

Bonded system - 80-90° L-bends with foam pads

calculation according to Design Manual chapter 4.5

LOGSTOR

Conditions

Flow temperature, T _f	135	°C
Installation temperature, T _{ins}	10	°C
Soil cover, H	1.2	m

Insulation class **Series 1**

Steel material properties

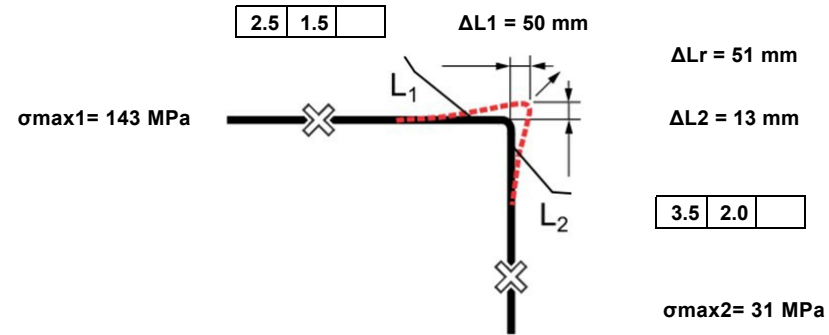
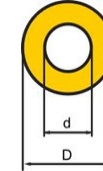
Expansion coefficient, α	0.0000124	°K ⁻¹
Modulus of elasticity	206,286	MPa

Soil parameters

Soil density, ρ	19	kN/m ³
Soil friction angle, ϕ	32.5	°
Friction coefficient, μ	0.40	

Example

Nominal size	DN 100		Dist. to anchor point, L ₁	41
Steel pipe diameter, d	114.3	mm	Dist. to anchor point, L ₂	9
Wall thickness, s	3.6	mm		
Jacket pipe diameter D	200	mm		



Multiple calculations

Input				Output													
Node no.	L1	L2	Nominal size	d	D	ΔL1	F1 min	Foam pads for ΔL1			ΔL2	F2 min	Foam pads for ΔL2			ΔLr mm	Number of layers
	m	m		mm	mm	mm	m	1	2	3	mm	m	1	2	3	mm	
1	41	9	DN 100	114.3	200	50	3.5	3.5	2.0		13	2.5	2.5	1.5		51	2
2			DN 65	76.1	140	14	2.3	2.5	1.5		50	3.0	3.0	1.5		52	2
3			DN 65	76.1	140	14	2.3	2.5	1.5		50	3.0	3.0	1.5		52	2
4			DN 65	76.1	140	14	2.3	2.5	1.5		50	3.0	3.0	1.5		52	2
5			DN 65	76.1	140	14	2.3	2.5	1.5		50	3.0	3.0	1.5		52	2
6			DN 65	76.1	140	14	2.3	2.5	1.5		50	3.0	3.0	1.5		52	2
7			DN 65	76.1	140	14	2.3	2.5	1.5		50	3.0	3.0	1.5		52	2
8			DN 65	76.1	140	14	2.3	2.5	1.5		50	3.0	3.0	1.5		52	2
9			DN 65	76.1	140	14	2.3	2.5	1.5		50	3.0	3.0	1.5		52	2
10			DN 65	76.1	140	14	2.3	2.5	1.5		50	3.0	3.0	1.5		52	2

See LOGSTOR Design Manual:

<https://www.logstor.com/documentation>