.006
*** Segment B end *** Line # 79319821							
*** Segment C begin *** Line # 79319821							
C00	T1	0.000	-3.500	34.300	0.000	0.000	0.000
C01 N	T1	-0.002	-4.542	34.303	0.002	-0.014	0.001
C01 F	T1	0.872	-5.433	34.139	-0.012	-0.067	0.003
C02	T1	1.256	-5.439	34.019	-0.011	-0.071	0.003
C03	T1	3.247	-5.471	33.297	-0.006	-0.089	0.004
C04 N	T1	4.400	-5.492	32.807	-0.003	-0.098	0.004
C04 F	T1	5.302	-4.630	32.264	0.025	-0.145	0.006
C05 N	T1	5.319	-3.979	32.190	0.026	-0.152	0.006
C05 F	T1	6.226	-3.126	31.360	0.048	-0.194	0.007
A38	T1	7.268	-3.161	30.424	0.049	-0.201	0.008
*** Segment C end *** Line # 79319821							
*** Segment D begin *** Line #							

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DISPLACEMENTS

Point name	Load combination	TRANSLATIONS (mm)			ROTATIONS (deg)		
		X	Y	Z	X	Y	Z
C02	T1	1.256	-5.439	34.019	-0.011	-0.071	0.003
D01	T1	1.251	-5.900	34.002	-0.006	-0.084	0.001
*** Segment D end *** Line #							
*** Segment E begin *** Line #							
C03	T1	3.247	-5.471	33.297	-0.006	-0.089	0.004
E01	T1	3.223	-5.985	33.248	-0.006	-0.089	0.004
*** Segment E end *** Line #							
*** Segment F begin *** Line #							
F00	T1	1.042	-7.000	33.545	0.019	-0.121	-0.017
F01	T1	1.020	-6.713	33.520	0.019	-0.121	-0.017
*** Segment F end *** Line #							
*** Segment G begin *** Line #							
G00	T1	-13.537	6.508	26.788	0.079	-0.300	-0.142
G01 N	T1	-15.936	4.466	29.952	0.039	-0.283	-0.238
G01 F	T1	-15.834	3.814	30.360	0.021	-0.272	-0.331
G02 N	T1	2.742	-6.274	29.872	-0.011	-0.217	-0.330
G02 F	T1	3.407	-6.572	30.155	0.000	-0.189	-0.268
G03 N	T1	3.691	-6.570	30.488	0.002	-0.186	-0.247
G03 F	T1	3.635	-6.841	31.009	0.026	-0.163	-0.185
G04	T1	1.225	-8.312	32.660	0.033	-0.140	-0.088
G05	T1	-2.025	-9.616	34.729	0.033	-0.140	-0.088
G06 N	T1	-4.607	-10.417	36.371	0.040	-0.142	-0.054
G06 F	T1	-4.959	-10.189	36.508	0.041	-0.145	-0.042
G07 N	T1	-5.217	-8.850	36.255	0.042	-0.152	-0.046
G07 F	T1	-4.994	-8.482	35.996	0.042	-0.155	-0.065
G08 N	T1	-0.005	-6.904	32.476	0.033	-0.148	-0.055

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DISPLACEMENTS

Point name	Load combination	TRANSLATIONS (mm)			ROTATIONS (deg)		
		X	Y	Z	X	Y	Z
G08 F	T1	0.472	-6.807	32.578	0.024	-0.133	-0.035
F01	T1	1.020	-6.713	33.520	0.019	-0.121	-0.017
G10 N	T1	1.125	-6.696	33.712	0.018	-0.118	-0.013
G10 F	T1	1.255	-6.389	33.996	-0.001	-0.097	-0.004
D01	T1	1.251	-5.900	34.002	-0.006	-0.084	0.001
*** Segment G end *** Line #							
*** Segment H begin *** Line #							
H00	T1	-12.352	7.139	15.618	0.249	-0.469	0.119
H01	T1	-12.621	7.285	16.191	0.249	-0.469	0.119
*** Segment H end *** Line #							
*** Segment I begin *** Line #							
I00	T1	0.000	0.000	0.000	0.000	0.000	0.000
I01	T1	0.005	-1.159	0.018	0.007	-0.021	0.001
I02 N	T1	0.004	-1.661	0.035	0.008	-0.021	0.001
I02 F	T1	0.032	-1.927	0.344	0.024	-0.032	0.010
I03 N	T1	0.456	-1.599	2.838	0.029	-0.033	0.051
I03 F	T1	0.196	-1.486	3.154	0.028	-0.008	0.064
I04 N	T1	-8.316	0.686	2.221	-0.032	0.035	-0.008
I04 F	T1	-8.512	0.580	2.176	-0.033	0.034	-0.037
I05 N	T1	-10.100	-2.899	1.417	-0.048	0.011	-0.121
I05 F	T1	-10.064	-3.152	1.369	-0.047	0.008	-0.138
I06 N	T1	-6.141	-9.998	0.303	-0.007	-0.059	-0.045
I06 F	T1	-6.416	-10.271	0.394	0.012	-0.075	0.047
I07 N	T1	-20.050	2.723	11.898	0.232	-0.352	0.229
I07 F	T1	-19.821	3.321	12.683	0.239	-0.417	0.209
H01	T1	-12.621	7.285	16.191	0.249	-0.469	0.119

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Point name	Load combination	TRANSLATIONS (mm)			ROTATIONS (deg)		
		X	Y	Z	X	Y	Z
I09 N	T1	-11.784	7.728	16.584	0.247	-0.468	0.109
I09 F	T1	-11.051	8.336	16.562	0.230	-0.452	0.079
I10 N	T1	-10.869	8.888	15.992	0.225	-0.447	0.065
I10 F	T1	-10.379	9.380	15.929	0.207	-0.428	0.028
I11	T1	-10.356	9.394	15.937	0.207	-0.428	0.028
I12	T1	-9.403	9.977	16.299	0.207	-0.428	0.027
I13	T1	-9.208	9.607	16.895	0.207	-0.428	0.027
I14	T1	-9.093	9.398	17.229	0.203	-0.422	0.020
I15 N	T1	-8.496	8.435	18.679	0.186	-0.393	-0.007
I15 F	T1	-8.637	8.188	19.475	0.160	-0.365	-0.028
G00	T1	-13.537	6.508	26.788	0.079	-0.300	-0.142
*** Segment I	end	***	Line #				
*** Segment J	begin	***	Line #				
I14	T1	-9.093	9.398	17.229	0.203	-0.422	0.020
J01	T1	-8.824	9.374	16.714	0.203	-0.422	0.020
*** Segment J	end	***	Line #				

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R E S T R A I N T R E A C T I O N S

Point name	Load combination	FORCES (N)				MOMENTS (Nm)			
		X	Y	Z	Result	X	Y	Z	Result
A00	Anchor T1	-5	1	103	103	7	50	-1	51
C00	Anchor T1	-38	-24	-94	104	73	-578	34	583
I00	Anchor T1	43	23	-9	50	7	-18	-6	20

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G L O B A L F O R C E S & M O M E N T S

Point name	Load combination	X	FORCES (N)				MOMENTS (Nm)			
			Y	Z	Result		X	Y	Z	Result
*** Segment A begin *** Line # 79319821										
A00	T1	5	-1	-103	103		-7	-50	1	51
A02 N	T1	5	-1	-103	103		-21	-64	1	67
A02 F	T1	5	-1	-103	103		-65	-64	-1	91
A04 N	T1	5	-1	-103	103		-84	-45	-2	96
A04 F	T1	5	-1	-103	103		-94	-22	-3	96
A05	T1	5	-1	-103	103		-94	14	-4	95
A06	T1	5	-1	-103	103		-94	30	-4	98
A07 N	T1	5	-1	-103	103		-94	30	-4	98
A07 F	T1	5	-1	-103	103		-93	54	-4	108
A08	T1	5	-1	-103	103		-86	84	-4	120
A09 N	T1	5	-1	-103	103		-85	87	-4	122
A09 F	T1	5	-1	-103	103		-85	64	-4	107
A10 N	T1	5	-1	-103	103		-85	-1	-3	85
A10 F	T1	5	-1	-103	103		-78	-18	-2	80
A11 N	T1	5	-1	-103	103		-4	-92	2	92
A11 F	T1	5	-1	-103	103		13	-99	3	100
A12 N	T1	5	-1	-103	103		95	-99	7	138
A12 F	T1	5	-1	-103	103		119	-98	8	154
A13	T1	5	-1	-103	103		126	-68	8	144
A14 N	T1	5	-1	-103	103		135	-33	8	139
A14 F	T1	5	-1	-103	103		112	-32	7	116
A15 N	T1	5	-1	-103	103		29	-32	3	43
A15 F	T1	5	-1	-103	103		12	-25	2	28
A16 N	T1	5	-1	-103	103		-7	-6	1	9
A16 F	T1	5	-1	-103	103		-23	12	0	26

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G L O B A L F O R C E S & M O M E N T S

Point name	Load combination	FORCES (N)				MOMENTS (Nm)			
		X	Y	Z	Result	X	Y	Z	Result
A17	T1	5	-1	-103	103	-17	36	0	40
A18	T1	5	-1	-103	103	-10	66	0	66
A19 -	T1	5	-1	-103	103	-4	87	0	88
A19 +	T1	5	-1	-103	103	-4	87	0	88
A20 N	T1	5	-1	-103	103	-4	88	0	88
A20 F	T1	5	-1	-103	103	-5	88	0	88
A21 N	T1	5	-1	-103	103	-31	67	-1	74
A21 F	T1	5	-1	-103	103	-31	67	-1	74
A22 N	T1	5	-1	-103	103	-25	92	-1	95
A22 F	T1	5	-1	-103	103	-42	93	-2	102
A23 N	T1	5	-1	-103	103	-111	94	-5	145
A23 F	T1	5	-1	-103	103	-128	87	-6	155
A24 N	T1	5	-1	-103	103	-206	8	-9	206
A24 F	T1	5	-1	-103	103	-213	-8	-9	213
A25 N	T1	5	-1	-103	103	-213	-63	-8	222
A25 F	T1	5	-1	-103	103	-213	-85	-8	229
A26	T1	5	-1	-103	103	-212	-106	-8	237
A27	T1	5	-1	-103	103	-211	-110	-8	239
A28	T1	5	-1	-103	103	-211	-88	-8	229
A29 N	T1	5	-1	-103	103	-211	-24	-9	213
A29 F	T1	5	-1	-103	103	-211	-6	-9	211
A30 N	T1	5	-1	-103	103	-209	1	-9	209
A30 F	T1	5	-1	-103	103	-196	2	-8	196
A31 N	T1	5	-1	-103	103	22	7	2	23
A31 F	T1	5	-1	-103	103	41	28	3	50
A32 N	T1	5	-1	-103	103	41	98	2	106

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G L O B A L F O R C E S & M O M E N T S

Point name	Load combination	FORCES (N)				MOMENTS (Nm)			
		X	Y	Z	Result	X	Y	Z	Result
A32 F	T1	5	-1	-103	103	41	116	2	123
A33	T1	5	-1	-103	103	43	122	2	129
A34 -	T1	5	-1	-103	103	43	123	2	130
A34 +	T1	5	-1	-103	103	43	123	2	130
A35	T1	5	-1	-103	103	50	152	2	160
A36 N	T1	5	-1	-103	103	54	166	2	174
A36 F	T1	5	-1	-103	103	48	144	2	152
A37 N	T1	5	-1	-103	103	42	122	2	129
A37 F	T1	5	-1	-103	103	41	116	2	123
A38	T1	5	-1	-103	103	41	-361	7	363
*** Segment A end *** Line # 79319821									
*** Segment B begin *** Line # 79319821									
A19	T1	0	0	0	0	0	0	0	0
B01	T1	0	0	0	0	0	0	0	0
*** Segment B end *** Line # 79319821									
*** Segment C begin *** Line # 79319821									
C00	T1	38	24	94	104	-73	578	-34	583
C01 N	T1	38	24	94	104	-99	578	-24	586
C01 F	T1	38	24	94	104	-120	556	-10	569
C02 -	T1	38	24	94	104	-120	547	-7	560
C02 +	T1	-5	1	103	103	-105	519	-12	530
C03 -	T1	-5	1	103	103	-105	466	-12	478
C03 +	T1	-5	1	103	103	-105	466	-12	478
C04 N	T1	-5	1	103	103	-105	435	-11	448
C04 F	T1	-5	1	103	103	-82	412	-10	420
C05 N	T1	-5	1	103	103	-65	412	-9	417

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G L O B A L F O R C E S & M O M E N T S

Point name	Load combination	FORCES (N)				MOMENTS (Nm)			
		X	Y	Z	Result	X	Y	Z	Result
C05 F	T1	-5	1	103	103	-41	388	-8	391
A38	T1	-5	1	103	103	-41	361	-7	363
*** Segment C end *** Line # 79319821									
*** Segment D begin *** Line #									
C02	T1	43	23	-9	50	-15	28	5	32
D01	T1	43	23	-9	50	-14	28	10	33
*** Segment D end *** Line #									
*** Segment E begin *** Line #									
C03	T1	0	0	0	0	0	0	0	0
E01	T1	0	0	0	0	0	0	0	0
*** Segment E end *** Line #									
*** Segment F begin *** Line #									
F00	T1	0	0	0	0	0	0	0	0
F01	T1	0	0	0	0	0	0	0	0
*** Segment F end *** Line #									
*** Segment G begin *** Line #									
G00	T1	-43	-23	9	50	16	-11	44	48
G01 N	T1	-43	-23	9	50	16	-6	58	61
G01 F	T1	-43	-23	9	50	16	-5	57	59
G02 N	T1	-43	-23	9	50	-7	-5	-57	58
G02 F	T1	-43	-23	9	50	-6	-9	-60	61
G03 N	T1	-43	-23	9	50	-4	-12	-60	62
G03 F	T1	-43	-23	9	50	-3	-15	-58	60
G04	T1	-43	-23	9	50	-3	-10	-44	45
G05	T1	-43	-23	9	50	-3	-2	-25	25
G06 N	T1	-43	-23	9	50	-3	4	-9	11

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G L O B A L F O R C E S & M O M E N T S

Point name	Load combination	FORCES (N)				MOMENTS (Nm)			
		X	Y	Z	Result	X	Y	Z	Result
G06 F	T1	-43	-23	9	50	-2	5	-4	7
G07 N	T1	-43	-23	9	50	1	5	11	12
G07 F	T1	-43	-23	9	50	2	4	12	13
G08 N	T1	-43	-23	9	50	2	-8	-17	19
G08 F	T1	-43	-23	9	50	3	-12	-19	23
F01 -	T1	-43	-23	9	50	9	-22	-19	31
F01 +	T1	-43	-23	9	50	9	-22	-19	31
G10 N	T1	-43	-23	9	50	10	-24	-19	33
G10 F	T1	-43	-23	9	50	13	-28	-16	34
D01	T1	-43	-23	9	50	14	-28	-10	33
*** Segment G end *** Line #									
*** Segment H begin *** Line #									
H00	T1	0	0	0	0	0	0	0	0
H01	T1	0	0	0	0	0	0	0	0
*** Segment H end *** Line #									
*** Segment I begin *** Line #									
I00	T1	-43	-23	9	50	-7	18	6	20
I01	T1	-43	-23	9	50	-10	18	-7	21
I02 N	T1	-43	-23	9	50	-11	18	-13	24
I02 F	T1	-43	-23	9	50	-10	15	-16	24
I03 N	T1	-43	-23	9	50	5	-14	-16	22
I03 F	T1	-43	-23	9	50	7	-16	-14	23
I04 N	T1	-43	-23	9	50	7	3	36	37
I04 F	T1	-43	-23	9	50	7	4	36	37
I05 N	T1	-43	-23	9	50	1	9	23	25
I05 F	T1	-43	-23	9	50	0	10	21	23

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G L O B A L F O R C E S & M O M E N T S

Point name	Load combination	FORCES (N)				MOMENTS (Nm)			
		X	Y	Z	Result	X	Y	Z	Result
I06 N	T1	-43	-23	9	50	-15	10	-56	59
I06 F	T1	-43	-23	9	50	-16	10	-58	61
I07 N	T1	-43	-23	9	50	-16	42	23	50
I07 F	T1	-43	-23	9	50	-14	39	25	48
H01 -	T1	-43	-23	9	50	7	-1	25	26
H01 +	T1	-43	-23	9	50	7	-1	25	26
I09 N	T1	-43	-23	9	50	9	-5	25	27
I09 F	T1	-43	-23	9	50	11	-8	28	32
I10 N	T1	-43	-23	9	50	13	-8	35	38
I10 F	T1	-43	-23	9	50	15	-11	38	42
I11	T1	-43	-23	9	50	15	-11	38	42
I12	T1	-43	-23	9	50	18	-16	39	46
I13	T1	-43	-23	9	50	18	-18	34	42
I14 -	T1	-43	-23	9	50	17	-19	31	40
I14 +	T1	-43	-23	9	50	17	-19	31	40
I15 N	T1	-43	-23	9	50	16	-23	16	32
I15 F	T1	-43	-23	9	50	16	-23	15	32
G00	T1	-43	-23	9	50	16	-11	44	48

*** Segment I end *** Line #

*** Segment J begin *** Line #

I14	T1	0	0	0	0	0	0	0	0
J01	T1	0	0	0	0	0	0	0	0

*** Segment J end *** Line #

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ASME B31.3b (2001) CODE COMPLIANCE									
			(Moments in Nm)			(Stress in N/mm2)			
Point	Load	In-Pl.	Out-Pl.	Torsion	S.I.F	Eq. Load	Code	Code	
name	combination	Moment	Moment	Moment	In Out	no. type	Stress	Allow.	
*** Segment A begin *** Line # 79319821									
A00	Max P					(3a) HOOP	0	71	
	Max P	0	0		1.00 1.00	(18) SUST	0	71	
	Cold to T1	41	1	31	1.00 1.00	(17) DISP	0	147	
A02 N-	Max P					(3a) HOOP	0	71	
	Max P	0	0		1.00 1.00	(18) SUST	0	71	
	Cold to T1	60	1	31	1.00 1.00	(17) DISP	0	147	
A02 N+	Max P					(3a) HOOP	0	71	
	Max P	0	0		2.90 2.42	(18) SUST	0	71	
	Cold to T1	1	60	31	2.90 2.42	(17) DISP	1	147	
A02 F-	Max P					(3a) HOOP	0	71	
	Max P	0	0		2.90 2.42	(18) SUST	0	71	
	Cold to T1	1	1	91	2.90 2.42	(17) DISP	0	147	
A02 F+	Max P					(3a) HOOP	0	71	
	Max P	0	0		1.00 1.00	(18) SUST	0	71	
	Cold to T1	1	1	91	1.00 1.00	(17) DISP	0	147	
A04 N-	Max P					(3a) HOOP	0	71	
	Max P	0	0		1.00 1.00	(18) SUST	0	71	
	Cold to T1	28	2	91	1.00 1.00	(17) DISP	0	147	
A04 N+	Max P					(3a) HOOP	0	71	
	Max P	0	0		2.90 2.42	(18) SUST	0	71	
	Cold to T1	2	28	91	2.90 2.42	(17) DISP	1	147	
A04 F-	Max P					(3a) HOOP	0	71	
	Max P	0	0		2.90 2.42	(18) SUST	0	71	
	Cold to T1	3	22	94	2.90 2.42	(17) DISP	0	147	
A04 F+	Max P					(3a) HOOP	0	71	
	Max P	0	0		1.00 1.00	(18) SUST	0	71	
	Cold to T1	22	3	94	1.00 1.00	(17) DISP	0	147	
A05	Max P					(3a) HOOP	0	71	
	Max P	0	0		1.00 1.00	(18) SUST	0	71	
	Cold to T1	14	4	94	1.00 1.00	(17) DISP	0	147	
A06	Max P					(3a) HOOP	0	71	
	Max P	0	0		1.00 1.00	(18) SUST	0	71	
	Cold to T1	30	4	94	1.00 1.00	(17) DISP	1	147	
A07 N-	Max P					(3a) HOOP	0	71	
	Max P	0	0		1.00 1.00	(18) SUST	0	71	
	Cold to T1	30	4	94	1.00 1.00	(17) DISP	1	147	

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ASME B31.3b (2001) CODE COMPLIANCE									
		(Moments in Nm)			(Stress in N/mm2)				
Point name	Load combination	In-Pl. Moment	Out-Pl. Moment	Torsion Moment	S.I.F In	S.I.F Out	Eq. Load no.	Load type	Code Stress Allow.
A07 N+	Max P						(3a)	HOOP	0 71
	Max P	0	0		2.56	2.13	(18)	SUST	0 71
	Cold to T1	30	4	94	2.56	2.13	(17)	DISP	1 147
A07 F-	Max P						(3a)	HOOP	0 71
	Max P	0	0		2.56	2.13	(18)	SUST	0 71
	Cold to T1	54	93	4	2.56	2.13	(17)	DISP	2 147
A07 F+	Max P						(3a)	HOOP	0 71
	Max P	0	0		1.00	1.00	(18)	SUST	0 71
	Cold to T1	54	93	4	1.00	1.00	(17)	DISP	1 147
A08	Max P						(3a)	HOOP	0 71
	Max P	0	0		1.00	1.00	(18)	SUST	0 71
	Cold to T1	84	86	4	1.00	1.00	(17)	DISP	1 147
A09 N-	Max P						(3a)	HOOP	0 71
	Max P	0	0		1.00	1.00	(18)	SUST	0 71
	Cold to T1	87	85	4	1.00	1.00	(17)	DISP	1 147
A09 N+	Max P						(3a)	HOOP	0 71
	Max P	0	0		2.56	2.13	(18)	SUST	0 71
	Cold to T1	87	85	4	2.56	2.13	(17)	DISP	2 147
A09 F-	Max P						(3a)	HOOP	0 71
	Max P	0	0		2.56	2.13	(18)	SUST	0 71
	Cold to T1	64	4	85	2.56	2.13	(17)	DISP	2 147
A09 F+	Max P						(3a)	HOOP	0 71
	Max P	0	0		1.00	1.00	(18)	SUST	0 71
	Cold to T1	64	4	85	1.00	1.00	(17)	DISP	1 147
A10 N-	Max P						(3a)	HOOP	0 71
	Max P	0	0		1.00	1.00	(18)	SUST	0 71
	Cold to T1	1	3	85	1.00	1.00	(17)	DISP	1 147
A10 N+	Max P						(3a)	HOOP	0 71
	Max P	0	0		2.56	2.13	(18)	SUST	0 71
	Cold to T1	3	1	85	2.56	2.13	(17)	DISP	1 147
A10 F-	Max P						(3a)	HOOP	0 71
	Max P	0	0		2.56	2.13	(18)	SUST	0 71
	Cold to T1	2	43	68	2.56	2.13	(17)	DISP	1 147
A10 F+	Max P						(3a)	HOOP	0 71
	Max P	0	0		1.00	1.00	(18)	SUST	0 71
	Cold to T1	43	2	68	1.00	1.00	(17)	DISP	1 147
A11 N-	Max P						(3a)	HOOP	0 71
	Max P	0	0		1.00	1.00	(18)	SUST	0 71
	Cold to T1	62	2	68	1.00	1.00	(17)	DISP	1 147

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ASME B31.3b (2001) CODE COMPLIANCE									
		(Moments in Nm)			(Stress in N/mm2)				
Point name	Load combination	In-Pl. Moment	Out-Pl. Moment	Torsion Moment	S.I.F In Out	Eq. Load no. type	Code Stress	Code Allow.	
A11 N+	Max P					(3a) HOOP	0	71	
	Max P	0	0		2.56 2.13	(18) SUST	0	71	
	Cold to T1	2	62	68	2.56 2.13	(17) DISP	1	147	
A11 F-	Max P					(3a) HOOP	0	71	
	Max P	0	0		2.56 2.13	(18) SUST	0	71	
	Cold to T1	3	13	99	2.56 2.13	(17) DISP	1	147	
A11 F+	Max P					(3a) HOOP	0	71	
	Max P	0	0		1.00 1.00	(18) SUST	0	71	
	Cold to T1	13	3	99	1.00 1.00	(17) DISP	1	147	
A12 N-	Max P					(3a) HOOP	0	71	
	Max P	0	0		1.00 1.00	(18) SUST	0	71	
	Cold to T1	95	7	99	1.00 1.00	(17) DISP	1	147	
A12 N+	Max P					(3a) HOOP	0	71	
	Max P	0	0		2.56 2.13	(18) SUST	0	71	
	Cold to T1	95	7	99	2.56 2.13	(17) DISP	2	147	
A12 F-	Max P					(3a) HOOP	0	71	
	Max P	0	0		2.56 2.13	(18) SUST	0	71	
	Cold to T1	119	98	8	2.56 2.13	(17) DISP	3	147	
A12 F+	Max P					(3a) HOOP	0	71	
	Max P	0	0		1.00 1.00	(18) SUST	0	71	
	Cold to T1	98	119	8	1.00 1.00	(17) DISP	1	147	
A13	Max P					(3a) HOOP	0	71	
	Max P	0	0		1.00 1.00	(18) SUST	0	71	
	Cold to T1	68	126	8	1.00 1.00	(17) DISP	1	147	
A14 N-	Max P					(3a) HOOP	0	71	
	Max P	0	0		1.00 1.00	(18) SUST	0	71	
	Cold to T1	33	135	8	1.00 1.00	(17) DISP	1	147	
A14 N+	Max P					(3a) HOOP	0	71	
	Max P	0	0		2.56 2.13	(18) SUST	0	71	
	Cold to T1	135	33	8	2.56 2.13	(17) DISP	3	147	
A14 F-	Max P					(3a) HOOP	0	71	
	Max P	0	0		2.56 2.13	(18) SUST	0	71	
	Cold to T1	112	7	32	2.56 2.13	(17) DISP	2	147	
A14 F+	Max P					(3a) HOOP	0	71	
	Max P	0	0		1.00 1.00	(18) SUST	0	71	
	Cold to T1	112	7	32	1.00 1.00	(17) DISP	1	147	
A15 N-	Max P					(3a) HOOP	0	71	
	Max P	0	0		1.00 1.00	(18) SUST	0	71	
	Cold to T1	29	3	32	1.00 1.00	(17) DISP	0	147	

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ASME B31.3b (2001) CODE COMPLIANCE									
		(Moments in Nm)			(Stress in N/mm2)				
Point	Load	In-Pl.	Out-Pl.	Torsion	S.I.F		Eq. Load	Code	Code
name	combination	Moment	Moment	Moment	In	Out	no. type	Stress	Allow.
A15 N+	Max P						(3a) HOOP	0	71
	Max P	0	0		2.56	2.13	(18) SUST	0	71
	Cold to T1	3	29	32	2.56	2.13	(17) DISP	1	147
A15 F-	Max P						(3a) HOOP	0	71
	Max P	0	0		2.56	2.13	(18) SUST	0	71
	Cold to T1	2	26	9	2.56	2.13	(17) DISP	0	147
A15 F+	Max P						(3a) HOOP	0	71
	Max P	0	0		1.00	1.00	(18) SUST	0	71
	Cold to T1	26	2	9	1.00	1.00	(17) DISP	0	147
A16 N-	Max P						(3a) HOOP	0	71
	Max P	0	0		1.00	1.00	(18) SUST	0	71
	Cold to T1	0	1	9	1.00	1.00	(17) DISP	0	147
A16 N+	Max P						(3a) HOOP	0	71
	Max P	0	0		2.56	2.13	(18) SUST	0	71
	Cold to T1	0	1	9	2.56	2.13	(17) DISP	0	147
A16 F-	Max P						(3a) HOOP	0	71
	Max P	0	0		2.56	2.13	(18) SUST	0	71
	Cold to T1	24	8	0	2.56	2.13	(17) DISP	1	147
A16 F+	Max P						(3a) HOOP	0	71
	Max P	0	0		1.00	1.00	(18) SUST	0	71
	Cold to T1	12	23	0	1.00	1.00	(17) DISP	0	147
A17	Max P						(3a) HOOP	0	71
	Max P	0	0		1.00	1.00	(18) SUST	0	71
	Cold to T1	36	17	0	1.00	1.00	(17) DISP	0	147
A18	Max P						(3a) HOOP	0	71
	Max P	0	0		1.00	1.00	(18) SUST	0	71
	Cold to T1	66	10	0	1.00	1.00	(17) DISP	1	147
A19 -	Max P						(3a) HOOP	0	71
	Max P	0	0		2.05	2.40	(18) SUST	0	71
	Cold to T1	87	4	0	2.05	2.40	(17) DISP	1	147
A19 +	Max P						(3a) HOOP	0	71
	Max P	0	0		2.05	2.40	(18) SUST	0	71
	Cold to T1	87	4	0	2.05	2.40	(17) DISP	1	147
A20 N-	Max P						(3a) HOOP	0	71
	Max P	0	0		1.00	1.00	(18) SUST	0	71
	Cold to T1	88	4	0	1.00	1.00	(17) DISP	1	147
A20 N+	Max P						(3a) HOOP	0	71
	Max P	0	0		2.56	2.13	(18) SUST	0	71
	Cold to T1	59	65	0	2.56	2.13	(17) DISP	2	147

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ASME B31.3b (2001) CODE COMPLIANCE									
		(Moments in Nm)			(Stress in N/mm2)				
Point	Load	In-Pl.	Out-Pl.	Torsion	S.I.F	Eq. Load	Code	Code	
name	combination	Moment	Moment	Moment	In Out	no. type	Stress	Allow.	
A20 F-	Max P					(3a) HOOP	0	71	
	Max P	0	0		2.56 2.13	(18) SUST	0	71	
	Cold to T1	59	63	17	2.56 2.13	(17) DISP	2	147	
A20 F+	Max P					(3a) HOOP	0	71	
	Max P	0	0		1.00 1.00	(18) SUST	0	71	
	Cold to T1	59	63	17	1.00 1.00	(17) DISP	1	147	
A21 N-	Max P					(3a) HOOP	0	71	
	Max P	0	0		1.00 1.00	(18) SUST	0	71	
	Cold to T1	26	67	17	1.00 1.00	(17) DISP	1	147	
A21 N+	Max P					(3a) HOOP	0	71	
	Max P	0	0		2.56 2.13	(18) SUST	0	71	
	Cold to T1	26	67	17	2.56 2.13	(17) DISP	1	147	
A21 F-	Max P					(3a) HOOP	0	71	
	Max P	0	0		2.56 2.13	(18) SUST	0	71	
	Cold to T1	25	70	1	2.56 2.13	(17) DISP	1	147	
A21 F+	Max P					(3a) HOOP	0	71	
	Max P	0	0		1.00 1.00	(18) SUST	0	71	
	Cold to T1	67	31	1	1.00 1.00	(17) DISP	1	147	
A22 N-	Max P					(3a) HOOP	0	71	
	Max P	0	0		1.00 1.00	(18) SUST	0	71	
	Cold to T1	92	25	1	1.00 1.00	(17) DISP	1	147	
A22 N+	Max P					(3a) HOOP	0	71	
	Max P	0	0		2.56 2.13	(18) SUST	0	71	
	Cold to T1	25	92	1	2.56 2.13	(17) DISP	2	147	
A22 F-	Max P					(3a) HOOP	0	71	
	Max P	0	0		2.56 2.13	(18) SUST	0	71	
	Cold to T1	42	26	89	2.56 2.13	(17) DISP	1	147	
A22 F+	Max P					(3a) HOOP	0	71	
	Max P	0	0		1.00 1.00	(18) SUST	0	71	
	Cold to T1	42	26	89	1.00 1.00	(17) DISP	1	147	
A23 N-	Max P					(3a) HOOP	0	71	
	Max P	0	0		1.00 1.00	(18) SUST	0	71	
	Cold to T1	111	29	89	1.00 1.00	(17) DISP	1	147	
A23 N+	Max P					(3a) HOOP	0	71	
	Max P	0	0		2.56 2.13	(18) SUST	0	71	
	Cold to T1	1	115	89	2.56 2.13	(17) DISP	2	147	
A23 F-	Max P					(3a) HOOP	0	71	
	Max P	0	0		2.56 2.13	(18) SUST	0	71	
	Cold to T1	5	29	152	2.56 2.13	(17) DISP	1	147	

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ASME B31.3b (2001) CODE COMPLIANCE									
		(Moments in Nm)			(Stress in N/mm2)				
Point name	Load combination	In-Pl. Moment	Out-Pl. Moment	Torsion Moment	S.I.F In	S.I.F Out	Eq. Load no. type	Code Stress	Code Allow.
A23 F+	Max P						(3a) HOOP	0	71
	Max P	0	0		1.00	1.00	(18) SUST	0	71
	Cold to T1	29	6	152	1.00	1.00	(17) DISP	1	147
A24 N-	Max P						(3a) HOOP	0	71
	Max P	0	0		1.00	1.00	(18) SUST	0	71
	Cold to T1	140	9	152	1.00	1.00	(17) DISP	2	147
A24 N+	Max P						(3a) HOOP	0	71
	Max P	0	0		2.56	2.13	(18) SUST	0	71
	Cold to T1	9	140	152	2.56	2.13	(17) DISP	3	147
A24 F-	Max P						(3a) HOOP	0	71
	Max P	0	0		2.56	2.13	(18) SUST	0	71
	Cold to T1	9	8	213	2.56	2.13	(17) DISP	2	147
A24 F+	Max P						(3a) HOOP	0	71
	Max P	0	0		1.00	1.00	(18) SUST	0	71
	Cold to T1	8	9	213	1.00	1.00	(17) DISP	2	147
A25 N-	Max P						(3a) HOOP	0	71
	Max P	0	0		1.00	1.00	(18) SUST	0	71
	Cold to T1	63	8	213	1.00	1.00	(17) DISP	2	147
A25 N+	Max P						(3a) HOOP	0	71
	Max P	0	0		2.56	2.13	(18) SUST	0	71
	Cold to T1	63	8	213	2.56	2.13	(17) DISP	2	147
A25 F-	Max P						(3a) HOOP	0	71
	Max P	0	0		2.56	2.13	(18) SUST	0	71
	Cold to T1	85	208	47	2.56	2.13	(17) DISP	4	147
A25 F+	Max P						(3a) HOOP	0	71
	Max P	0	0		1.00	1.00	(18) SUST	0	71
	Cold to T1	85	208	47	1.00	1.00	(17) DISP	2	147
A26	Max P						(3a) HOOP	0	71
	Max P	0	0		1.00	1.00	(18) SUST	0	71
	Cold to T1	106	206	47	1.00	1.00	(17) DISP	2	147
A28	Max P						(3a) HOOP	0	71
	Max P	0	0		1.00	1.00	(18) SUST	0	71
	Cold to T1	88	47	206	1.00	1.00	(17) DISP	2	147
A29 N-	Max P						(3a) HOOP	0	71
	Max P	0	0		1.00	1.00	(18) SUST	0	71
	Cold to T1	24	46	206	1.00	1.00	(17) DISP	2	147
A29 N+	Max P						(3a) HOOP	0	71
	Max P	0	0		2.56	2.13	(18) SUST	0	71
	Cold to T1	24	46	206	2.56	2.13	(17) DISP	2	147

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ASME B31.3b (2001) CODE COMPLIANCE									
		(Moments in Nm)			(Stress in N/mm2)				
Point name	Load combination	In-Pl. Moment	Out-Pl. Moment	Torsion Moment	S.I.F In Out	Eq. Load no. type	Code Stress	Code Allow.	
A29 F-	Max P					(3a) HOOP	0	71	
	Max P	0	0		2.56 2.13	(18) SUST	0	71	
	Cold to T1	6	211	9	2.56 2.13	(17) DISP	4	147	
A29 F+	Max P					(3a) HOOP	0	71	
	Max P	0	0		1.00 1.00	(18) SUST	0	71	
	Cold to T1	6	211	9	1.00 1.00	(17) DISP	2	147	
A30 N-	Max P					(3a) HOOP	0	71	
	Max P	0	0		1.00 1.00	(18) SUST	0	71	
	Cold to T1	1	209	9	1.00 1.00	(17) DISP	2	147	
A30 N+	Max P					(3a) HOOP	0	71	
	Max P	0	0		2.56 2.13	(18) SUST	0	71	
	Cold to T1	209	1	9	2.56 2.13	(17) DISP	4	147	
A30 F-	Max P					(3a) HOOP	0	71	
	Max P	0	0		2.56 2.13	(18) SUST	0	71	
	Cold to T1	196	7	5	2.56 2.13	(17) DISP	4	147	
A30 F+	Max P					(3a) HOOP	0	71	
	Max P	0	0		1.00 1.00	(18) SUST	0	71	
	Cold to T1	196	7	5	1.00 1.00	(17) DISP	2	147	
A31 N-	Max P					(3a) HOOP	0	71	
	Max P	0	0		1.00 1.00	(18) SUST	0	71	
	Cold to T1	22	5	5	1.00 1.00	(17) DISP	0	147	
A31 N+	Max P					(3a) HOOP	0	71	
	Max P	0	0		2.56 2.13	(18) SUST	0	71	
	Cold to T1	1	22	5	2.56 2.13	(17) DISP	0	147	
A31 F-	Max P					(3a) HOOP	0	71	
	Max P	0	0		2.56 2.13	(18) SUST	0	71	
	Cold to T1	4	28	40	2.56 2.13	(17) DISP	1	147	
A31 F+	Max P					(3a) HOOP	0	71	
	Max P	0	0		1.00 1.00	(18) SUST	0	71	
	Cold to T1	28	8	40	1.00 1.00	(17) DISP	0	147	
A32 N-	Max P					(3a) HOOP	0	71	
	Max P	0	0		1.00 1.00	(18) SUST	0	71	
	Cold to T1	98	9	40	1.00 1.00	(17) DISP	1	147	
A32 N+	Max P					(3a) HOOP	0	71	
	Max P	0	0		2.56 2.13	(18) SUST	0	71	
	Cold to T1	98	9	40	2.56 2.13	(17) DISP	2	147	
A32 F-	Max P					(3a) HOOP	0	71	
	Max P	0	0		2.56 2.13	(18) SUST	0	71	
	Cold to T1	116	41	2	2.56 2.13	(17) DISP	3	147	

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ASME B31.3b (2001) CODE COMPLIANCE									
Point name	Load combination	(Moments in Nm)			S.I.F		(Stress in N/mm2)		Code Stress
		In-Pl. Moment	Out-Pl. Moment	Torsion Moment	In	Out	Eq. Load no. type	Code Allow.	
A32 F+	Max P						(3a) HOOP	0	71
	Max P	0	0		1.00	1.00	(18) SUST	0	71
	Cold to T1	116	41	2	1.00	1.00	(17) DISP	1	147
A33	Max P						(3a) HOOP	0	71
	Max P	0	0		1.00	1.00	(18) SUST	0	71
	Cold to T1	122	43	2	1.00	1.00	(17) DISP	1	147
A34	Max P						(3a) HOOP	0	71
	Max P	0	0		1.00	1.00	(18) SUST	0	71
	Cold to T1	123	43	2	1.00	1.00	(17) DISP	1	147
A35	Max P						(3a) HOOP	0	71
	Max P	0	0		1.00	1.00	(18) SUST	0	71
	Cold to T1	152	50	2	1.00	1.00	(17) DISP	1	147
A36 N-	Max P						(3a) HOOP	0	71
	Max P	0	0		1.00	1.00	(18) SUST	0	71
	Cold to T1	166	54	2	1.00	1.00	(17) DISP	1	147
A36 N+	Max P						(3a) HOOP	0	71
	Max P	0	0		2.56	2.13	(18) SUST	0	71
	Cold to T1	174	9	2	2.56	2.13	(17) DISP	4	147
A36 F-	Max P						(3a) HOOP	0	71
	Max P	0	0		2.56	2.13	(18) SUST	0	71
	Cold to T1	152	2	9	2.56	2.13	(17) DISP	3	147
A36 F+	Max P						(3a) HOOP	0	71
	Max P	0	0		1.00	1.00	(18) SUST	0	71
	Cold to T1	152	2	9	1.00	1.00	(17) DISP	1	147
A37 N-	Max P						(3a) HOOP	0	71
	Max P	0	0		1.00	1.00	(18) SUST	0	71
	Cold to T1	129	2	9	1.00	1.00	(17) DISP	1	147
A37 N+	Max P						(3a) HOOP	0	71
	Max P	0	0		2.56	2.13	(18) SUST	0	71
	Cold to T1	2	129	9	2.56	2.13	(17) DISP	2	147
A37 F-	Max P						(3a) HOOP	0	71
	Max P	0	0		2.56	2.13	(18) SUST	0	71
	Cold to T1	2	116	41	2.56	2.13	(17) DISP	2	147
A37 F+	Max P						(3a) HOOP	0	71
	Max P	0	0		1.00	1.00	(18) SUST	0	71
	Cold to T1	116	2	41	1.00	1.00	(17) DISP	1	147
A38	Max P						(3a) HOOP	0	71
	Max P	0	0		1.00	1.00	(18) SUST	0	71
	Cold to T1	361	7	41	1.00	1.00	(17) DISP	3	147

*** Segment A end *** Line # 79319821

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ASME B31.3b (2001) CODE COMPLIANCE									
		(Moments in Nm)			(Stress in N/mm2)				
Point	Load	In-Pl.	Out-Pl.	Torsion	S.I.F	Eq. Load	Code	Code	
name	combination	Moment	Moment	Moment	In Out	no. type	Stress	Allow.	
*** Segment B begin *** Line # 79319821									
A19	Max P					(3a) HOOP	0	71	
	Max P	0	0		2.05 2.40	(18) SUST	0	71	
	Cold to T1	0	0	0	2.05 2.40	(17) DISP	0	147	
B01	Max P					(3a) HOOP	0	71	
	Max P	0	0		1.00 1.00	(18) SUST	0	71	
	Cold to T1	0	0	0	1.00 1.00	(17) DISP	0	147	
*** Segment B end *** Line # 79319821									
*** Segment C begin *** Line # 79319821									
C00	Max P					(3a) HOOP	0	71	
	Max P	0	0		1.00 1.00	(18) SUST	0	71	
	Cold to T1	73	34	578	1.00 1.00	(17) DISP	4	147	
C01 N-	Max P					(3a) HOOP	0	71	
	Max P	0	0		1.00 1.00	(18) SUST	0	71	
	Cold to T1	99	24	578	1.00 1.00	(17) DISP	4	147	
C01 N+	Max P					(3a) HOOP	0	71	
	Max P	0	0		2.27 1.89	(18) SUST	0	71	
	Cold to T1	24	99	578	2.27 1.89	(17) DISP	4	147	
C01 F-	Max P					(3a) HOOP	0	71	
	Max P	0	0		2.27 1.89	(18) SUST	0	71	
	Cold to T1	10	556	120	2.27 1.89	(17) DISP	8	147	
C01 F+	Max P					(3a) HOOP	0	71	
	Max P	0	0		1.00 1.00	(18) SUST	0	71	
	Cold to T1	556	10	120	1.00 1.00	(17) DISP	4	147	
C02 -	Max P					(3a) HOOP	0	71	
	Max P	0	0		1.85 2.14	(18) SUST	0	71	
	Cold to T1	7	547	120	1.85 2.14	(17) DISP	8	147	
C02 +	Max P					(3a) HOOP	0	71	
	Max P	0	0		1.85 2.14	(18) SUST	0	71	
	Cold to T1	12	519	105	1.85 2.14	(17) DISP	8	147	
C03 -	Max P					(3a) HOOP	0	71	
	Max P	0	0		1.85 2.14	(18) SUST	0	71	
	Cold to T1	44	464	105	1.85 2.14	(17) DISP	7	147	
C03 +	Max P					(3a) HOOP	0	71	
	Max P	0	0		1.85 2.14	(18) SUST	0	71	
	Cold to T1	44	464	105	1.85 2.14	(17) DISP	7	147	

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ASME B31.3b (2001) CODE COMPLIANCE									
		(Moments in Nm)			(Stress in N/mm2)				
Point name	Load combination	In-Pl. Moment	Out-Pl. Moment	Torsion Moment	S.I.F In	S.I.F Out	Eq. Load no. type	Code Stress	Code Allow.
C04 N-	Max P						(3a) HOOP	0	71
	Max P	0	0		1.00	1.00	(18) SUST	0	71
	Cold to T1	435	11	105	1.00	1.00	(17) DISP	3	147
C04 N+	Max P						(3a) HOOP	0	71
	Max P	0	0		2.27	1.89	(18) SUST	0	71
	Cold to T1	11	435	105	2.27	1.89	(17) DISP	6	147
C04 F-	Max P						(3a) HOOP	0	71
	Max P	0	0		2.27	1.89	(18) SUST	0	71
	Cold to T1	10	82	412	2.27	1.89	(17) DISP	3	147
C04 F+	Max P						(3a) HOOP	0	71
	Max P	0	0		1.00	1.00	(18) SUST	0	71
	Cold to T1	82	10	412	1.00	1.00	(17) DISP	3	147
C05 N-	Max P						(3a) HOOP	0	71
	Max P	0	0		1.00	1.00	(18) SUST	0	71
	Cold to T1	65	9	412	1.00	1.00	(17) DISP	3	147
C05 N+	Max P						(3a) HOOP	0	71
	Max P	0	0		2.27	1.89	(18) SUST	0	71
	Cold to T1	9	65	412	2.27	1.89	(17) DISP	3	147
C05 F-	Max P						(3a) HOOP	0	71
	Max P	0	0		2.27	1.89	(18) SUST	0	71
	Cold to T1	8	388	41	2.27	1.89	(17) DISP	5	147
C05 F+	Max P						(3a) HOOP	0	71
	Max P	0	0		1.00	1.00	(18) SUST	0	71
	Cold to T1	388	8	41	1.00	1.00	(17) DISP	3	147
A38	Max P						(3a) HOOP	0	71
	Max P	0	0		1.00	1.00	(18) SUST	0	71
	Cold to T1	361	7	41	1.00	1.00	(17) DISP	3	147

*** Segment C end *** Line # 79319821

*** Segment D begin *** Line #

C02	Max P						(3a) HOOP	0	71
	Max P	0	0		1.85	2.14	(18) SUST	0	71
	Cold to T1	5	15	28	1.85	2.14	(17) DISP	4	147
D01	Max P						(3a) HOOP	0	71
	Max P	0	0		1.00	1.00	(18) SUST	0	71
	Cold to T1	14	10	28	1.00	1.00	(17) DISP	4	147

*** Segment D end *** Line #

*** Segment E begin *** Line #

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ASME B31.3b (2001) CODE COMPLIANCE									
		(Moments in Nm)			(Stress in N/mm2)				
Point	Load	In-Pl.	Out-Pl.	Torsion	S.I.F	Eq. Load	Code	Code	
name	combination	Moment	Moment	Moment	In Out	no. type	Stress	Allow.	
C03	Max P					(3a) HOOP	0	71	
	Max P	0	0		1.85 2.14	(18) SUST	0	71	
	Cold to T1	0	0	0	1.85 2.14	(17) DISP	0	147	
E01	Max P					(3a) HOOP	0	71	
	Max P	0	0		1.00 1.00	(18) SUST	0	71	
	Cold to T1	0	0	0	1.00 1.00	(17) DISP	0	147	
*** Segment E end *** Line #									
*** Segment F begin *** Line #									
*** Segment F end *** Line #									
*** Segment G begin *** Line #									
G00	Max P					(3a) HOOP	0	71	
	Max P	0	0		1.00 1.00	(18) SUST	0	71	
	Cold to T1	11	44	16	1.00 1.00	(17) DISP	5	147	
G01 N-	Max P					(3a) HOOP	0	71	
	Max P	0	0		1.00 1.00	(18) SUST	0	71	
	Cold to T1	6	58	16	1.00 1.00	(17) DISP	7	147	
G01 N+	Max P					(3a) HOOP	0	71	
	Max P	0	0		1.74 1.45	(18) SUST	0	71	
	Cold to T1	58	6	16	1.74 1.45	(17) DISP	11	147	
G01 F-	Max P					(3a) HOOP	0	71	
	Max P	0	0		1.74 1.45	(18) SUST	0	71	
	Cold to T1	57	16	5	1.74 1.45	(17) DISP	11	147	
G01 F+	Max P					(3a) HOOP	0	71	
	Max P	0	0		1.00 1.00	(18) SUST	0	71	
	Cold to T1	16	57	5	1.00 1.00	(17) DISP	6	147	
G02 N-	Max P					(3a) HOOP	0	71	
	Max P	0	0		1.00 1.00	(18) SUST	0	71	
	Cold to T1	7	57	5	1.00 1.00	(17) DISP	6	147	
G02 N+	Max P					(3a) HOOP	0	71	
	Max P	0	0		1.74 1.45	(18) SUST	0	71	
	Cold to T1	7	57	5	1.74 1.45	(17) DISP	9	147	
G02 F-	Max P					(3a) HOOP	0	71	
	Max P	0	0		1.74 1.45	(18) SUST	0	71	
	Cold to T1	6	9	60	1.74 1.45	(17) DISP	7	147	
G02 F+	Max P					(3a) HOOP	0	71	
	Max P	0	0		1.00 1.00	(18) SUST	0	71	
	Cold to T1	9	6	60	1.00 1.00	(17) DISP	7	147	

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ASME B31.3b (2001) CODE COMPLIANCE									
		(Moments in Nm)			(Stress in N/mm2)				
Point name	Load combination	In-Pl. Moment	Out-Pl. Moment	Torsion Moment	S.I.F In	S.I.F Out	Eq. Load no. type	Code Stress	Code Allow.
G03 N-	Max P						(3a) HOOP	0	71
	Max P	0	0		1.00	1.00	(18) SUST	0	71
	Cold to T1	12	4	60	1.00	1.00	(17) DISP	7	147
G03 N+	Max P						(3a) HOOP	0	71
	Max P	0	0		1.74	1.45	(18) SUST	0	71
	Cold to T1	12	4	60	1.74	1.45	(17) DISP	7	147
G03 F-	Max P						(3a) HOOP	0	71
	Max P	0	0		1.74	1.45	(18) SUST	0	71
	Cold to T1	15	58	3	1.74	1.45	(17) DISP	10	147
G03 F+	Max P						(3a) HOOP	0	71
	Max P	0	0		1.00	1.00	(18) SUST	0	71
	Cold to T1	15	58	3	1.00	1.00	(17) DISP	7	147
G04	Max P						(3a) HOOP	0	71
	Max P	0	0		1.00	1.00	(18) SUST	0	71
	Cold to T1	10	44	3	1.00	1.00	(17) DISP	5	147
G05	Max P						(3a) HOOP	0	71
	Max P	0	0		1.00	1.00	(18) SUST	0	71
	Cold to T1	2	25	3	1.00	1.00	(17) DISP	3	147
G06 N-	Max P						(3a) HOOP	0	71
	Max P	0	0		1.00	1.00	(18) SUST	0	71
	Cold to T1	4	9	3	1.00	1.00	(17) DISP	1	147
G06 N+	Max P						(3a) HOOP	0	71
	Max P	0	0		1.74	1.45	(18) SUST	0	71
	Cold to T1	9	4	3	1.74	1.45	(17) DISP	2	147
G06 F-	Max P						(3a) HOOP	0	71
	Max P	0	0		1.74	1.45	(18) SUST	0	71
	Cold to T1	4	2	5	1.74	1.45	(17) DISP	1	147
G06 F+	Max P						(3a) HOOP	0	71
	Max P	0	0		1.00	1.00	(18) SUST	0	71
	Cold to T1	2	4	5	1.00	1.00	(17) DISP	1	147
G07 N-	Max P						(3a) HOOP	0	71
	Max P	0	0		1.00	1.00	(18) SUST	0	71
	Cold to T1	1	11	5	1.00	1.00	(17) DISP	1	147
G07 N+	Max P						(3a) HOOP	0	71
	Max P	0	0		1.74	1.45	(18) SUST	0	71
	Cold to T1	11	1	5	1.74	1.45	(17) DISP	2	147
G07 F-	Max P						(3a) HOOP	0	71
	Max P	0	0		1.74	1.45	(18) SUST	0	71
	Cold to T1	12	4	2	1.74	1.45	(17) DISP	2	147

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ASME B31.3b (2001) CODE COMPLIANCE									
		(Moments in Nm)			(Stress in N/mm2)				
Point name	Load combination	In-Pl. Moment	Out-Pl. Moment	Torsion Moment	S.I.F In	S.I.F Out	Eq. Load no. type	Code Stress	Code Allow.
G07 F+	Max P						(3a) HOOP	0	71
	Max P	0	0		1.00	1.00	(18) SUST	0	71
	Cold to T1	4	12	2	1.00	1.00	(17) DISP	1	147
G08 N-	Max P						(3a) HOOP	0	71
	Max P	0	0		1.00	1.00	(18) SUST	0	71
	Cold to T1	8	17	2	1.00	1.00	(17) DISP	2	147
G08 N+	Max P						(3a) HOOP	0	71
	Max P	0	0		1.74	1.45	(18) SUST	0	71
	Cold to T1	8	17	2	1.74	1.45	(17) DISP	3	147
G08 F-	Max P						(3a) HOOP	0	71
	Max P	0	0		1.74	1.45	(18) SUST	0	71
	Cold to T1	12	3	19	1.74	1.45	(17) DISP	3	147
G08 F+	Max P						(3a) HOOP	0	71
	Max P	0	0		1.00	1.00	(18) SUST	0	71
	Cold to T1	12	3	19	1.00	1.00	(17) DISP	2	147
F01 -	Max P						(3a) HOOP	0	71
	Max P	0	0		1.44	1.58	(18) SUST	0	71
	Cold to T1	9	22	19	1.44	1.58	(17) DISP	5	147
F01 +	Max P						(3a) HOOP	0	71
	Max P	0	0		1.44	1.58	(18) SUST	0	71
	Cold to T1	9	22	19	1.44	1.58	(17) DISP	5	147
G10 N-	Max P						(3a) HOOP	0	71
	Max P	0	0		1.00	1.00	(18) SUST	0	71
	Cold to T1	24	10	19	1.00	1.00	(17) DISP	4	147
G10 N+	Max P						(3a) HOOP	0	71
	Max P	0	0		1.74	1.45	(18) SUST	0	71
	Cold to T1	10	24	19	1.74	1.45	(17) DISP	5	147
G10 F-	Max P						(3a) HOOP	0	71
	Max P	0	0		1.74	1.45	(18) SUST	0	71
	Cold to T1	13	16	28	1.74	1.45	(17) DISP	5	147
G10 F+	Max P						(3a) HOOP	0	71
	Max P	0	0		1.00	1.00	(18) SUST	0	71
	Cold to T1	13	16	28	1.00	1.00	(17) DISP	4	147
D01	Max P						(3a) HOOP	0	71
	Max P	0	0		1.00	1.00	(18) SUST	0	71
	Cold to T1	14	10	28	1.00	1.00	(17) DISP	4	147

*** Segment G end *** Line #

*** Segment H begin *** Line #

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ASME B31.3b (2001) CODE COMPLIANCE									
Point name	Load combination	(Moments in Nm)			(Stress in N/mm2)			Code Stress	Code Allow.
		In-Pl. Moment	Out-Pl. Moment	Torsion Moment	S.I.F In Out	Eq. Load no. type			
H00	Max P					(3a) HOOP		0	71
	Max P	0	0		1.00 1.00	(18) SUST		0	71
	Cold to T1	0	0	0	1.00 1.00	(17) DISP		0	147
H01	Max P					(3a) HOOP		0	71
	Max P	0	0		1.44 1.58	(18) SUST		0	71
	Cold to T1	0	0	0	1.44 1.58	(17) DISP		0	147
*** Segment H end *** Line #									
*** Segment I begin *** Line #									
I00	Max P					(3a) HOOP		0	71
	Max P	0	0		1.00 1.00	(18) SUST		0	71
	Cold to T1	7	6	18	1.00 1.00	(17) DISP		2	147
I01	Max P					(3a) HOOP		0	71
	Max P	0	0		1.00 1.00	(18) SUST		0	71
	Cold to T1	10	7	18	1.00 1.00	(17) DISP		2	147
I02 N	Max P					(3a) HOOP		0	71
	Max P	0	0		1.75 1.45	(18) SUST		0	71
	Cold to T1	11	13	18	1.75 1.45	(17) DISP		3	147
I02 F-	Max P					(3a) HOOP		0	71
	Max P	0	0		1.75 1.45	(18) SUST		0	71
	Cold to T1	10	15	16	1.75 1.45	(17) DISP		3	147
I02 F+	Max P					(3a) HOOP		0	71
	Max P	0	0		1.00 1.00	(18) SUST		0	71
	Cold to T1	15	10	16	1.00 1.00	(17) DISP		3	147
I03 N-	Max P					(3a) HOOP		0	71
	Max P	0	0		1.00 1.00	(18) SUST		0	71
	Cold to T1	14	5	16	1.00 1.00	(17) DISP		2	147
I03 N+	Max P					(3a) HOOP		0	71
	Max P	0	0		1.74 1.45	(18) SUST		0	71
	Cold to T1	14	5	16	1.74 1.45	(17) DISP		3	147
I03 F-	Max P					(3a) HOOP		0	71
	Max P	0	0		1.74 1.45	(18) SUST		0	71
	Cold to T1	16	14	7	1.74 1.45	(17) DISP		4	147
I03 F+	Max P					(3a) HOOP		0	71
	Max P	0	0		1.00 1.00	(18) SUST		0	71
	Cold to T1	16	14	7	1.00 1.00	(17) DISP		2	147
I04 N-	Max P					(3a) HOOP		0	71
	Max P	0	0		1.00 1.00	(18) SUST		0	71
	Cold to T1	3	36	7	1.00 1.00	(17) DISP		4	147

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ASME B31.3b (2001) CODE COMPLIANCE									
Point name	Load combination	(Moments in Nm)			(Stress in N/mm2)			Code Stress	Code Allow.
		In-Pl. Moment	Out-Pl. Moment	Torsion Moment	S.I.F In Out	Eq. Load no. type			
I04 N+	Max P					(3a) HOOP		0	71
	Max P	0	0		1.74 1.45	(18) SUST		0	71
	Cold to T1	36	3	7	1.74 1.45	(17) DISP		7	147
I04 F-	Max P					(3a) HOOP		0	71
	Max P	0	0		1.74 1.45	(18) SUST		0	71
	Cold to T1	36	2	7	1.74 1.45	(17) DISP		7	147
I04 F+	Max P					(3a) HOOP		0	71
	Max P	0	0		1.00 1.00	(18) SUST		0	71
	Cold to T1	2	36	7	1.00 1.00	(17) DISP		4	147
I05 N-	Max P					(3a) HOOP		0	71
	Max P	0	0		1.00 1.00	(18) SUST		0	71
	Cold to T1	6	23	7	1.00 1.00	(17) DISP		3	147
I05 N+	Max P					(3a) HOOP		0	71
	Max P	0	0		1.75 1.46	(18) SUST		0	71
	Cold to T1	23	6	7	1.75 1.46	(17) DISP		5	147
I05 F-	Max P					(3a) HOOP		0	71
	Max P	0	0		1.75 1.46	(18) SUST		0	71
	Cold to T1	21	0	10	1.75 1.46	(17) DISP		4	147
I05 F+	Max P					(3a) HOOP		0	71
	Max P	0	0		1.00 1.00	(18) SUST		0	71
	Cold to T1	0	21	10	1.00 1.00	(17) DISP		3	147
I06 N-	Max P					(3a) HOOP		0	71
	Max P	0	0		1.00 1.00	(18) SUST		0	71
	Cold to T1	15	56	10	1.00 1.00	(17) DISP		6	147
I06 N+	Max P					(3a) HOOP		0	71
	Max P	0	0		1.75 1.45	(18) SUST		0	71
	Cold to T1	56	15	10	1.75 1.45	(17) DISP		11	147
I06 F-	Max P					(3a) HOOP		0	71
	Max P	0	0		1.75 1.45	(18) SUST		0	71
	Cold to T1	58	10	16	1.75 1.45	(17) DISP		11	147
I06 F+	Max P					(3a) HOOP		0	71
	Max P	0	0		1.00 1.00	(18) SUST		0	71
	Cold to T1	10	58	16	1.00 1.00	(17) DISP		7	147
I07 N-	Max P					(3a) HOOP		0	71
	Max P	0	0		1.00 1.00	(18) SUST		0	71
	Cold to T1	42	23	16	1.00 1.00	(17) DISP		5	147
I07 N+	Max P					(3a) HOOP		0	71
	Max P	0	0		1.75 1.45	(18) SUST		0	71
	Cold to T1	42	23	16	1.75 1.45	(17) DISP		9	147

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ASME B31.3b (2001) CODE COMPLIANCE									
Point name	Load combination	(Moments in Nm)			(Stress in N/mm2)			Code Stress	Code Allow.
		In-Pl. Moment	Out-Pl. Moment	Torsion Moment	S.I.F In Out	Eq. Load no. type			
I07 F-	Max P					(3a) HOOP		0	71
	Max P	0	0		1.75 1.45	(18) SUST		0	71
	Cold to T1	39	14	25	1.75 1.45	(17) DISP		8	147
I07 F+	Max P					(3a) HOOP		0	71
	Max P	0	0		1.00 1.00	(18) SUST		0	71
	Cold to T1	39	14	25	1.00 1.00	(17) DISP		5	147
H01 -	Max P					(3a) HOOP		0	71
	Max P	0	0		1.44 1.58	(18) SUST		0	71
	Cold to T1	1	7	25	1.44 1.58	(17) DISP		3	147
H01 +	Max P					(3a) HOOP		0	71
	Max P	0	0		1.44 1.58	(18) SUST		0	71
	Cold to T1	1	7	25	1.44 1.58	(17) DISP		3	147
I09 N-	Max P					(3a) HOOP		0	71
	Max P	0	0		1.00 1.00	(18) SUST		0	71
	Cold to T1	5	9	25	1.00 1.00	(17) DISP		3	147
I09 N+	Max P					(3a) HOOP		0	71
	Max P	0	0		1.75 1.45	(18) SUST		0	71
	Cold to T1	9	5	25	1.75 1.45	(17) DISP		3	147
I09 F-	Max P					(3a) HOOP		0	71
	Max P	0	0		1.75 1.45	(18) SUST		0	71
	Cold to T1	11	28	8	1.75 1.45	(17) DISP		5	147
I09 F+	Max P					(3a) HOOP		0	71
	Max P	0	0		1.00 1.00	(18) SUST		0	71
	Cold to T1	11	28	8	1.00 1.00	(17) DISP		3	147
I10 N-	Max P					(3a) HOOP		0	71
	Max P	0	0		1.00 1.00	(18) SUST		0	71
	Cold to T1	13	35	8	1.00 1.00	(17) DISP		4	147
I10 N+	Max P					(3a) HOOP		0	71
	Max P	0	0		1.74 1.45	(18) SUST		0	71
	Cold to T1	13	35	8	1.74 1.45	(17) DISP		6	147
I10 F-	Max P					(3a) HOOP		0	71
	Max P	0	0		1.74 1.45	(18) SUST		0	71
	Cold to T1	15	20	34	1.74 1.45	(17) DISP		6	147
I10 F+	Max P					(3a) HOOP		0	71
	Max P	0	0		1.00 1.00	(18) SUST		0	71
	Cold to T1	15	20	34	1.00 1.00	(17) DISP		5	147
I11	Max P					(3a) HOOP		0	71
	Max P	0	0		1.00 1.00	(18) SUST		0	71
	Cold to T1	15	20	34	1.00 1.00	(17) DISP		5	147

ASME B31.3b (2001) CODE COMPLIANCE										
Point name	Load combination	(Moments in Nm)			S.I.F		(Stress in N/mm2)		Code Stress	Code Allow.
		In-Pl. Moment	Out-Pl. Moment	Torsion Moment	In	Out	Eq. Load no.	Load type		
I13	Max P						(3a)	HOOP	0	71
	Max P	0	0		1.00	1.00	(18)	SUST	0	71
	Cold to T1	18	28	26	1.00	1.00	(17)	DISP	5	147
I14 -	Max P						(3a)	HOOP	0	71
	Max P	0	0		1.44	1.58	(18)	SUST	0	71
	Cold to T1	25	17	26	1.44	1.58	(17)	DISP	6	147
I14 +	Max P						(3a)	HOOP	0	71
	Max P	0	0		1.44	1.58	(18)	SUST	0	71
	Cold to T1	25	17	26	1.44	1.58	(17)	DISP	6	147
I15 N-	Max P						(3a)	HOOP	0	71
	Max P	0	0		1.00	1.00	(18)	SUST	0	71
	Cold to T1	16	10	26	1.00	1.00	(17)	DISP	4	147
I15 N+	Max P						(3a)	HOOP	0	71
	Max P	0	0		1.75	1.45	(18)	SUST	0	71
	Cold to T1	10	16	26	1.75	1.45	(17)	DISP	4	147
I15 F-	Max P						(3a)	HOOP	0	71
	Max P	0	0		1.75	1.45	(18)	SUST	0	71
	Cold to T1	9	26	16	1.75	1.45	(17)	DISP	5	147
I15 F+	Max P						(3a)	HOOP	0	71
	Max P	0	0		1.00	1.00	(18)	SUST	0	71
	Cold to T1	23	15	16	1.00	1.00	(17)	DISP	3	147
G00	Max P						(3a)	HOOP	0	71
	Max P	0	0		1.00	1.00	(18)	SUST	0	71
	Cold to T1	11	44	16	1.00	1.00	(17)	DISP	5	147
*** Segment I end *** Line #										
*** Segment J begin *** Line #										
I14	Max P						(3a)	HOOP	0	71
	Max P	0	0		1.44	1.58	(18)	SUST	0	71
	Cold to T1	0	0	0	1.44	1.58	(17)	DISP	0	147
J01	Max P						(3a)	HOOP	0	71
	Max P	0	0		1.00	1.00	(18)	SUST	0	71
	Cold to T1	0	0	0	1.00	1.00	(17)	DISP	0	147
*** Segment J end *** Line #										

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SYSTEM SUMMARY

Maximum displacements (mm)

Maximum X :	26.198	Point : A36 F	Load Comb.: T1
Maximum Y :	-25.759	Point : A22 N	Load Comb.: T1
Maximum Z :	-232.132	Point : A04 N	Load Comb.: T1
Max. total:	232.216	Point : A04 N	Load Comb.: T1

Maximum rotations (deg)

Maximum X :	0.249	Point : H00	Load Comb.: T1
Maximum Y :	-0.469	Point : H00	Load Comb.: T1
Maximum Z :	-0.331	Point : G01 F	Load Comb.: T1
Max. total:	0.545	Point : H00	Load Comb.: T1

Maximum restraint forces (N)

Maximum X :	43	Point : I00	Load Comb.: T1
Maximum Y :	-24	Point : C00	Load Comb.: T1
Maximum Z :	103	Point : A00	Load Comb.: T1
Max. total:	104	Point : C00	Load Comb.: T1

Maximum restraint moments (Nm)

Maximum X :	73	Point : C00	Load Comb.: T1
Maximum Y :	-578	Point : C00	Load Comb.: T1
Maximum Z :	34	Point : C00	Load Comb.: T1
Max. total:	583	Point : C00	Load Comb.: T1

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S Y S T E M S U M M A R Y

Maximum pipe forces (N)

Maximum X :	-43	Point : I04 N	Load Comb.: T1
Maximum Y :	24	Point : C00	Load Comb.: T1
Maximum Z :	-103	Point : A07 N	Load Comb.: T1
Max. total:	104	Point : C00	Load Comb.: T1

Maximum pipe moments (Nm)

Maximum X :	-213	Point : A25 N	Load Comb.: T1
Maximum Y :	578	Point : C00	Load Comb.: T1
Maximum Z :	-60	Point : G02 F	Load Comb.: T1
Max. total:	586	Point : C01 N	Load Comb.: T1

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S Y S T E M S U M M A R Y

Maximum displacement stress

Point : G01 N
Stress N/mm2 : 11
Allowable N/mm2 : 147
Ratio : 0.08
Load combination : Cold to T1

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S Y S T E M S U M M A R Y

Maximum displacement stress ratio

Point : G01 N
Stress N/mm2 : 11
Allowable N/mm2 : 147
Ratio : 0.08
Load combination : Cold to T1

* * * The system satisfies ASME B31.3 code requirements * * *
* * * for the selected options * * *