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Section Analysis

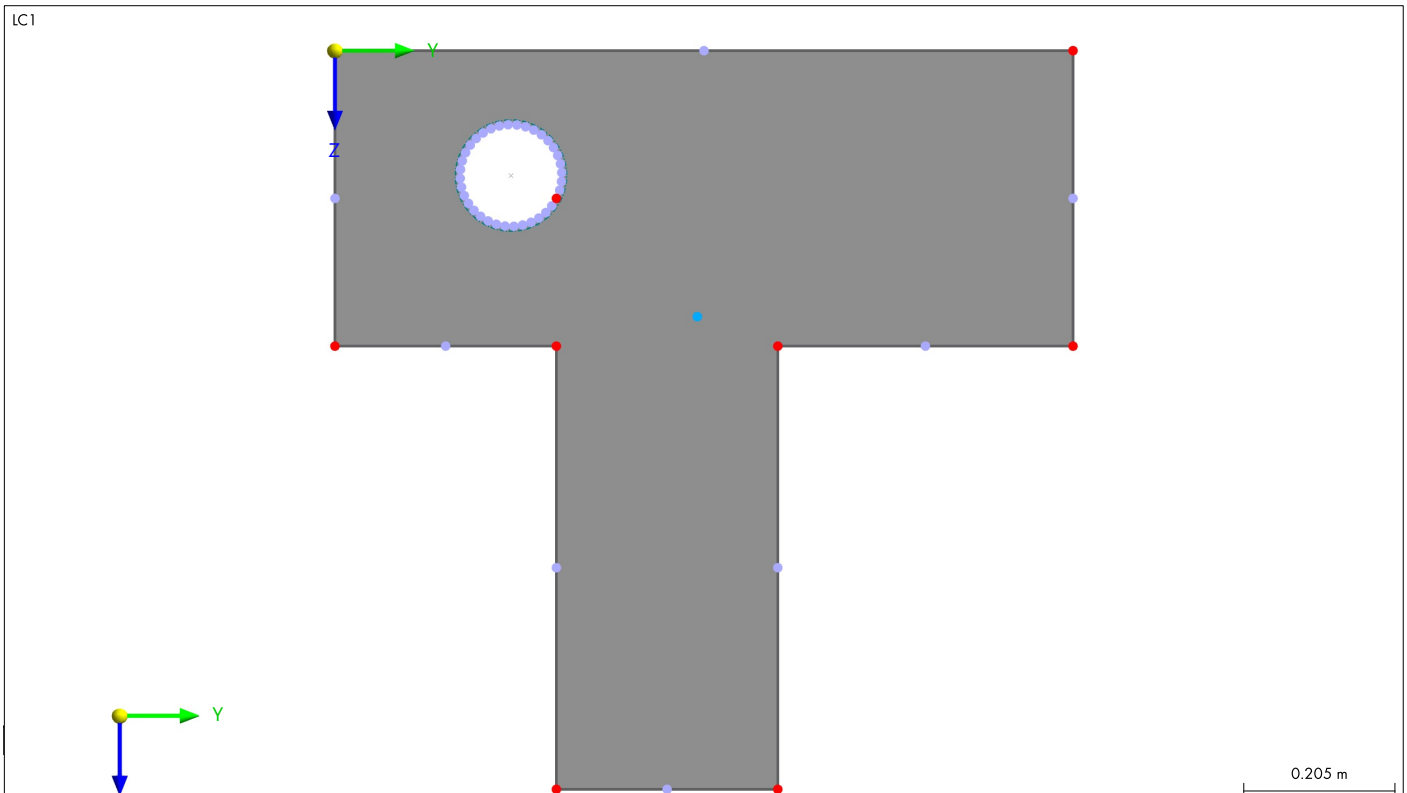
CLIENT

CREATED BY

PROJECT

Chapters

MODEL



CONTENTS

1 Basic Objects

1.1 MATERIALS

Material No.		Properties Name	Symbol	Value	Unit
2	C20/25 | Isotropic | Linear Elastic				
	Concrete	Modulus of elasticity	E	30000.0	N/mm²
		Shear modulus	G	12500.0	N/mm²
		Poisson's ratio	ν	0.200	–
		Specific weight	γ	25.00	kN/m³
		Mass density	ρ	2500.00	kg/m³
		Coefficient of thermal expansion	α	0.000010	1/°C

1.2 POINTS

Legend
Generated

Point No.	Point Type	Reference Point	Coordinate Type	Coordinates Y [mm]	Coordinates Z [mm]	Options	Comment
1	Standard	–	Cartesian	0.0	0.0		
2	Standard	–	Cartesian	0.0	400.0		
3	Standard	–	Cartesian	300.0	400.0		
4	Standard	–	Cartesian	300.0	1000.0		
5	Standard	–	Cartesian	600.0	1000.0		
6	Standard	–	Cartesian	600.0	400.0		
7	Standard	–	Cartesian	1000.0	400.0		
8	Standard	–	Cartesian	1000.0	0.0		
10	Standard	–	Cartesian	300.0	200.0	🔒	

1.3 LINES

Legend
Points on Line

Line No.	Points No.	Line Type	Line Length L [mm]	Options	Comment
1	1-8,1	Polyline	4000.0		
2	10	Circle	432.6		

1.4 PARTS

Legend
Integrated Objects

Part No.	Boundary Lines No.	Geometry Type	Material No.	Integrated Openings No.	Area A [cm²]	Mass M [kg/m]	Center of Gravity Y_C [mm]	Center of Gravity Z_C [mm]	Options
1	1	Boundary lines	2	1	5651.08	1412.8	491.0	360.1	

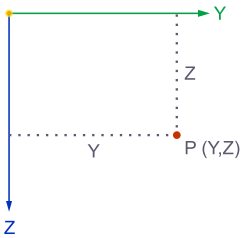
1.5 OPENINGS

Opening No.	Boundary Lines	Parts No.	Area A [cm²]	Center of Opening Y_C [mm]	Center of Opening Z_C [mm]	Comment
1	2	1	148.92	238.5	169.0	

1.6 STRESS POINTS

Legend
Generated
On Line

Cartesian



SP No.	Point Type	Reference SP	Reference Line/Element	Coordinate Type	Coordinates Y [mm]	Coordinates Z [mm]	Part No.	Element No.	Options
1	Standard	–		Cartesian	0.0	0.0	1	–	
2	On Line		1	Cartesian	500.0	0.0	1	–	
3	On Line		1	Cartesian	1000.0	0.0	1	–	
4	On Line		2	Cartesian	234.6	100.3	1	–	
5	On Line		2	Cartesian	246.6	100.7	1	–	
6	On Line		2	Cartesian	222.7	102.0	1	–	
7	On Line		2	Cartesian	258.3	103.1	1	–	
8	On Line		2	Cartesian	211.3	105.8	1	–	
9	On Line		2	Cartesian	269.5	107.5	1	–	
10	On Line		2	Cartesian	200.8	111.5	1	–	
11	On Line		2	Cartesian	279.7	113.9	1	–	
12	On Line		2	Cartesian	191.3	118.9	1	–	
13	On Line		2	Cartesian	288.6	121.8	1	–	
14	On Line		2	Cartesian	183.3	127.8	1	–	
15	On Line		2	Cartesian	296.1	131.3	1	–	
16	On Line		2	Cartesian	177.0	138.0	1	–	
17	On Line		2	Cartesian	301.8	141.8	1	–	
18	On Line		2	Cartesian	172.6	149.2	1	–	
19	On Line		2	Cartesian	305.5	153.2	1	–	
20	On Line		2	Cartesian	170.1	160.9	1	–	
21	On Line		2	Cartesian	307.2	165.1	1	–	
22	On Line		2	Cartesian	169.8	172.9	1	–	
23	On Line		2	Cartesian	306.9	177.1	1	–	

1.6 STRESS POINTS

SP No.	Point Type	Reference SP	Reference Line/Element	Coordinate Type	Coordinates Y [mm]	Coordinates Z [mm]	Part No.	Element No.	Options
24	On Line		2	Cartesian	171.5	184.8	1	--	
25	On Line		2	Cartesian	304.4	188.9	1	--	
26	On Line		2	Cartesian	175.3	196.2	1	--	
27	On Line		1	Cartesian	0.0	200.0	1	--	
28	On Line		2	Cartesian	300.0	200.0	1	--	
29	On Line		1	Cartesian	1000.0	200.0	1	--	
30	On Line		2	Cartesian	180.9	206.8	1	--	
31	On Line		2	Cartesian	293.7	210.2	1	--	
32	On Line		2	Cartesian	188.4	216.2	1	--	
33	On Line		2	Cartesian	285.7	219.2	1	--	
34	On Line		2	Cartesian	197.3	224.2	1	--	
35	On Line		2	Cartesian	276.3	226.6	1	--	
36	On Line		2	Cartesian	207.5	230.5	1	--	
37	On Line		2	Cartesian	265.7	232.3	1	--	
38	On Line		2	Cartesian	218.7	235.0	1	--	
39	On Line		2	Cartesian	254.3	236.0	1	--	
40	On Line		2	Cartesian	230.4	237.4	1	--	
41	On Line		2	Cartesian	242.4	237.8	1	--	
42	Standard	--		Cartesian	491.0	360.1	1	--	
43	On Line		1	Cartesian	0.0	400.0	1	--	
44	On Line		1	Cartesian	150.0	400.0	1	--	
45	On Line		1	Cartesian	300.0	400.0	1	--	
46	On Line		1	Cartesian	600.0	400.0	1	--	
47	On Line		1	Cartesian	800.0	400.0	1	--	
48	On Line		1	Cartesian	1000.0	400.0	1	--	
49	On Line		1	Cartesian	300.0	700.0	1	--	
50	On Line		1	Cartesian	600.0	700.0	1	--	
51	On Line		1	Cartesian	300.0	1000.0	1	--	
52	On Line		1	Cartesian	450.0	1000.0	1	--	
53	On Line		1	Cartesian	600.0	1000.0	1	--	

2 Load Cases & Combinations

2.1 LOAD CASES

LC No.	Action Category	To Solve
1	G Permanent	☒

3 Internal Forces

3.1.1.1 INTERNAL FORCES

LC1: G

Force No.	Description	Symbol	Value	Unit
1	Load Case		G LC1	
	Member No.		1	
	System of Internal Forces		y,z	
	Location x	x	0.000	m
	Axial Force N	N	10.000	kN
	Shear Force V_y	V_y	20.000	kN
	Shear Force V_z	V_z	30.000	kN
	Shear Force V_u	V_u	30.251	kN
	Shear Force V_v	V_v	19.619	kN
	Torsional Moment M_{xp}	M_{xp}	1.00	kNm
	Torsional Moment M_{xs}	M_{xs}	2.00	kNm
	Sum of Torsional Moments	M_t	3.00	kNm
	Bending Moment M_y	M_y	15.00	kNm
	Bending Moment M_z	M_z	50.00	kNm
	Bending Moment M_u	M_u	33.59	kNm
	Bending Moment M_v	M_v	39.96	kNm
	Bimoment M_ω	M_ω	10.00	kNm²

4 Stresses

4.1 STRESS CONFIGURATION

	Enabled	Stress Type	Limit Stress	User-Defined Limit Stress [N/mm²]
	☐	σ_x (N)	Limit Normal Stress	
	☐	σ_x (N_c)	Limit Normal Stress	
	☐	σ_x (N_t)	Limit Normal Stress	
	☐	σ_x (M_y)	Limit Normal Stress	
	☐	σ_x ($M_{y,c}$)	Limit Normal Stress	
	☐	σ_x ($M_{y,t}$)	Limit Normal Stress	
	☐	σ_x (M_z)	Limit Normal Stress	
	☐	σ_x ($M_{z,c}$)	Limit Normal Stress	
	☐	σ_x ($M_{z,t}$)	Limit Normal Stress	
	☐	σ_x (M_u)	Limit Normal Stress	
	☐	σ_x ($M_{u,c}$)	Limit Normal Stress	
	☐	σ_x ($M_{u,t}$)	Limit Normal Stress	
	☐	σ_x (M_v)	Limit Normal Stress	
	☐	σ_x ($M_{v,c}$)	Limit Normal Stress	
	☐	σ_x ($M_{v,t}$)	Limit Normal Stress	
	☐	σ_x (p_l)	Limit Normal Stress	
	☐	σ_x (M_ω)	Limit Normal Stress	
	☐	σ_x (N + M_y)	Limit Normal Stress	
	☐	σ_x (N_c + $M_{y,c}$)	Limit Normal Stress	
	☐	σ_x (N_t + $M_{y,t}$)	Limit Normal Stress	
	☐	σ_x (N + M_z)	Limit Normal Stress	
	☐	σ_x (N_c + $M_{z,c}$)	Limit Normal Stress	
	☐	σ_x (N_t + $M_{z,t}$)	Limit Normal Stress	
	☐	σ_x (N + M_u)	Limit Normal Stress	
	☐	σ_x (N_c + $M_{u,c}$)	Limit Normal Stress	
	☐	σ_x (N_t + $M_{u,t}$)	Limit Normal Stress	
	☐	σ_x (N + M_v)	Limit Normal Stress	
	☐	σ_x (N_c + $M_{v,c}$)	Limit Normal Stress	
	☐	σ_x (N_t + $M_{v,t}$)	Limit Normal Stress	
	☐	σ_x (M_y + M_z)	Limit Normal Stress	
	☐	σ_x ($M_{y,c}$ + $M_{z,c}$)	Limit Normal Stress	
	☐	σ_x ($M_{y,t}$ + $M_{z,t}$)	Limit Normal Stress	
	☐	σ_x (M_u + M_v)	Limit Normal Stress	
	☐	σ_x ($M_{u,c}$ + $M_{v,c}$)	Limit Normal Stress	
	☐	σ_x ($M_{u,t}$ + $M_{v,t}$)	Limit Normal Stress	
	☐	σ_x (N + M_y + M_z)	Limit Normal Stress	
	☐	σ_x (N_c + $M_{y,c}$ + $M_{z,c}$)	Limit Normal Stress	
	☐	σ_x (N_t + $M_{y,t}$ + $M_{z,t}$)	Limit Normal Stress	
	☐	σ_x (N + M_u + M_v)	Limit Normal Stress	
	☐	σ_x (N_c + $M_{u,c}$ + $M_{v,c}$)	Limit Normal Stress	
	☐	σ_x (N_t + $M_{u,t}$ + $M_{v,t}$)	Limit Normal Stress	
	☒	$\sigma_{x,tot}$	Limit Normal Stress	
	☐	σ_t (p_l)	Limit Normal Stress	
	☐	τ (V_y)	Limit Shear Stress	
	☐	τ (V_z)	Limit Shear Stress	
	☐	τ (V_u)	Limit Shear Stress	
	☐	τ (V_v)	Limit Shear Stress	
	☐	$\tau_{St.Venant}$ (M_T)	Limit Shear Stress	
	☐	τ_{Bredt} (M_T)	Limit Shear Stress	
	☐	τ ($M_{T,pri}$)	Limit Shear Stress	
	☐	τ ($M_{T,sec}$)	Limit Shear Stress	
	☐	τ (M_T)	Limit Shear Stress	
	☐	τ (V_y + V_z)	Limit Shear Stress	
	☐	τ (V_u + V_v)	Limit Shear Stress	
	☐	τ (V_y + V_z + M_T)	Limit Shear Stress	
	☐	τ (V_u + V_v + M_T)	Limit Shear Stress	
	☒	τ_{tot}	Limit Shear Stress	
	☒	$\sigma_{eqv,von\ Mises}$	Limit Equivalent Stress	
	☐	$\sigma_{eqv,von\ Mises,mod}$	Limit Equivalent Stress	
	☐	$\sigma_{eqv,Tresca}$	Limit Equivalent Stress	
	☐	$\sigma_{eqv,Rankine}$	Limit Equivalent Stress	

4.2 STRESS CALCULATION SETTINGS

	Description	Symbol	Value	Unit
	Modify von Mises equivalent stress			
	Factor for σ_x	$k_{\sigma,x}$	1.00	–
	Factor for τ	k_τ	3.00	–

5 Results

5.1 SECTION PROPERTIES

Finite Element Analysis

	Description	Symbol	Value	Unit	Comment
	Sectional Area				
	Sectional area	A	5651.27	cm^2	
	Geometric sectional area	A_{geom}	5651.27	cm^2	
	Bending				
	Location of centroidal axis in y-direction	e_y	491.0	mm	relative to zero point
	Location of centroidal axis in z-direction	e_z	360.1	mm	relative to zero point
	Area moment of inertia about y-axis	I_y	4122056.90	cm^4	
	Area moment of inertia about z-axis	I_z	3405330.75	cm^4	
	Product of inertia about y,z-axes	I_{yz}	-380234.15	cm^4	
	Area moment of inertia about u-axis	I_u	4286239.97	cm^4	
	Area moment of inertia about v-axis	I_v	3241147.66	cm^4	
	Polar area moment of inertia	I_p	7527387.65	cm^4	
	Polar area moment of inertia with respect to shear center	$I_{p,SC}$	8275543.96	cm^4	
	Inclination of principal axes	α	23.35	deg	
	Radius of gyration about y-axis	i_y	270.1	mm	
	Radius of gyration about z-axis	i_z	245.5	mm	
	Radius of gyration about y,z-axes	i_{yz}	82.0	mm	
	Radius of gyration about u-axis	i_u	275.4	mm	
	Radius of gyration about v-axis	i_v	239.5	mm	
	Polar radius of gyration	i_p	365.0	mm	
	Polar radius of gyration with respect to shear center	$i_{p,SC}$	382.7	mm	
	Elastic section modulus about y-axis	$W_{y,min}$	-98330.98	cm^3	
	Elastic section modulus about y-axis	$W_{y,max}$	62561.63	cm^3	
	Elastic section modulus about z-axis	$W_{z,min}$	-64295.65	cm^3	
	Elastic section modulus about z-axis	$W_{z,max}$	65730.57	cm^3	
	Elastic section modulus about u-axis	$W_{u,min}$	-80518.66	cm^3	
	Elastic section modulus about u-axis	$W_{u,max}$	64629.04	cm^3	
	Elastic section modulus about v-axis	$W_{v,min}$	-54614.82	cm^3	
	Elastic section modulus about v-axis	$W_{v,max}$	67078.83	cm^3	
	Elastic section modulus about y-axis	W_y	62561.63	cm^3	
	Elastic section modulus about z-axis	W_z	64295.65	cm^3	
	Elastic section modulus about u-axis	W_u	64629.04	cm^3	
	Elastic section modulus about v-axis	W_v	54614.82	cm^3	
	Shear				
	Shear area in y-direction	A_y	3562.24	cm^2	
	Shear area in z-direction	A_z	2950.01	cm^2	
	Shear area in u-direction	A_u	3495.62	cm^2	
	Shear area in v-direction	A_v	3016.64	cm^2	
	Shear center coordinate with respect to centroid in y-direction	y_{SC}	-33.5	mm	
	Shear center coordinate with respect to centroid in z-direction	z_{SC}	-110.1	mm	
	Shear center coordinate with respect to centroid in u-direction	u_{SC}	-74.4	mm	
	Shear center coordinate with respect to centroid in v-direction	v_{SC}	-87.8	mm	
	Torsion				
	Torsional constant	I_t	2392146.44	cm^4	
	Section modulus for torsion	W_t	22671.49	cm^3	
	Warping				
	Warping ordinate with respect to shear center	max ω	957.24	cm^2	
	Warping constant with respect to shear center	I_ω	4.77e+08	cm^6	
	Warping radius of gyration with respect to shear center	i_ω	75.9	mm	
	Warping section modulus with respect to shear center	W_ω	497916.29	cm^4	
	Stability				
	Section asymmetry parameter with respect to centroid	r_y	96.0	mm	
	Section asymmetry parameter with respect to centroid	r_z	10.2	mm	
	Section asymmetry parameter with respect to centroid	r_u	84.1	mm	
	Section asymmetry parameter with respect to centroid	r_v	47.5	mm	
	Section asymmetry parameter with respect to shear center	$r_{y,SC}$	77.3	mm	
	Section asymmetry parameter with respect to shear center	$r_{z,SC}$	316.2	mm	
	Section asymmetry parameter with respect to shear center	$r_{u,SC}$	21.8	mm	
	Section asymmetry parameter with respect to shear center	$r_{v,SC}$	312.8	mm	
	Auxiliary parameter for warping with respect to shear center	$r_{\omega,SC}$	0.009	--	
	Plasticity				
	Plastic section modulus about y-axis	$W_{pl,y}$	197460.82	cm^3	
	Plastic section modulus about z-axis	$W_{pl,z}$	266146.49	cm^3	
	Plastic section modulus about u-axis	$W_{pl,u}$	286769.65	cm^3	
	Plastic section modulus about v-axis	$W_{pl,v}$	322609.73	cm^3	
	Plastic shape factor about y-axis	$\alpha_{pl,y}$	3.156	--	
	Plastic shape factor about z-axis	$\alpha_{pl,z}$	4.139	--	
	Plastic shape factor about u-axis	$\alpha_{pl,u}$	4.437	--	
	Plastic shape factor about v-axis	$\alpha_{pl,v}$	5.907	--	
	Distance from centroid to plastic neutral axis in u-direction	u_{pl}	-568.3	mm	
	Distance from centroid to plastic neutral axis in v-direction	v_{pl}	-505.6	mm	

5.1 SECTION PROPERTIES

Finite Element Analysis

	Description	Symbol	Value	Unit	Comment
	Other				
	Weight	G	1412.8	kg/m	
	Surface area per unit length	A_m	4.000	m^2/m	
	Volume	V	565127.39	cm^3/m	
	Section factor	A_m/V	7.078	1/m	

5.2 UNIT NORMAL STRESSES

Finite Element Analysis

Stress Point No.	σ_x (N = 1 kN) [N/m²]	σ_x (M_y = 1 kNm) [N/m²]	σ_x (M_z = 1 kNm) [N/m²]	σ_x (M_u = 1 kNm) [N/m²]	σ_x (M_v = 1 kNm) [N/m²]	σ_x (M_ω = 1 kNm²) [N/m²]
1	1769.5	-10169.9	15552.8	-3173.3	18309.8	-77989.6
2	1769.5	-8801.4	717.2	-7796.5	4146.6	21559.6
3	1769.5	-7432.9	-14118.5	-12419.6	-10016.6	102124.8
4	1769.5	-7069.5	8317.6	-3194.2	10438.3	-22798.2
5	1769.5	-7027.8	7960.7	-3297.4	10094.1	-18465.1
6	1769.5	-7059.8	8665.3	-3047.5	10753.6	-26302.4
7	1769.5	-6935.8	7605.4	-3353.7	9731.4	-13648.0
8	1769.5	-6998.8	8993.2	-2861.5	11030.5	-28645.3
9	1769.5	-6796.3	7262.4	-3361.6	9361.2	-8773.4
10	1769.5	-6888.4	9291.2	-2642.1	11260.4	-29615.9
11	1769.5	-6613.6	6942.3	-3320.7	8994.9	-4304.9
12	1769.5	-6732.0	9550.5	-2395.8	11436.5	-29225.4
13	1769.5	-6393.3	6654.7	-3232.4	8643.6	-502.8
14	1769.5	-6534.4	9763.0	-2130.1	11553.3	-27663.2
15	1769.5	-6142.0	6408.4	-3099.3	8317.8	2407.7
16	1769.5	-6301.5	9922.4	-1853.1	11607.3	-25066.2
17	1769.5	-5867.3	6210.9	-2925.4	8027.6	4264.6
18	1769.5	-6040.4	10023.8	-1573.2	11596.9	-21763.4
19	1769.5	-5577.7	6068.1	-2716.0	7781.7	5144.1
20	1769.5	-5759.0	10064.1	-1298.9	11522.4	-18052.5
21	1769.5	-5281.8	5984.4	-2477.6	7587.7	5080.4
22	1769.5	-5466.0	10042.0	-1038.6	11386.0	-14159.3
23	1769.5	-4988.8	5962.4	-2217.3	7451.3	4373.3
24	1769.5	-5170.2	9958.4	-800.1	11191.9	-10344.1
25	1769.5	-4707.4	6002.7	-1943.0	7376.8	3254.2
26	1769.5	-4880.5	9815.6	-590.8	10946.0	-6795.3
27	1769.5	-5267.4	15005.4	1110.8	15864.3	17613.5
28	1769.5	-4446.3	6104.0	-1663.1	7366.4	1961.4
29	1769.5	-2530.4	-14665.9	-8135.6	-12462.1	-33629.3
30	1769.5	-4605.8	9618.0	-416.9	10655.8	-3713.6
31	1769.5	-4213.4	6263.4	-1386.1	7420.4	762.1
32	1769.5	-4354.5	9371.7	-283.8	10330.1	-1232.0
33	1769.5	-4015.8	6476.0	-1120.4	7537.2	-106.9
34	1769.5	-4134.2	9084.1	-195.5	9978.7	552.2
35	1769.5	-3859.4	6735.2	-874.1	7713.2	-542.4
36	1769.5	-3951.5	8764.0	-154.6	9612.4	1537.0
37	1769.5	-3749.0	7033.3	-654.6	7943.2	-444.5
38	1769.5	-3812.0	8421.1	-162.5	9242.3	1790.2
39	1769.5	-3688.1	7361.2	-468.7	8220.0	53.3
40	1769.5	-3720.0	8065.8	-218.8	8879.6	1465.0
41	1769.5	-3678.3	7708.8	-322.0	8535.4	771.5
42	1769.5	0.2	-0.3	0.1	-0.3	1313.1
43	1769.5	-365.0	14458.0	5394.8	13418.8	114752.1
44	1769.5	45.5	10007.3	4007.9	9169.8	98095.3
45	1769.5	456.1	5556.6	2620.9	4920.9	5667.0
46	1769.5	1277.2	-3344.8	-153.0	-3577.0	-6115.9
47	1769.5	1824.6	-9279.0	-2002.2	-9242.3	-135497.3
48	1769.5	2372.0	-15213.3	-3851.5	-14907.6	-169299.4
49	1769.5	7809.8	4735.5	9047.0	1252.6	-132820.8
50	1769.5	8630.9	-4165.9	6273.1	-7245.3	143751.1
51	1769.5	15163.4	3914.4	15473.1	-2415.6	-174813.1
52	1769.5	15574.0	-536.3	14086.2	-6664.6	10145.4
53	1769.5	15984.5	-4987.0	12699.2	-10913.5	195103.9

5.3 UNIT SHEAR STRESSES

Finite Element Analysis

Stress Point No.	V_y = 1 kN		V_z = 1 kN		V_u = 1 kN		V_v = 1 kN		$M_{x,p}$ = 1 kNm		$M_{x,s}$ = 1 kNm	
	τ_{xy} [N/m²]	τ_{xz} [N/m²]	τ_{xy} [N/m²]	τ_{xz} [N/m²]	τ_{xu} [N/m²]	τ_{xv} [N/m²]	τ_{xu} [N/m²]	τ_{xv} [N/m²]	τ_{xy} [N/m²]	τ_{xz} [N/m²]	τ_{xy} [N/m²]	τ_{xz} [N/m²]
1	-16.1	-38.1	-20.6	9.4	-33.4	-19.6	-2.1	26.8	948.6	-2518.4	171.0	-644.7
2	3368.6	8.8	33.0	14.2	2856.9	-1218.3	-1194.1	525.9	15986.2	-6835.7	-1154.5	569.4
3	25.2	1.9	0.6	22.1	25.6	0.4	-0.9	21.7	2159.2	885.7	517.5	559.2
4	5464.3	-181.0	1050.6	-41.4	4916.0	-2320.9	-1089.3	506.9	12021.5	-5956.2	-252.4	166.1
5	5599.5	602.5	1368.7	162.8	5462.8	-1685.3	-919.1	299.5	12252.2	-3818.6	-1849.9	479.1
6	5018.7	-1144.1	747.6	-147.6	4063.0	-2961.6	-1070.0	808.1	10542.9	-7797.9	889.5	-866.6
7	5495.9	1630.1	1604.6	507.9	5889.4	-692.9	-718.4	114.3	11666.5	-1607.0	-3095.6	254.6

5.3 UNIT SHEAR STRESSES

Finite Element Analysis

Stress Point No.	V_y = 1 kN		V_z = 1 kN		V_u = 1 kN		V_v = 1 kN		$M_{x,p}$ = 1 kNm		$M_{x,s}$ = 1 kNm	
	τ_{xy} [N/m²]	τ_{xz} [N/m²]	τ_{xy} [N/m²]	τ_{xz} [N/m²]	τ_{xu} [N/m²]	τ_{xv} [N/m²]	τ_{xu} [N/m²]	τ_{xv} [N/m²]	τ_{xy} [N/m²]	τ_{xz} [N/m²]	τ_{xy} [N/m²]	τ_{xz} [N/m²]
8	4300.5	-1768.3	404.1	-116.9	3110.2	-3161.4	-989.0	1073.3	8683.2	-8922.4	1881.7	-2437.0
9	4811.6	2426.2	1722.5	885.8	5704.5	346.1	-357.6	-7.1	9683.4	593.7	-4050.3	-277.6
10	3440.2	-2206.4	52.0	-8.2	2114.6	-3122.7	-864.4	1317.3	6336.7	-9379.5	2700.1	-4303.3
11	3958.3	2996.2	1703.0	1354.0	5259.1	1310.5	17.3	53.2	7059.5	1241.1	-4558.2	-1246.0
12	2508.0	-2242.7	-248.6	260.9	1248.6	-2669.0	-674.9	1520.3	4067.2	-9136.3	2797.4	-6566.5
13	2907.2	3201.8	1580.5	1811.3	4475.2	2051.9	430.6	243.3	4025.9	1302.9	-4694.5	-2242.7
14	1583.8	-2010.4	-433.2	597.8	539.8	-1985.4	-408.1	1641.8	2169.3	-8491.1	2037.6	-8530.8
15	1859.8	2909.8	1392.3	2192.7	3477.5	2355.2	837.7	575.0	961.0	330.2	-4539.8	-3098.7
16	835.6	-1569.4	-488.7	1044.9	119.6	-1170.0	-89.3	1761.0	504.8	-7609.6	457.4	-10443.2
17	1019.8	2376.1	1089.8	2568.9	2524.3	2395.4	1109.1	1064.5	-1403.2	-1470.9	-4172.7	-3981.3
18	266.0	-931.3	-420.7	1444.2	-40.9	-290.3	220.3	1751.1	-824.6	-6663.2	-1399.7	-11308.0
19	512.8	1546.4	688.7	2809.0	1686.8	2030.9	1173.2	1635.1	-2597.1	-3845.6	-3572.1	-4749.5
20	60.3	-192.6	-195.9	1820.8	195.5	509.0	505.7	1685.7	-1655.9	-5729.1	-3433.1	-11384.1
21	46.8	572.4	189.9	2927.0	776.6	1500.6	1118.2	2197.3	-3090.4	-6098.6	-2826.5	-5539.1
22	156.6	564.8	180.4	2159.4	742.3	1176.5	792.1	1573.7	-2317.8	-4827.3	-5368.8	-10745.1
23	7.3	-416.9	-288.6	2817.5	192.0	716.4	844.8	2632.8	-2512.3	-7832.0	-1965.5	-6134.7
24	393.2	1316.1	608.8	2334.2	1398.5	1720.0	1012.8	1328.9	-2931.4	-3913.4	-6681.3	-8870.6
25	481.1	-1383.3	-691.5	2501.0	43.4	-322.4	369.4	2938.7	-1197.8	-9038.5	-864.0	-6733.3
26	898.9	1926.8	1038.7	2439.1	2219.9	2021.4	1133.3	1118.2	-3163.6	-3018.0	-6967.3	-7041.4
27	16.6	238.7	-4.2	961.9	250.4	545.8	302.9	728.1	-5466.0	-11780.7	-3082.8	-7331.4
28	1163.7	-2085.9	-942.3	1942.5	184.2	-1326.9	-183.3	2922.1	572.1	-8830.0	501.1	-6961.7
29	24.9	19.3	1.9	605.5	123.8	227.2	209.8	506.6	4918.3	11396.7	4554.7	10328.1
30	1567.2	2343.2	1506.3	2317.0	3085.7	2011.4	1174.5	798.6	-3356.4	-2276.4	-6452.5	-4493.0
31	2047.3	-2586.2	-921.2	1344.8	660.7	-2290.9	-626.0	2731.4	1893.4	-8169.6	1741.0	-7153.2
32	2489.1	2471.7	2035.0	2043.3	4058.9	1601.7	1165.0	473.5	-3310.7	-1607.6	-5288.6	-2209.1
33	3009.9	-2776.5	-613.4	695.1	1412.9	-3086.4	-923.2	2292.2	2551.5	-6707.8	2945.8	-6946.4
34	3491.3	2532.2	2422.2	1786.1	5026.2	1133.6	1023.6	251.2	-3131.7	-744.8	-3086.7	-857.1
35	3950.8	-2485.1	-96.7	123.6	2410.2	-3472.2	-1083.7	1664.1	2775.7	-4362.3	4132.1	-6145.9
36	4293.1	2176.0	2569.7	1346.5	5557.1	358.5	752.1	82.5	-2888.8	-101.5	-497.7	-277.9
37	4678.0	-2040.1	589.1	-189.1	3385.6	-3583.2	-954.0	1103.3	2046.5	-2550.2	4751.4	-5203.3
38	4915.8	1532.9	2591.8	806.8	5771.2	-610.1	448.9	-48.7	-2407.7	349.5	1611.2	-194.9
39	5271.5	-1214.1	1320.9	-255.9	4442.2	-3242.1	-707.0	573.4	1119.5	-927.2	5070.5	-3839.5
40	5378.6	625.6	2388.2	306.6	5678.6	-1693.3	69.3	6.6	-1436.2	324.1	3451.3	-1153.9
41	5496.0	-308.5	1949.5	-85.4	5216.5	-2597.1	-339.1	194.2	-199.5	33.6	4648.2	-2396.5
42	2600.7	-533.7	-509.2	3727.2	2398.2	40.1	64.5	3929.8	-3468.4	4560.0	1947.0	-4283.1
43	23.7	4.6	-2.2	25.0	24.7	4.7	-2.1	24.0	-2114.8	-862.1	-281.7	-504.5
44	2356.7	19.5	1462.6	41.6	2532.4	-1055.6	387.4	-134.1	-12691.6	5061.9	3348.8	-1862.4
45	5256.3	4597.3	7029.0	7680.3	9867.4	3653.2	6084.9	3069.2	-38212.5	-15129.7	9739.8	3091.9
46	5671.8	-5038.2	-6924.6	7632.2	1626.9	-2445.9	-4332.3	11677.1	-16093.1	39563.6	10233.3	-24283.9
47	2438.8	-1.5	-931.6	29.5	1720.9	-731.6	-1661.7	747.4	-13247.4	5774.2	7453.6	-2668.2
48	24.0	1.6	4.9	22.6	26.1	0.1	3.4	20.5	-833.8	2179.2	209.6	689.9
49	28.2	145.9	2.6	3562.4	637.4	1408.5	1265.2	2953.2	-4940.7	-11385.7	-677.4	333.9
50	28.3	-72.3	1.9	3563.9	558.0	1225.3	1299.5	3034.2	4897.2	11405.3	-2559.5	-4027.9
51	25.0	1.9	2.3	20.4	25.8	-0.4	0.0	19.6	-2186.3	-821.4	-1063.8	334.2
52	329.5	2.3	29.6	20.4	292.5	-115.2	-87.8	57.4	-8352.3	3605.4	-11605.0	4995.3
53	25.0	2.6	2.3	20.4	26.1	0.2	-0.2	19.4	-901.7	2154.4	-983.1	521.0

5.4 UNIT NORMAL STRESSES BY MATERIAL

Finite Element Analysis

Material No.	Stress Point No.	σ_x (N = 1 kN) [N/m²]	σ_x (M_y = 1 kNm) [N/m²]	σ_x (M_z = 1 kNm) [N/m²]	σ_x (M_u = 1 kNm) [N/m²]	σ_x (M_v = 1 kNm) [N/m²]	σ_x (M_ω = 1 kNm²) [N/m²]
2	C20/25 | Isotropic | Linear Elastic						
	1	1769.5	-10169.9	15552.8	-3173.3	18309.8	-77989.6
	2	1769.5	-8801.4	717.2	-7796.5	4146.6	21559.6
	3	1769.5	-7432.9	-14118.5	-12419.6	-10016.6	102124.8
	4	1769.5	-7069.5	8317.6	-3194.2	10438.3	-22798.2
	5	1769.5	-7027.8	7960.7	-3297.4	10094.1	-18465.1
	6	1769.5	-7059.8	8665.3	-3047.5	10753.6	-26302.4
	7	1769.5	-6935.8	7605.4	-3353.7	9731.4	-13648.0
	8	1769.5	-6998.8	8993.2	-2861.5	11030.5	-28645.3
	9	1769.5	-6796.3	7262.4	-3361.6	9361.2	-8773.4
	10	1769.5	-6888.4	9291.2	-2642.1	11260.4	-29615.9
	11	1769.5	-6613.6	6942.3	-3320.7	8994.9	-4304.9
	12	1769.5	-6732.0	9550.5	-2395.8	11436.5	-29225.4
	13	1769.5	-6393.3	6654.7	-3232.4	8643.6	-502.8
	14	1769.5	-6534.4	9763.0	-2130.1	11553.3	-27663.2
	15	1769.5	-6142.0	6408.4	-3099.3	8317.8	2407.7
	16	1769.5	-6301.5	9922.4	-1853.1	11607.3	-25066.2
	17	1769.5	-5867.3	6210.9	-2925.4	8027.6	4264.6
	18	1769.5	-6040.4	10023.8	-1573.2	11596.9	-21763.4
	19	1769.5	-5577.7	6068.1	-2716.0	7781.7	5144.1
	20	1769.5	-5759.0	10064.1	-1298.9	11522.4	-18052.5
	21	1769.5	-5281.8	5984.4	-2477.6	7587.7	5080.4
	22	1769.5	-5466.0	10042.0	-1038.6	11386.0	-14159.3
	23	1769.5	-4988.8	5962.4	-2217.3	7451.3	4373.3
	24	1769.5	-5170.2	9958.4	-800.1	11191.9	-10344.1

5.4 UNIT NORMAL STRESSES BY MATERIAL

Finite Element Analysis

Material No.	Stress Point No.	σ_x (N = 1 kN) [N/m²]	σ_x (M_y = 1 kNm) [N/m²]	σ_x (M_z = 1 kNm) [N/m²]	σ_x (M_u = 1 kNm) [N/m²]	σ_x (M_v = 1 kNm) [N/m²]	σ_x (M_ω = 1 kNm²) [N/m²]
	25	1769.5	-4707.4	6002.7	-1943.0	7376.8	3254.2
	26	1769.5	-4880.5	9815.6	-590.8	10946.0	-6795.3
	27	1769.5	-5267.4	15005.4	1110.8	15864.3	17613.5
	28	1769.5	-4446.3	6104.0	-1663.1	7366.4	1961.4
	29	1769.5	-2530.4	-14665.9	-8135.6	-12462.1	-33629.3
	30	1769.5	-4605.8	9618.0	-416.9	10655.8	-3713.6
	31	1769.5	-4213.4	6263.4	-1386.1	7420.4	762.1
	32	1769.5	-4354.5	9371.7	-283.8	10330.1	-1232.0
	33	1769.5	-4015.8	6476.0	-1120.4	7537.2	-106.9
	34	1769.5	-4134.2	9084.1	-195.5	9978.7	552.2
	35	1769.5	-3859.4	6735.2	-874.1	7713.2	-542.4
	36	1769.5	-3951.5	8764.0	-154.6	9612.4	1537.0
	37	1769.5	-3749.0	7033.3	-654.6	7943.2	-444.5
	38	1769.5	-3812.0	8421.1	-162.5	9242.3	1790.2
	39	1769.5	-3688.1	7361.2	-468.7	8220.0	53.3
	40	1769.5	-3720.0	8065.8	-218.8	8879.6	1465.0
	41	1769.5	-3678.3	7708.8	-322.0	8535.4	771.5
	42	1769.5	0.2	-0.3	0.1	-0.3	1313.1
	43	1769.5	-365.0	14458.0	5394.8	13418.8	114752.1
	44	1769.5	45.5	10007.3	4007.9	9169.8	98095.3
	45	1769.5	456.1	5556.6	2620.9	4920.9	5667.0
	46	1769.5	1277.2	-3344.8	-153.0	-3577.0	-6115.9
	47	1769.5	1824.6	-9279.0	-2002.2	-9242.3	-135497.3
	48	1769.5	2372.0	-15213.3	-3851.5	-14907.6	-169299.4
	49	1769.5	7809.8	4735.5	9047.0	1252.6	-132820.8
	50	1769.5	8630.9	-4165.9	6273.1	-7245.3	143751.1
	51	1769.5	15163.4	3914.4	15473.1	-2415.6	-174813.1
	52	1769.5	15574.0	-536.3	14086.2	-6664.6	10145.4
	53	1769.5	15984.5	-4987.0	12699.2	-10913.5	195103.9

5.5 UNIT SHEAR STRESSES BY MATERIAL

Finite Element Analysis

Material No.	Stress Point No.	V_y = 1 kN		V_z = 1 kN		V_u = 1 kN		V_v = 1 kN		$M_{x,p}$ = 1 kNm		$M_{x,s}$ = 1 kNm	
		τ_{xy} [N/m²]	τ_{xz} [N/m²]	τ_{xy} [N/m²]	τ_{xz} [N/m²]	τ_{xu} [N/m²]	τ_{xv} [N/m²]	τ_{xu} [N/m²]	τ_{xv} [N/m²]	τ_{xy} [N/m²]	τ_{xz} [N/m²]	τ_{xy} [N/m²]	τ_{xz} [N/m²]
2	C20/25 | Isotropic | Linear Elastic												
	1	-16.1	-38.1	-20.6	9.4	-33.4	-19.6	-2.1	26.8	948.6	-2518.4	171.0	-644.7
	2	3368.6	8.8	33.0	14.2	2856.9	-1218.3	-1194.1	525.9	15986.2	-6835.7	-1154.5	569.4
	3	25.2	1.9	0.6	22.1	25.6	0.4	-0.9	21.7	2159.2	885.7	517.5	559.2
	4	5464.3	-181.0	1050.6	-41.4	4916.0	-2320.9	-1089.3	506.9	12021.5	-5956.2	-252.4	166.1
	5	5599.5	602.5	1368.7	162.8	5462.8	-1685.3	-919.1	299.5	12252.2	-3818.6	-1849.9	479.1
	6	5018.7	-1144.1	747.6	-147.6	4063.0	-2961.6	-1070.0	808.1	10542.9	-7797.9	889.5	-866.6
	7	5495.9	1630.1	1604.6	507.9	5889.4	-692.9	-718.4	114.3	11666.5	-1607.0	-3095.6	254.6
	8	4300.5	-1768.3	404.1	-116.9	3110.2	-3161.4	-989.0	1073.3	8683.2	-8922.4	1881.7	-2437.0
	9	4811.6	2426.2	1722.5	885.8	5704.5	346.1	-357.6	-7.1	9683.4	593.7	-4050.3	-277.6
	10	3440.2	-2206.4	52.0	-8.2	2114.6	-3122.7	-864.4	1317.3	6336.7	-9379.5	2700.1	-4303.3
	11	3958.3	2996.2	1703.0	1354.0	5259.1	1310.5	17.3	53.2	7059.5	1241.1	-4558.2	-1246.0
	12	2508.0	-2242.7	-248.6	260.9	1248.6	-2669.0	-674.9	1520.3	4067.2	-9136.3	2797.4	-6566.5
	13	2907.2	3201.8	1580.5	1811.3	4475.2	2051.9	430.6	243.3	4025.9	1302.9	-4694.5	-2242.7
	14	1583.8	-2010.4	-433.2	597.8	539.8	-1985.4	-408.1	1641.8	2169.3	-8491.1	2037.6	-8530.8
	15	1859.8	2909.8	1392.3	2192.7	3477.5	2355.2	837.7	575.0	961.0	330.2	-4539.8	-3098.7
	16	835.6	-1569.4	-488.7	1044.9	119.6	-1170.0	-89.3	1761.0	504.8	-7609.6	457.4	-10443.2
	17	1019.8	2376.1	1089.8	2568.9	2524.3	2395.4	1109.1	1064.5	-1403.2	-1470.9	-4172.7	-3981.3
	18	266.0	-931.3	-420.7	1444.2	-40.9	-290.3	220.3	1751.1	-824.6	-6663.2	-1399.7	-11308.0
	19	512.8	1546.4	688.7	2809.0	1686.8	2030.9	1173.2	1635.1	-2597.1	-3845.6	-3572.1	-4749.5
	20	60.3	-192.6	-195.9	1820.8	195.5	509.0	505.7	1685.7	-1655.9	-5729.1	-3433.1	-11384.1
	21	46.8	572.4	189.9	2927.0	776.6	1500.6	1118.2	2197.3	-3090.4	-6098.6	-2826.5	-5539.1
	22	156.6	564.8	180.4	2159.4	742.3	1176.5	792.1	1573.7	-2317.8	-4827.3	-5368.8	-10745.1
	23	7.3	-416.9	-288.6	2817.5	192.0	716.4	844.8	2632.8	-2512.3	-7832.0	-1965.5	-6134.7
	24	393.2	1316.1	608.8	2334.2	1398.5	1720.0	1012.8	1328.9	-2931.4	-3913.4	-6681.3	-8870.6
	25	481.1	-1383.3	-691.5	2501.0	43.4	-322.4	369.4	2938.7	-1197.8	-9038.5	-864.0	-6733.3
	26	898.9	1926.8	1038.7	2439.1	2219.9	2021.4	1133.3	1118.2	-3163.6	-3018.0	-6967.3	-7041.4
	27	16.6	238.7	-4.2	961.9	250.4	545.8	302.9	728.1	-5466.0	-11780.7	-3082.8	-7331.4
	28	1163.7	-2085.9	-942.3	1942.5	184.2	-1326.9	-183.3	2922.1	572.1	-8830.0	501.1	-6961.7
	29	24.9	19.3	1.9	605.5	123.8	227.2	209.8	506.6	4918.3	11396.7	4554.7	10328.1
	30	1567.2	2343.2	1506.3	2317.0	3085.7	2011.4	1174.5	798.6	-3356.4	-2276.4	-6452.5	-4493.0
	31	2047.3	-2586.2	-921.2	1344.8	660.7	-2290.9	-626.0	2731.4	1893.4	-8169.6	1741.0	-7153.2
	32	2489.1	2471.7	2035.0	2043.3	4058.9	1601.7	1165.0	473.5	-3310.7	-1607.6	-5288.6	-2209.1
	33	3009.9	-2776.5	-613.4	695.1	1412.9	-3086.4	-923.2	2292.2	2551.5	-6707.8	2945.8	-6946.4
	34	3491.3	2532.2	2422.2	1786.1	5026.2	1133.6	1023.6	251.2	-3131.7	-744.8	-3086.7	-857.1
	35	3950.8	-2485.1	-96.7	123.6	2410.2	-3472.2	-1083.7	1664.1	2775.7	-4362.3	4132.1	-6145.9
	36	4293.1	2176.0	2569.7	1346.5	5557.1	358.5	752.1	82.5	-2888.8	-101.5	-497.7	-277.9
	37	4678.0	-2040.1	589.1	-189.1	3385.6	-3583.2	-954.0	1103.3	2046.5	-2550.2	4751.4	-5203.3
	38	4915.8	1532.9	2591.8	806.8	5771.2	-610.1	448.9	-48.7	-2407.7	349.5	1611.2	-194.9
	39	5271.5	-1214.1	1320.9	-255.9	4442.2	-3242.1	-707.0	573.4	1119.5	-927.2	5070.5	-3839.5
	40	5378.6	625.6	2388.2	306.6	5678.6	-1693.3	69.3	6.6	-1436.2	324.1	3451.3	-1153.9
	41	5496.0	-308.5	1949.5	-85.4	5216.5	-2597.1	-339.1	194.2	-199.5	33.6	4648.2	-2396.5

5.5 UNIT SHEAR STRESSES BY MATERIAL

Finite Element Analysis

Material No.	Stress Point No.	V_y = 1 kN τ_{xy} [N/m²]	V_y = 1 kN τ_{xz} [N/m²]	V_z = 1 kN τ_{xy} [N/m²]	V_z = 1 kN τ_{xz} [N/m²]	V_u = 1 kN τ_{xu} [N/m²]	V_u = 1 kN τ_{xv} [N/m²]	V_v = 1 kN τ_{xu} [N/m²]	V_v = 1 kN τ_{xv} [N/m²]	$M_{x,p}$ = 1 kNm τ_{xy} [N/m²]	$M_{x,p}$ = 1 kNm τ_{xz} [N/m²]	$M_{x,s}$ = 1 kNm τ_{xy} [N/m²]	$M_{x,s}$ = 1 kNm τ_{xz} [N/m²]
	42	2600.7	-533.7	-509.2	3727.2	2398.2	40.1	64.5	3929.8	-3468.4	4560.0	1947.0	-4283.1
	43	23.7	4.6	-2.2	25.0	24.7	4.7	-2.1	24.0	-2114.8	-862.1	-281.7	-504.5
	44	2356.7	19.5	1462.6	41.6	2532.4	-1055.6	387.4	-134.1	-12691.6	5061.9	3348.8	-1862.4
	45	5256.3	4597.3	7029.0	7680.3	9867.4	3653.2	6084.9	3069.2	-38212.5	-15129.7	9739.8	3091.9
	46	5671.8	-5038.2	-6924.6	7632.2	1626.9	-2445.9	-4332.3	11677.1	-16093.1	39563.6	10233.3	-24283.9
	47	2438.8	-1.5	-931.6	29.5	1720.9	-731.6	-1661.7	747.4	-13247.4	5774.2	7453.6	-2668.2
	48	24.0	1.6	4.9	22.6	26.1	0.1	3.4	20.5	-833.8	2179.2	209.6	689.9
	49	28.2	145.9	2.6	3562.4	637.4	1408.5	1265.2	2953.2	-4940.7	-11385.7	-677.4	333.9
	50	28.3	-72.3	1.9	3563.9	558.0	1225.3	1299.5	3034.2	4897.2	11405.3	-2559.5	-4027.9
	51	25.0	1.9	2.3	20.4	25.8	-0.4	0.0	19.6	-2186.3	-821.4	-1063.8	334.2
	52	329.5	2.3	29.6	20.4	292.5	-115.2	-87.8	57.4	-8352.3	3605.4	-11605.0	4995.3
	53	25.0	2.6	2.3	20.4	26.1	0.2	-0.2	19.4	-901.7	2154.4	-983.1	521.0

5.6 STRESSES BY LOADING

Finite Element Analysis

Loading No.	Member No.	Location x [m]	Stress Point No.	Stress Type	Stresses [N/mm²] Existing	Stresses [N/mm²] Limit	Stress Ratio η [--]
LC1	CO						
	1	0.000	48	$\sigma_{x,tot}$	-2.400		Non-designable
	1	0.000	45	τ_{tot}	0.493		Non-designable
	1	0.000	48	$\sigma_{eqv,von\ Mises}$	2.400		Non-designable

5.7 STRESSES BY MATERIAL

Finite Element Analysis

Material No.	Member No.	Location x [m]	Stress Point No.	Loading No.	Stress Type	Stresses [N/mm²] Existing	Stresses [N/mm²] Limit	Stress Ratio η [--]
2	C20/25 | Isotropic | Linear Elastic							
	1	0.000	48	LC1	$\sigma_{x,tot}$	-2.400		Non-designable
	1	0.000	45	LC1	τ_{tot}	0.493		Non-designable
	1	0.000	48	LC1	$\sigma_{eqv,von\ Mises}$	2.400		Non-designable

5.8 STRESSES BY MEMBER

Finite Element Analysis

Member No.	Location x [m]	Stress Point No.	Loading No.	Stress Type	Stresses [N/mm²] Existing	Stresses [N/mm²] Limit	Stress Ratio η [--]
1	Member 1						
	0.000	48	LC1	$\sigma_{x,tot}$	-2.400		Non-designable
	0.000	45	LC1	τ_{tot}	0.493		Non-designable
	0.000	48	LC1	$\sigma_{eqv,von\ Mises}$	2.400		Non-designable

5.9 STRESSES BY LOCATION

Finite Element Analysis

Member No.	Location x [m]	Stress Point No.	Loading No.	Stress Type	Stresses [N/mm²] Existing	Stresses [N/mm²] Limit	Stress Ratio η [--]
1	Location x: 0.000 [m]						
	0.000	48	LC1	$\sigma_{x,tot}$	-2.400		Non-designable
	0.000	45	LC1	τ_{tot}	0.493		Non-designable
	0.000	48	LC1	$\sigma_{eqv,von\ Mises}$	2.400		Non-designable

5.10 STRESSES BY STRESS POINTS

Finite Element Analysis

Stress Point No.	Member No.	Location x [m]	Loading No.	Stress Type	Stresses [N/mm²] Existing	Stresses [N/mm²] Limit	Stress Ratio η [--]
1	Part No. 1 | Cartesian | Y : 0.0 mm | Z : 0.0 mm						
	1	0.000	LC1	$\sigma_{x,tot}$	-0.137		Non-designable
	1	0.000	LC1	τ_{tot}	0.004		Non-designable
	1	0.000	LC1	$\sigma_{eqv,von\ Mises}$	0.137		Non-designable
2	Part No. 1 | On Line | Part No. 1 | 1 | x_{i-k} : 87.50 %						
	1	0.000	LC1	$\sigma_{x,tot}$	0.137		Non-designable
	1	0.000	LC1	τ_{tot}	0.086		Non-designable
	1	0.000	LC1	$\sigma_{eqv,von\ Mises}$	0.202		Non-designable
3	Part No. 1 | On Line | Part No. 1 | 1 | x_{i-k} : 75.00 %						
	1	0.000	LC1	$\sigma_{x,tot}$	0.222		Non-designable
	1	0.000	LC1	τ_{tot}	0.003		Non-designable
	1	0.000	LC1	$\sigma_{eqv,von\ Mises}$	0.222		Non-designable
4	Part No. 1 | On Line | Part No. 1 | 2 | x_{i-k} : 66.67 %						
	1	0.000	LC1	$\sigma_{x,tot}$	0.100		Non-designable
	1	0.000	LC1	τ_{tot}	0.154		Non-designable
	1	0.000	LC1	$\sigma_{eqv,von\ Mises}$	0.285		Non-designable

5.10 STRESSES BY STRESS POINTS

Finite Element Analysis

Stress Point No.	Member No.	Location x [m]	Loading No.	Stress Type	Stresses [N/mm²] Existing	Limit	Stress Ratio η [--]
5	Part No. 1 | On Line | Part No. 1 | 2 | x_{i-k} : 69.44 %						
	1	0.000	LC1	$\sigma_{x,tot}$	0.126		Non-designable
	1	0.000	LC1	τ_{tot}	0.167		Non-designable
	1	0.000	LC1	$\sigma_{eqv,von\ Mises}$	0.315		Non-designable
6	Part No. 1 | On Line | Part No. 1 | 2 | x_{i-k} : 63.89 %						
	1	0.000	LC1	$\sigma_{x,tot}$	0.082		Non-designable
	1	0.000	LC1	τ_{tot}	0.139		Non-designable
	1	0.000	LC1	$\sigma_{eqv,von\ Mises}$	0.254		Non-designable
7	Part No. 1 | On Line | Part No. 1 | 2 | x_{i-k} : 72.22 %						
	1	0.000	LC1	$\sigma_{x,tot}$	0.157		Non-designable
	1	0.000	LC1	τ_{tot}	0.177		Non-designable
	1	0.000	LC1	$\sigma_{eqv,von\ Mises}$	0.345		Non-designable
8	Part No. 1 | On Line | Part No. 1 | 2 | x_{i-k} : 61.11 %						
	1	0.000	LC1	$\sigma_{x,tot}$	0.076		Non-designable
	1	0.000	LC1	τ_{tot}	0.118		Non-designable
	1	0.000	LC1	$\sigma_{eqv,von\ Mises}$	0.218		Non-designable
9	Part No. 1 | On Line | Part No. 1 | 2 | x_{i-k} : 75.00 %						
	1	0.000	LC1	$\sigma_{x,tot}$	0.191		Non-designable
	1	0.000	LC1	τ_{tot}	0.176		Non-designable
	1	0.000	LC1	$\sigma_{eqv,von\ Mises}$	0.359		Non-designable
10	Part No. 1 | On Line | Part No. 1 | 2 | x_{i-k} : 58.33 %						
	1	0.000	LC1	$\sigma_{x,tot}$	0.083		Non-designable
	1	0.000	LC1	τ_{tot}	0.094		Non-designable
	1	0.000	LC1	$\sigma_{eqv,von\ Mises}$	0.183		Non-designable
11	Part No. 1 | On Line | Part No. 1 | 2 | x_{i-k} : 77.78 %						
	1	0.000	LC1	$\sigma_{x,tot}$	0.223		Non-designable
	1	0.000	LC1	τ_{tot}	0.172		Non-designable
	1	0.000	LC1	$\sigma_{eqv,von\ Mises}$	0.371		Non-designable
12	Part No. 1 | On Line | Part No. 1 | 2 | x_{i-k} : 55.56 %						
	1	0.000	LC1	$\sigma_{x,tot}$	0.102		Non-designable
	1	0.000	LC1	τ_{tot}	0.067		Non-designable
	1	0.000	LC1	$\sigma_{eqv,von\ Mises}$	0.154		Non-designable
13	Part No. 1 | On Line | Part No. 1 | 2 | x_{i-k} : 80.56 %						
	1	0.000	LC1	$\sigma_{x,tot}$	0.250		Non-designable
	1	0.000	LC1	τ_{tot}	0.163		Non-designable
	1	0.000	LC1	$\sigma_{eqv,von\ Mises}$	0.377		Non-designable
14	Part No. 1 | On Line | Part No. 1 | 2 | x_{i-k} : 52.78 %						
	1	0.000	LC1	$\sigma_{x,tot}$	0.131		Non-designable
	1	0.000	LC1	τ_{tot}	0.038		Non-designable
	1	0.000	LC1	$\sigma_{eqv,von\ Mises}$	0.147		Non-designable
15	Part No. 1 | On Line | Part No. 1 | 2 | x_{i-k} : 83.33 %						
	1	0.000	LC1	$\sigma_{x,tot}$	0.270		Non-designable
	1	0.000	LC1	τ_{tot}	0.148		Non-designable
	1	0.000	LC1	$\sigma_{eqv,von\ Mises}$	0.372		Non-designable
16	Part No. 1 | On Line | Part No. 1 | 2 | x_{i-k} : 50.00 %						
	1	0.000	LC1	$\sigma_{x,tot}$	0.169		Non-designable
	1	0.000	LC1	τ_{tot}	0.010		Non-designable
	1	0.000	LC1	$\sigma_{eqv,von\ Mises}$	0.169		Non-designable
17	Part No. 1 | On Line | Part No. 1 | 2 | x_{i-k} : 86.11 %						
	1	0.000	LC1	$\sigma_{x,tot}$	0.283		Non-designable
	1	0.000	LC1	τ_{tot}	0.137		Non-designable
	1	0.000	LC1	$\sigma_{eqv,von\ Mises}$	0.370		Non-designable
18	Part No. 1 | On Line | Part No. 1 | 2 | x_{i-k} : 47.22 %						
	1	0.000	LC1	$\sigma_{x,tot}$	0.211		Non-designable
	1	0.000	LC1	τ_{tot}	0.032		Non-designable
	1	0.000	LC1	$\sigma_{eqv,von\ Mises}$	0.218		Non-designable
19	Part No. 1 | On Line | Part No. 1 | 2 | x_{i-k} : 88.89 %						
	1	0.000	LC1	$\sigma_{x,tot}$	0.289		Non-designable
	1	0.000	LC1	τ_{tot}	0.124		Non-designable
	1	0.000	LC1	$\sigma_{eqv,von\ Mises}$	0.360		Non-designable
20	Part No. 1 | On Line | Part No. 1 | 2 | x_{i-k} : 44.44 %						
	1	0.000	LC1	$\sigma_{x,tot}$	0.254		Non-designable

5.10 STRESSES BY STRESS POINTS

Finite Element Analysis

Stress Point No.	Member No.	Location x [m]	Loading No.	Stress Type	Stresses [N/mm²] Existing	Limit	Stress Ratio η [--]
20	1	0.000	LC1	τ_{tot}	0.057		Non-designable
	1	0.000	LC1	$\sigma_{eqv,von\ Mises}$	0.272		Non-designable
21	Part No. 1 | On Line | Part No. 1 | 2 | x_{i-k} : 91.67 %						
	1	0.000	LC1	$\sigma_{x,tot}$	0.289		Non-designable
	1	0.000	LC1	τ_{tot}	0.106		Non-designable
	1	0.000	LC1	$\sigma_{eqv,von\ Mises}$	0.342		Non-designable
22	Part No. 1 | On Line | Part No. 1 | 2 | x_{i-k} : 41.67 %						
	1	0.000	LC1	$\sigma_{x,tot}$	0.296		Non-designable
	1	0.000	LC1	τ_{tot}	0.082		Non-designable
	1	0.000	LC1	$\sigma_{eqv,von\ Mises}$	0.328		Non-designable
23	Part No. 1 | On Line | Part No. 1 | 2 | x_{i-k} : 94.44 %						
	1	0.000	LC1	$\sigma_{x,tot}$	0.285		Non-designable
	1	0.000	LC1	τ_{tot}	0.085		Non-designable
	1	0.000	LC1	$\sigma_{eqv,von\ Mises}$	0.320		Non-designable
24	Part No. 1 | On Line | Part No. 1 | 2 | x_{i-k} : 38.89 %						
	1	0.000	LC1	$\sigma_{x,tot}$	0.335		Non-designable
	1	0.000	LC1	τ_{tot}	0.105		Non-designable
	1	0.000	LC1	$\sigma_{eqv,von\ Mises}$	0.381		Non-designable
25	Part No. 1 | On Line | Part No. 1 | 2 | x_{i-k} : 97.22 %						
	1	0.000	LC1	$\sigma_{x,tot}$	0.280		Non-designable
	1	0.000	LC1	τ_{tot}	0.058		Non-designable
	1	0.000	LC1	$\sigma_{eqv,von\ Mises}$	0.297		Non-designable
26	Part No. 1 | On Line | Part No. 1 | 2 | x_{i-k} : 36.11 %						
	1	0.000	LC1	$\sigma_{x,tot}$	0.367		Non-designable
	1	0.000	LC1	τ_{tot}	0.126		Non-designable
	1	0.000	LC1	$\sigma_{eqv,von\ Mises}$	0.428		Non-designable
27	Part No. 1 | On Line | Part No. 1 | 1 | x_{i-k} : 5.00 %						
	1	0.000	LC1	$\sigma_{x,tot}$	0.865		Non-designable
	1	0.000	LC1	τ_{tot}	0.047		Non-designable
	1	0.000	LC1	$\sigma_{eqv,von\ Mises}$	0.869		Non-designable
28	Part No. 1 | On Line | Part No. 1 | 2						
	1	0.000	LC1	$\sigma_{x,tot}$	0.276		Non-designable
	1	0.000	LC1	τ_{tot}	0.026		Non-designable
	1	0.000	LC1	$\sigma_{eqv,von\ Mises}$	0.280		Non-designable
29	Part No. 1 | On Line | Part No. 1 | 1 | x_{i-k} : 70.00 %						
	1	0.000	LC1	$\sigma_{x,tot}$	-1.090		Non-designable
	1	0.000	LC1	τ_{tot}	0.031		Non-designable
	1	0.000	LC1	$\sigma_{eqv,von\ Mises}$	1.091		Non-designable
30	Part No. 1 | On Line | Part No. 1 | 2 | x_{i-k} : 33.33 %						
	1	0.000	LC1	$\sigma_{x,tot}$	0.392		Non-designable
	1	0.000	LC1	τ_{tot}	0.143		Non-designable
	1	0.000	LC1	$\sigma_{eqv,von\ Mises}$	0.464		Non-designable
31	Part No. 1 | On Line | Part No. 1 | 2 | x_{i-k} : 2.78 %						
	1	0.000	LC1	$\sigma_{x,tot}$	0.275		Non-designable
	1	0.000	LC1	τ_{tot}	0.026		Non-designable
	1	0.000	LC1	$\sigma_{eqv,von\ Mises}$	0.279		Non-designable
32	Part No. 1 | On Line | Part No. 1 | 2 | x_{i-k} : 30.56 %						
	1	0.000	LC1	$\sigma_{x,tot}$	0.409		Non-designable
	1	0.000	LC1	τ_{tot}	0.160		Non-designable
	1	0.000	LC1	$\sigma_{eqv,von\ Mises}$	0.494		Non-designable
33	Part No. 1 | On Line | Part No. 1 | 2 | x_{i-k} : 5.56 %						
	1	0.000	LC1	$\sigma_{x,tot}$	0.280		Non-designable
	1	0.000	LC1	τ_{tot}	0.061		Non-designable
	1	0.000	LC1	$\sigma_{eqv,von\ Mises}$	0.300		Non-designable
34	Part No. 1 | On Line | Part No. 1 | 2 | x_{i-k} : 27.78 %						
	1	0.000	LC1	$\sigma_{x,tot}$	0.415		Non-designable
	1	0.000	LC1	τ_{tot}	0.180		Non-designable
	1	0.000	LC1	$\sigma_{eqv,von\ Mises}$	0.519		Non-designable
35	Part No. 1 | On Line | Part No. 1 | 2 | x_{i-k} : 8.33 %						
	1	0.000	LC1	$\sigma_{x,tot}$	0.291		Non-designable
	1	0.000	LC1	τ_{tot}	0.094		Non-designable
	1	0.000	LC1	$\sigma_{eqv,von\ Mises}$	0.334		Non-designable

5.10 STRESSES BY STRESS POINTS

Finite Element Analysis

Stress Point No.	Member No.	Location x [m]	Loading No.	Stress Type	Stresses [N/mm²] Existing	Limit	Stress Ratio η [--]
36	Part No. 1 | On Line | Part No. 1 | 2 | x_{i-k} : 25.00 %						
	1	0.000	LC1	$\sigma_{x,tot}$	0.412		Non-designable
	1	0.000	LC1	τ_{tot}	0.186		Non-designable
	1	0.000	LC1	$\sigma_{eqv,von\ Mises}$	0.523		Non-designable
37	Part No. 1 | On Line | Part No. 1 | 2 | x_{i-k} : 11.11 %						
	1	0.000	LC1	$\sigma_{x,tot}$	0.309		Non-designable
	1	0.000	LC1	τ_{tot}	0.124		Non-designable
	1	0.000	LC1	$\sigma_{eqv,von\ Mises}$	0.376		Non-designable
38	Part No. 1 | On Line | Part No. 1 | 2 | x_{i-k} : 22.22 %						
	1	0.000	LC1	$\sigma_{x,tot}$	0.399		Non-designable
	1	0.000	LC1	τ_{tot}	0.187		Non-designable
	1	0.000	LC1	$\sigma_{eqv,von\ Mises}$	0.514		Non-designable
39	Part No. 1 | On Line | Part No. 1 | 2 | x_{i-k} : 13.89 %						
	1	0.000	LC1	$\sigma_{x,tot}$	0.331		Non-designable
	1	0.000	LC1	τ_{tot}	0.150		Non-designable
	1	0.000	LC1	$\sigma_{eqv,von\ Mises}$	0.421		Non-designable
40	Part No. 1 | On Line | Part No. 1 | 2 | x_{i-k} : 19.44 %						
	1	0.000	LC1	$\sigma_{x,tot}$	0.380		Non-designable
	1	0.000	LC1	τ_{tot}	0.182		Non-designable
	1	0.000	LC1	$\sigma_{eqv,von\ Mises}$	0.494		Non-designable
41	Part No. 1 | On Line | Part No. 1 | 2 | x_{i-k} : 16.67 %						
	1	0.000	LC1	$\sigma_{x,tot}$	0.356		Non-designable
	1	0.000	LC1	τ_{tot}	0.169		Non-designable
	1	0.000	LC1	$\sigma_{eqv,von\ Mises}$	0.460		Non-designable
42	Part No. 1 | Cartesian | Part No. 1 | Y : 491.0 mm | Z : 360.1 mm						
	1	0.000	LC1	$\sigma_{x,tot}$	0.031		Non-designable
	1	0.000	LC1	τ_{tot}	0.113		Non-designable
	1	0.000	LC1	$\sigma_{eqv,von\ Mises}$	0.199		Non-designable
43	Part No. 1 | On Line | Part No. 1 | 1 | x_{i-k} : 10.00 %						
	1	0.000	LC1	$\sigma_{x,tot}$	1.883		Non-designable
	1	0.000	LC1	τ_{tot}	0.003		Non-designable
	1	0.000	LC1	$\sigma_{eqv,von\ Mises}$	1.883		Non-designable
44	Part No. 1 | On Line | Part No. 1 | 1 | x_{i-k} : 13.75 %						
	1	0.000	LC1	$\sigma_{x,tot}$	1.500		Non-designable
	1	0.000	LC1	τ_{tot}	0.105		Non-designable
	1	0.000	LC1	$\sigma_{eqv,von\ Mises}$	1.511		Non-designable
45	Part No. 1 | On Line | Part No. 1 | 1 | x_{i-k} : 17.50 %						
	1	0.000	LC1	$\sigma_{x,tot}$	0.359		Non-designable
	1	0.000	LC1	τ_{tot}	0.493		Non-designable
	1	0.000	LC1	$\sigma_{eqv,von\ Mises}$	0.926		Non-designable
46	Part No. 1 | On Line | Part No. 1 | 1 | x_{i-k} : 55.00 %						
	1	0.000	LC1	$\sigma_{x,tot}$	-0.192		Non-designable
	1	0.000	LC1	τ_{tot}	0.202		Non-designable
	1	0.000	LC1	$\sigma_{eqv,von\ Mises}$	0.399		Non-designable
47	Part No. 1 | On Line | Part No. 1 | 1 | x_{i-k} : 60.00 %						
	1	0.000	LC1	$\sigma_{x,tot}$	-1.774		Non-designable
	1	0.000	LC1	τ_{tot}	0.035		Non-designable
	1	0.000	LC1	$\sigma_{eqv,von\ Mises}$	1.775		Non-designable
48	Part No. 1 | On Line | Part No. 1 | 1 | x_{i-k} : 65.00 %						
	1	0.000	LC1	$\sigma_{x,tot}$	-2.400		Non-designable
	1	0.000	LC1	τ_{tot}	0.003		Non-designable
	1	0.000	LC1	$\sigma_{eqv,von\ Mises}$	2.400		Non-designable
49	Part No. 1 | On Line | Part No. 1 | 1 | x_{i-k} : 25.00 %						
	1	0.000	LC1	$\sigma_{x,tot}$	-0.957		Non-designable
	1	0.000	LC1	τ_{tot}	0.122		Non-designable
	1	0.000	LC1	$\sigma_{eqv,von\ Mises}$	0.980		Non-designable
50	Part No. 1 | On Line | Part No. 1 | 1 | x_{i-k} : 47.50 %						
	1	0.000	LC1	$\sigma_{x,tot}$	1.376		Non-designable
	1	0.000	LC1	τ_{tot}	0.118		Non-designable
	1	0.000	LC1	$\sigma_{eqv,von\ Mises}$	1.391		Non-designable
51	Part No. 1 | On Line | Part No. 1 | 1 | x_{i-k} : 32.50 %						
	1	0.000	LC1	$\sigma_{x,tot}$	-1.307		Non-designable

5.10 STRESSES BY STRESS POINTS

Finite Element Analysis

Stress Point No.	Member No.	Location x [m]	Loading No.	Stress Type	Stresses [N/mm²] Existing	Limit	Stress Ratio η [--]
51	1	0.000	LC1	τ_{tot}	0.003		Non-designable
	1	0.000	LC1	$\sigma_{eqv,von\ Mises}$	1.307		Non-designable
52	Part No. 1 | On Line | Part No. 1 | 1 | x_{i-k} : 36.25 %						
	1	0.000	LC1	$\sigma_{x,tot}$	0.326		Non-designable
	1	0.000	LC1	τ_{tot}	0.017		Non-designable
	1	0.000	LC1	$\sigma_{eqv,von\ Mises}$	0.327		Non-designable
53	Part No. 1 | On Line | Part No. 1 | 1 | x_{i-k} : 40.00 %						
	1	0.000	LC1	$\sigma_{x,tot}$	1.959		Non-designable
	1	0.000	LC1	τ_{tot}	0.003		Non-designable
	1	0.000	LC1	$\sigma_{eqv,von\ Mises}$	1.959		Non-designable

5.11 ALL STRESSES BY STRESS POINTS

Finite Element Analysis

Stress Point No.	Member No.	Location x [m]	Loading No.	Stress Type	Stresses [N/mm²] Existing	Limit	Stress Ratio η [--]
1	Part No. 1 | Cartesian | Y : 0.0 mm | Z : 0.0 mm						
	1	0.000	LC1	$\sigma_{x,tot}$	-0.137		Non-designable
	1	0.000	LC1	τ_{tot}	0.004		Non-designable
	1	0.000	LC1	$\sigma_{eqv,von\ Mises}$	0.137		Non-designable
2	Part No. 1 | On Line | Part No. 1 | 1 | x_{i-k} : 87.50 %						
	1	0.000	LC1	$\sigma_{x,tot}$	0.137		Non-designable
	1	0.000	LC1	τ_{tot}	0.086		Non-designable
	1	0.000	LC1	$\sigma_{eqv,von\ Mises}$	0.202		Non-designable
3	Part No. 1 | On Line | Part No. 1 | 1 | x_{i-k} : 75.00 %						
	1	0.000	LC1	$\sigma_{x,tot}$	0.222		Non-designable
	1	0.000	LC1	τ_{tot}	0.003		Non-designable
	1	0.000	LC1	$\sigma_{eqv,von\ Mises}$	0.222		Non-designable
4	Part No. 1 | On Line | Part No. 1 | 2 | x_{i-k} : 66.67 %						
	1	0.000	LC1	$\sigma_{x,tot}$	0.100		Non-designable
	1	0.000	LC1	τ_{tot}	0.154		Non-designable
	1	0.000	LC1	$\sigma_{eqv,von\ Mises}$	0.285		Non-designable
5	Part No. 1 | On Line | Part No. 1 | 2 | x_{i-k} : 69.44 %						
	1	0.000	LC1	$\sigma_{x,tot}$	0.126		Non-designable
	1	0.000	LC1	τ_{tot}	0.167		Non-designable
	1	0.000	LC1	$\sigma_{eqv,von\ Mises}$	0.315		Non-designable
6	Part No. 1 | On Line | Part No. 1 | 2 | x_{i-k} : 63.89 %						
	1	0.000	LC1	$\sigma_{x,tot}$	0.082		Non-designable
	1	0.000	LC1	τ_{tot}	0.139		Non-designable
	1	0.000	LC1	$\sigma_{eqv,von\ Mises}$	0.254		Non-designable
7	Part No. 1 | On Line | Part No. 1 | 2 | x_{i-k} : 72.22 %						
	1	0.000	LC1	$\sigma_{x,tot}$	0.157		Non-designable
	1	0.000	LC1	τ_{tot}	0.177		Non-designable
	1	0.000	LC1	$\sigma_{eqv,von\ Mises}$	0.345		Non-designable
8	Part No. 1 | On Line | Part No. 1 | 2 | x_{i-k} : 61.11 %						
	1	0.000	LC1	$\sigma_{x,tot}$	0.076		Non-designable
	1	0.000	LC1	τ_{tot}	0.118		Non-designable
	1	0.000	LC1	$\sigma_{eqv,von\ Mises}$	0.218		Non-designable
9	Part No. 1 | On Line | Part No. 1 | 2 | x_{i-k} : 75.00 %						
	1	0.000	LC1	$\sigma_{x,tot}$	0.191		Non-designable
	1	0.000	LC1	τ_{tot}	0.176		Non-designable
	1	0.000	LC1	$\sigma_{eqv,von\ Mises}$	0.359		Non-designable
10	Part No. 1 | On Line | Part No. 1 | 2 | x_{i-k} : 58.33 %						
	1	0.000	LC1	$\sigma_{x,tot}$	0.083		Non-designable
	1	0.000	LC1	τ_{tot}	0.094		Non-designable
	1	0.000	LC1	$\sigma_{eqv,von\ Mises}$	0.183		Non-designable
11	Part No. 1 | On Line | Part No. 1 | 2 | x_{i-k} : 77.78 %						
	1	0.000	LC1	$\sigma_{x,tot}$	0.223		Non-designable
	1	0.000	LC1	τ_{tot}	0.172		Non-designable
	1	0.000	LC1	$\sigma_{eqv,von\ Mises}$	0.371		Non-designable
12	Part No. 1 | On Line | Part No. 1 | 2 | x_{i-k} : 55.56 %						
	1	0.000	LC1	$\sigma_{x,tot}$	0.102		Non-designable
	1	0.000	LC1	τ_{tot}	0.067		Non-designable
	1	0.000	LC1	$\sigma_{eqv,von\ Mises}$	0.154		Non-designable

5.11 ALL STRESSES BY STRESS POINTS

Finite Element Analysis

Stress Point No.	Member No.	Location x [m]	Loading No.	Stress Type	Stresses [N/mm²] Existing	Limit	Stress Ratio η [--]
13	Part No. 1 | On Line | Part No. 1 | 2 | x_{i-k} : 80.56 %						
	1	0.000	LC1	$\sigma_{x,tot}$	0.250		Non-designable
	1	0.000	LC1	τ_{tot}	0.163		Non-designable
	1	0.000	LC1	$\sigma_{eqv,von\ Mises}$	0.377		Non-designable
14	Part No. 1 | On Line | Part No. 1 | 2 | x_{i-k} : 52.78 %						
	1	0.000	LC1	$\sigma_{x,tot}$	0.131		Non-designable
	1	0.000	LC1	τ_{tot}	0.038		Non-designable
	1	0.000	LC1	$\sigma_{eqv,von\ Mises}$	0.147		Non-designable
15	Part No. 1 | On Line | Part No. 1 | 2 | x_{i-k} : 83.33 %						
	1	0.000	LC1	$\sigma_{x,tot}$	0.270		Non-designable
	1	0.000	LC1	τ_{tot}	0.148		Non-designable
	1	0.000	LC1	$\sigma_{eqv,von\ Mises}$	0.372		Non-designable
16	Part No. 1 | On Line | Part No. 1 | 2 | x_{i-k} : 50.00 %						
	1	0.000	LC1	$\sigma_{x,tot}$	0.169		Non-designable
	1	0.000	LC1	τ_{tot}	0.010		Non-designable
	1	0.000	LC1	$\sigma_{eqv,von\ Mises}$	0.169		Non-designable
17	Part No. 1 | On Line | Part No. 1 | 2 | x_{i-k} : 86.11 %						
	1	0.000	LC1	$\sigma_{x,tot}$	0.283		Non-designable
	1	0.000	LC1	τ_{tot}	0.137		Non-designable
	1	0.000	LC1	$\sigma_{eqv,von\ Mises}$	0.370		Non-designable
18	Part No. 1 | On Line | Part No. 1 | 2 | x_{i-k} : 47.22 %						
	1	0.000	LC1	$\sigma_{x,tot}$	0.211		Non-designable
	1	0.000	LC1	τ_{tot}	0.032		Non-designable
	1	0.000	LC1	$\sigma_{eqv,von\ Mises}$	0.218		Non-designable
19	Part No. 1 | On Line | Part No. 1 | 2 | x_{i-k} : 88.89 %						
	1	0.000	LC1	$\sigma_{x,tot}$	0.289		Non-designable
	1	0.000	LC1	τ_{tot}	0.124		Non-designable
	1	0.000	LC1	$\sigma_{eqv,von\ Mises}$	0.360		Non-designable
20	Part No. 1 | On Line | Part No. 1 | 2 | x_{i-k} : 44.44 %						
	1	0.000	LC1	$\sigma_{x,tot}$	0.254		Non-designable
	1	0.000	LC1	τ_{tot}	0.057		Non-designable
	1	0.000	LC1	$\sigma_{eqv,von\ Mises}$	0.272		Non-designable
21	Part No. 1 | On Line | Part No. 1 | 2 | x_{i-k} : 91.67 %						
	1	0.000	LC1	$\sigma_{x,tot}$	0.289		Non-designable
	1	0.000	LC1	τ_{tot}	0.106		Non-designable
	1	0.000	LC1	$\sigma_{eqv,von\ Mises}$	0.342		Non-designable
22	Part No. 1 | On Line | Part No. 1 | 2 | x_{i-k} : 41.67 %						
	1	0.000	LC1	$\sigma_{x,tot}$	0.296		Non-designable
	1	0.000	LC1	τ_{tot}	0.082		Non-designable
	1	0.000	LC1	$\sigma_{eqv,von\ Mises}$	0.328		Non-designable
23	Part No. 1 | On Line | Part No. 1 | 2 | x_{i-k} : 94.44 %						
	1	0.000	LC1	$\sigma_{x,tot}$	0.285		Non-designable
	1	0.000	LC1	τ_{tot}	0.085		Non-designable
	1	0.000	LC1	$\sigma_{eqv,von\ Mises}$	0.320		Non-designable
24	Part No. 1 | On Line | Part No. 1 | 2 | x_{i-k} : 38.89 %						
	1	0.000	LC1	$\sigma_{x,tot}$	0.335		Non-designable
	1	0.000	LC1	τ_{tot}	0.105		Non-designable
	1	0.000	LC1	$\sigma_{eqv,von\ Mises}$	0.381		Non-designable
25	Part No. 1 | On Line | Part No. 1 | 2 | x_{i-k} : 97.22 %						
	1	0.000	LC1	$\sigma_{x,tot}$	0.280		Non-designable
	1	0.000	LC1	τ_{tot}	0.058		Non-designable
	1	0.000	LC1	$\sigma_{eqv,von\ Mises}$	0.297		Non-designable
26	Part No. 1 | On Line | Part No. 1 | 2 | x_{i-k} : 36.11 %						
	1	0.000	LC1	$\sigma_{x,tot}$	0.367		Non-designable
	1	0.000	LC1	τ_{tot}	0.126		Non-designable
	1	0.000	LC1	$\sigma_{eqv,von\ Mises}$	0.428		Non-designable
27	Part No. 1 | On Line | Part No. 1 | 1 | x_{i-k} : 5.00 %						
	1	0.000	LC1	$\sigma_{x,tot}$	0.865		Non-designable
	1	0.000	LC1	τ_{tot}	0.047		Non-designable
	1	0.000	LC1	$\sigma_{eqv,von\ Mises}$	0.869		Non-designable
28	Part No. 1 | On Line | Part No. 1 | 2						
	1	0.000	LC1	$\sigma_{x,tot}$	0.276		Non-designable

5.11 ALL STRESSES BY STRESS POINTS

Finite Element Analysis

Stress Point No.	Member No.	Location x [m]	Loading No.	Stress Type	Stresses [N/mm²] Existing	Limit	Stress Ratio η [--]
28	1	0.000	LC1	τ_{tot}	0.026		Non-designable
	1	0.000	LC1	$\sigma_{eqv,von\ Mises}$	0.280		Non-designable
29	Part No. 1 | On Line | Part No. 1 | 1 | x_{i-k} : 70.00 %						
	1	0.000	LC1	$\sigma_{x,tot}$	-1.090		Non-designable
	1	0.000	LC1	τ_{tot}	0.031		Non-designable
	1	0.000	LC1	$\sigma_{eqv,von\ Mises}$	1.091		Non-designable
30	Part No. 1 | On Line | Part No. 1 | 2 | x_{i-k} : 33.33 %						
	1	0.000	LC1	$\sigma_{x,tot}$	0.392		Non-designable
	1	0.000	LC1	τ_{tot}	0.143		Non-designable
	1	0.000	LC1	$\sigma_{eqv,von\ Mises}$	0.464		Non-designable
31	Part No. 1 | On Line | Part No. 1 | 2 | x_{i-k} : 2.78 %						
	1	0.000	LC1	$\sigma_{x,tot}$	0.275		Non-designable
	1	0.000	LC1	τ_{tot}	0.026		Non-designable
	1	0.000	LC1	$\sigma_{eqv,von\ Mises}$	0.279		Non-designable
32	Part No. 1 | On Line | Part No. 1 | 2 | x_{i-k} : 30.56 %						
	1	0.000	LC1	$\sigma_{x,tot}$	0.409		Non-designable
	1	0.000	LC1	τ_{tot}	0.160		Non-designable
	1	0.000	LC1	$\sigma_{eqv,von\ Mises}$	0.494		Non-designable
33	Part No. 1 | On Line | Part No. 1 | 2 | x_{i-k} : 5.56 %						
	1	0.000	LC1	$\sigma_{x,tot}$	0.280		Non-designable
	1	0.000	LC1	τ_{tot}	0.061		Non-designable
	1	0.000	LC1	$\sigma_{eqv,von\ Mises}$	0.300		Non-designable
34	Part No. 1 | On Line | Part No. 1 | 2 | x_{i-k} : 27.78 %						
	1	0.000	LC1	$\sigma_{x,tot}$	0.415		Non-designable
	1	0.000	LC1	τ_{tot}	0.180		Non-designable
	1	0.000	LC1	$\sigma_{eqv,von\ Mises}$	0.519		Non-designable
35	Part No. 1 | On Line | Part No. 1 | 2 | x_{i-k} : 8.33 %						
	1	0.000	LC1	$\sigma_{x,tot}$	0.291		Non-designable
	1	0.000	LC1	τ_{tot}	0.094		Non-designable
	1	0.000	LC1	$\sigma_{eqv,von\ Mises}$	0.334		Non-designable
36	Part No. 1 | On Line | Part No. 1 | 2 | x_{i-k} : 25.00 %						
	1	0.000	LC1	$\sigma_{x,tot}$	0.412		Non-designable
	1	0.000	LC1	τ_{tot}	0.186		Non-designable
	1	0.000	LC1	$\sigma_{eqv,von\ Mises}$	0.523		Non-designable
37	Part No. 1 | On Line | Part No. 1 | 2 | x_{i-k} : 11.11 %						
	1	0.000	LC1	$\sigma_{x,tot}$	0.309		Non-designable
	1	0.000	LC1	τ_{tot}	0.124		Non-designable
	1	0.000	LC1	$\sigma_{eqv,von\ Mises}$	0.376		Non-designable
38	Part No. 1 | On Line | Part No. 1 | 2 | x_{i-k} : 22.22 %						
	1	0.000	LC1	$\sigma_{x,tot}$	0.399		Non-designable
	1	0.000	LC1	τ_{tot}	0.187		Non-designable
	1	0.000	LC1	$\sigma_{eqv,von\ Mises}$	0.514		Non-designable
39	Part No. 1 | On Line | Part No. 1 | 2 | x_{i-k} : 13.89 %						
	1	0.000	LC1	$\sigma_{x,tot}$	0.331		Non-designable
	1	0.000	LC1	τ_{tot}	0.150		Non-designable
	1	0.000	LC1	$\sigma_{eqv,von\ Mises}$	0.421		Non-designable
40	Part No. 1 | On Line | Part No. 1 | 2 | x_{i-k} : 19.44 %						
	1	0.000	LC1	$\sigma_{x,tot}$	0.380		Non-designable
	1	0.000	LC1	τ_{tot}	0.182		Non-designable
	1	0.000	LC1	$\sigma_{eqv,von\ Mises}$	0.494		Non-designable
41	Part No. 1 | On Line | Part No. 1 | 2 | x_{i-k} : 16.67 %						
	1	0.000	LC1	$\sigma_{x,tot}$	0.356		Non-designable
	1	0.000	LC1	τ_{tot}	0.169		Non-designable
	1	0.000	LC1	$\sigma_{eqv,von\ Mises}$	0.460		Non-designable
42	Part No. 1 | Cartesian | Part No. 1 | Y : 491.0 mm | Z : 360.1 mm						
	1	0.000	LC1	$\sigma_{x,tot}$	0.031		Non-designable
	1	0.000	LC1	τ_{tot}	0.113		Non-designable
	1	0.000	LC1	$\sigma_{eqv,von\ Mises}$	0.199		Non-designable
43	Part No. 1 | On Line | Part No. 1 | 1 | x_{i-k} : 10.00 %						
	1	0.000	LC1	$\sigma_{x,tot}$	1.883		Non-designable
	1	0.000	LC1	τ_{tot}	0.003		Non-designable
	1	0.000	LC1	$\sigma_{eqv,von\ Mises}$	1.883		Non-designable

5.11 ALL STRESSES BY STRESS POINTS

Finite Element Analysis

Stress Point No.	Member No.	Location x [m]	Loading No.	Stress Type	Stresses [N/mm²] Existing	Limit	Stress Ratio η [--]
44	Part No. 1 | On Line | Part No. 1 | 1 | x_{i-k} : 13.75 %						
	1	0.000	LC1	$\sigma_{x,tot}$	1.500		Non-designable
	1	0.000	LC1	τ_{tot}	0.105		Non-designable
	1	0.000	LC1	$\sigma_{eqv,von\ Mises}$	1.511		Non-designable
45	Part No. 1 | On Line | Part No. 1 | 1 | x_{i-k} : 17.50 %						
	1	0.000	LC1	$\sigma_{x,tot}$	0.359		Non-designable
	1	0.000	LC1	τ_{tot}	0.493		Non-designable
	1	0.000	LC1	$\sigma_{eqv,von\ Mises}$	0.926		Non-designable
46	Part No. 1 | On Line | Part No. 1 | 1 | x_{i-k} : 55.00 %						
	1	0.000	LC1	$\sigma_{x,tot}$	-0.192		Non-designable
	1	0.000	LC1	τ_{tot}	0.202		Non-designable
	1	0.000	LC1	$\sigma_{eqv,von\ Mises}$	0.399		Non-designable
47	Part No. 1 | On Line | Part No. 1 | 1 | x_{i-k} : 60.00 %						
	1	0.000	LC1	$\sigma_{x,tot}$	-1.774		Non-designable
	1	0.000	LC1	τ_{tot}	0.035		Non-designable
	1	0.000	LC1	$\sigma_{eqv,von\ Mises}$	1.775		Non-designable
48	Part No. 1 | On Line | Part No. 1 | 1 | x_{i-k} : 65.00 %						
	1	0.000	LC1	$\sigma_{x,tot}$	-2.400		Non-designable
	1	0.000	LC1	τ_{tot}	0.003		Non-designable
	1	0.000	LC1	$\sigma_{eqv,von\ Mises}$	2.400		Non-designable
49	Part No. 1 | On Line | Part No. 1 | 1 | x_{i-k} : 25.00 %						
	1	0.000	LC1	$\sigma_{x,tot}$	-0.957		Non-designable
	1	0.000	LC1	τ_{tot}	0.122		Non-designable
	1	0.000	LC1	$\sigma_{eqv,von\ Mises}$	0.980		Non-designable
50	Part No. 1 | On Line | Part No. 1 | 1 | x_{i-k} : 47.50 %						
	1	0.000	LC1	$\sigma_{x,tot}$	1.376		Non-designable
	1	0.000	LC1	τ_{tot}	0.118		Non-designable
	1	0.000	LC1	$\sigma_{eqv,von\ Mises}$	1.391		Non-designable
51	Part No. 1 | On Line | Part No. 1 | 1 | x_{i-k} : 32.50 %						
	1	0.000	LC1	$\sigma_{x,tot}$	-1.307		Non-designable
	1	0.000	LC1	τ_{tot}	0.003		Non-designable
	1	0.000	LC1	$\sigma_{eqv,von\ Mises}$	1.307		Non-designable
52	Part No. 1 | On Line | Part No. 1 | 1 | x_{i-k} : 36.25 %						
	1	0.000	LC1	$\sigma_{x,tot}$	0.326		Non-designable
	1	0.000	LC1	τ_{tot}	0.017		Non-designable
	1	0.000	LC1	$\sigma_{eqv,von\ Mises}$	0.327		Non-designable
53	Part No. 1 | On Line | Part No. 1 | 1 | x_{i-k} : 40.00 %						
	1	0.000	LC1	$\sigma_{x,tot}$	1.959		Non-designable
	1	0.000	LC1	τ_{tot}	0.003		Non-designable
	1	0.000	LC1	$\sigma_{eqv,von\ Mises}$	1.959		Non-designable