Specifier's comments:

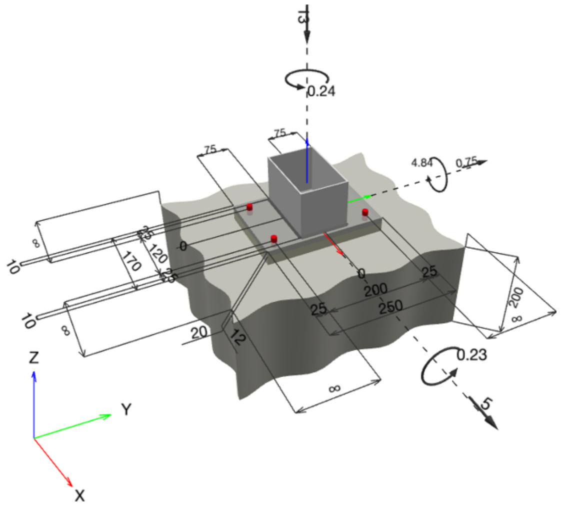
1 Anchor Design

1.1 Input data

Anchor type and size:	**HST4 M12**
Return period (service life in years):	50
Item number:	2329067 HST4 M12x145 5-80
Specification text:	Hilti HST4 stud anchor with 85 mm embedment, M12, Steel galvanized, installation per ETA-21/0878,
Effective embedment depth:	$h_{ef,act}$ = 85.0 mm ($h_{ef,limit}$ = - mm), h_{nom} = 94.0 mm
Material:	Carbon Steel
Approval No.:	ETA-21/0878
Issued I Valid:	31/10/2024 | -
Proof:	Design Method AS 5216:2021, Mechanical ETA-21/0878
Stand-off installation:	grouted standoff; restraint level (baseplate): 2.00; e_b = 20.0 mm; t = 12.0 mm grout compressive strength = 30.00 N/mm^2
Baseplate^{CBFEM} :	l_x x l_y x t = 170.0 mm x 250.0 mm x 12.0 mm;
Profile:	Rectangular hollow section, ; (L x W x T) = 150.0 mm x 100.0 mm x 3.0 mm
Base material:	cracked concrete, 32MPa, f'_c = 32.00 N/mm^2; h =200.0 mm
Installation:	**Hammer drilled hole, Installation condition: Dry**
Reinforcement:	No reinforcement or Reinforcement spacing >= 150 mm (any Ø) or >= 100 mm (Ø <= 10 mm) no longitudinal edge reinforcement Reinforcement to control splitting acc. to AS5216 6.2.6.2 present

^{CBFEM} - The anchor calculation is based on a component-based Finite Element Method (CBFEM)

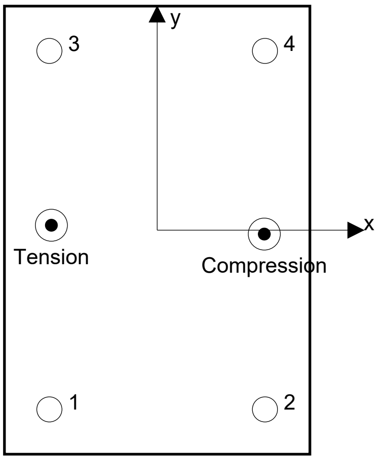
Geometry [mm] & Loading [kN, kNm]



1.1.1 Load combination

Case	Description	Forces [kN] / Moments [kNm]	Seismic	Fire	Max. Util. Anchor [%]
1	Combination 1	$N = -13.000$; $V_x = 5.000$; $V_y = 0.750$; $M_x = 0.230$; $M_y = 4.840$; $M_z = 0.240$;	no	no	79

1.2 Load case/Resulting anchor forces



Anchor reactions [kN]

Tension force: (+Tension, -Compression)

Anchor	Tension force	Shear force	Shear force x	Shear force y
1	14.939	1.685	1.674	0.186
2	0.000	1.756	1.710	0.397
3	15.496	0.864	0.796	-0.337
4	0.287	0.962	0.819	0.504

Resulting tension force in (x/y)=(-58.9/2.7): 30.723 [kN]
Resulting compression force in (x/y)=(59.6/-2.2): 48.779 [kN]

Anchor forces are calculated based on a component-based Finite Element Method (CBFEM)

1.3 Tension load ((AS 5216:2021, Section 6.2))

	Load [kN]	Capacity [kN]	Utilization β_N [%]	Status
Steel failure*	15.496	32.857	48	OK
Pull-out failure*	15.496	23.612	66	OK
Concrete Breakout failure**	30.723	39.215	79	OK
Splitting failure**	N/A	N/A	N/A	N/A

* highest loaded anchor **anchor group (anchors in tension)

1.3.1 Steel failure

$N^* \leq N_{Rd,s} = \phi_{Ms,N} \cdot N_{Rk,s}$ AS 5216:2021, Table 3.4.2.1

$N_{Rk,s}$ [kN]	$\phi_{Ms,N}$	$N_{Rd,s}$ [kN]	N^* [kN]
46.000	0.714	32.857	15.496

1.3.2 Pull-out failure

$N^* \leq N_{Rd,p} = \phi_{Mp} \cdot \psi_c \cdot N_{Rk,p}$ AS 5216:2021, Table 3.4.2.1

$N_{Rk,p}$ [kN]	ψ_c	ϕ_{Mp}	$N_{Rd,p}$ [kN]	N^* [kN]
28.000	1.265	0.667	23.612	15.496

1.3.3 Concrete Breakout failure

$N^* \leq N_{Rd,c} = \phi_{Mc} \cdot N_{Rk,c}$ AS 5216:2021, Table 3.4.2.1

$N_{Rk,c} = N^0_{Rk,c} \cdot \frac{A_{c,N}}{A^0_{c,N}} \cdot \psi_{s,N} \cdot \psi_{re,N} \cdot \psi_{ec1,N} \cdot \psi_{ec2,N} \cdot \psi_{M,N}$ AS 5216:2021, Eq. 6.2.3.1

$N^0_{Rk,c} = k_1 \cdot \sqrt{f'_c} \cdot h_{ef}^{1,5}$ AS 5216:2021, Eq. 6.2.3.2

$A^0_{c,N} = s_{cr,N} \cdot s_{cr,N}$ AS 5216:2021, Eq. 6.2.3.3

$\psi_{s,N} = 0.7 + 0.3 \cdot \frac{c}{c_{cr,N}} \leq 1.00$ AS 5216:2021, Eq. 6.2.3.4

$\psi_{ec1,N} = \frac{1}{1 + \left(\frac{2 \cdot e_{N,1}}{s_{cr,N}}\right)} \leq 1.00$ AS 5216:2021, Eq. 6.2.3.6

$\psi_{ec2,N} = \frac{1}{1 + \left(\frac{2 \cdot e_{N,2}}{s_{cr,N}}\right)} \leq 1.00$ AS 5216:2021, Eq. 6.2.3.6

$\psi_{M,N} = 2.0 - \frac{2 \cdot z}{3 \cdot h_{ef}} \geq 1.00$ AS 5216:2021, Clause 6.2.3.7

$A_{c,N}$ [mm^2]	$A^0_{c,N}$ [mm^2]	$c_{cr,N}$ [mm]	$s_{cr,N}$ [mm]	$f_{c,cyl}$ [N/mm^2]
146,625	65,025	127.5	255.0	32.00

$e_{c1,N}$ [mm]	$\psi_{ec1,N}$	$e_{c2,N}$ [mm]	$\psi_{ec2,N}$	$\psi_{s,N}$	$\psi_{re,N}$	z [mm]
38.9	0.766	30.6	0.807	1.000	1.000	118.6

$\psi_{M,N}$	k_1	$N^0_{Rk,c}$ [kN]	ϕ_{Mc}	$N_{Rd,c}$ [kN]	N^* [kN]
1.070	8.900	39.454	0.667	39.215	30.723

Group anchor ID
1, 3, 4

1.4 Shear load ((AS 5216:2021, Section 7.2))

	Load [kN]	Capacity [kN]	Utilization β_V [%]	Status
Steel failure (without lever arm)*	1.756	29.920	6	OK
Steel failure (with lever arm)*	1.685	2.999	57	OK
Pryout failure**	5.056	130.986	4	OK
Concrete edge failure in direction **	N/A	N/A	N/A	N/A

* highest loaded anchor **anchor group (relevant anchors)
When the input edge distance is set to "infinity", edge breakout verification is not performed in that direction

1.4.1 Steel failure (without lever arm)

$V^* \leq V_{Rd,s} = \phi_{Ms,V} \cdot V_{Rk,s}$ AS 5216:2021, Table 3.4.3.1

$V_{Rk,s} = k_7 \cdot V^0_{Rk,s}$ AS 5216:2021, Eq. 7.2.2.2(1)

$V^0_{Rk,s}$ [kN]	k_7	$V_{Rk,s}$ [kN]	$\phi_{Ms,V}$	$V_{Rd,s}$ [kN]	V^* [kN]
37.400	1.000	37.400	0.800	29.920	1.756

1.4.2 Steel failure (with lever arm)

$V^* \leq V_{Rd,s,M} = \phi_{Ms,V} \cdot V_{Rk,s,M}$ AS 5216:2021, Table 3.4.3.1

$V_{Rk,s,M} = \frac{\alpha_M \cdot M_{Rk,s}}{l_a}$ AS 5216:2021, Eq. 7.2.2.3(1)

$M_{Rk,s} = M^0_{Rk,s} \cdot \left(1 - \frac{N^*}{N_{Rd,s}}\right)$ AS 5216:2021, Eq. 7.2.2.3(2)

$l_a = e_c + \frac{t}{2} + a_3$ AS 5216:2021, Eq. 4.2.2.1

l [mm]	α_M
32.0	2.00

$N^* / N_{Rd,s}$	$1 - N^* / N_{Rd,s}$	$M^0_{Rk,s}$ [kNm]	$M_{Rk,s} = M^0_{Rk,s} (1 - N^*/N_{Rd,s})$ [kNm]
0.455	0.545	0.110	0.060

$V^M_{Rk,s} = \alpha_M * M_{Rk,s} / l$ [kN]	$\phi_{Ms,V}$	$V^M_{Rd,s}$ [kN]	V^* [kN]
3.749	0.800	2.999	1.685

1.4.3 Pryout failure

$V^* \leq V_{Rd,cp} = \phi_{Mc} \cdot V_{Rk,cp}$ AS 5216:2021, Table 3.4.3.1

$V_{Rk,cp} = k_8 \cdot N_{Rk,c}$ AS 5216:2021, Eq. 7.2.4.1(1)

$N_{Rk,c} = N^0_{Rk,c} \cdot \frac{A_{c,N}}{A^0_{c,N}} \cdot \psi_{s,N} \cdot \psi_{re,N} \cdot \psi_{ec1,N} \cdot \psi_{ec2,N} \cdot \psi_{M,N}$ AS 5216:2021, Eq. 6.2.3.1

$N^0_{Rk,c} = k_1 \cdot \sqrt{f_c} \cdot h_{ef}^{1,5}$ AS 5216:2021, Eq. 6.2.3.2

$A^0_{c,N} = s_{cr,N} \cdot s_{cr,N}$ AS 5216:2021, Eq. 6.2.3.3

$\psi_{s,N} = 0.7 + 0.3 \cdot \frac{c}{c_{cr,N}} \leq 1.00$ AS 5216:2021, Eq. 6.2.3.4

$\psi_{ec1,N} = \frac{1}{1 + \left(\frac{2 \cdot e_{V,1}}{s_{cr,N}}\right)} \leq 1.00$ AS 5216:2021, Eq. 6.2.3.6

$\psi_{ec2,N} = \frac{1}{1 + \left(\frac{2 \cdot e_{V,2}}{s_{cr,N}}\right)} \leq 1.00$ AS 5216:2021, Eq. 6.2.3.6

$\psi_{M,N} = 1$ AS 5216:2021, Clause 6.2.3.7

$A_{c,N}$ [mm^2]	$A^0_{c,N}$ [mm^2]	$c_{cr,N}$ [mm]	$s_{cr,N}$ [mm]	k_8	$f_{c,cyl}$ [N/mm^2]
170,625	65,025	127.5	255.0	2.740	32.00

$e_{c1,V}$ [mm]	$\psi_{ec1,N}$	$e_{c2,V}$ [mm]	$\psi_{ec2,N}$	$\psi_{s,N}$	$\psi_{re,N}$	$\psi_{M,N}$
7.0	0.948	46.9	0.731	1.000	1.000	1.000

k_1	$N^0_{Rk,c}$ [kN]	ϕ_{Mc}	$V_{Rd,cp}$ [kN]	V^* [kN]
8.900	39.454	0.667	130.986	5.056

Group anchor ID
1-4

1.5 Combined tension and shear loads (AS 5216:2021, Section 8.1.1, 8.1.2EN 1992-4, Section 7.2.3)

Steel failure

β_N	β_V	α	Utilization $\beta_{N,V}$ [%]	Status
0.472	0.029	2.000	23	OK

$\beta_N^{\alpha} + \beta_V^{\alpha} \leq 1.0$

Concrete failure

β_N	β_V	α	Utilization $\beta_{N,V}$ [%]	Status
0.783	0.039	1.000	69	OK

$(\beta_N + \beta_V) / 1.2 \leq 1.0$

1.6 Warnings

- The anchor design methods in PROFIS Engineering require rigid baseplates as per current regulations (ETAG 001/Annex C, EOTA TR029, etc.). This means load re-distribution on the anchors due to elastic deformations of the baseplate are not considered - the baseplate is assumed to be sufficiently stiff, in order not to be deformed when subjected to the design loading. PROFIS Engineering calculates the minimum required baseplate thickness with CBFEM to limit the stress of the baseplate based on the assumptions explained above. The proof if the rigid base plate assumption is valid is not carried out by PROFIS Engineering. Input data and results must be checked for agreement with the existing conditions and for plausibility!
- The equations presented in this report are based on metric units. When inputs are displayed in imperial units, the user should be aware that the equations remain in their metric format.
- Checking the transfer of loads into the base material is required in accordance with AS5216:2021!
- The design is only valid if the clearance hole in the fixture is not larger than the value given in Table 4.1 of SA TS 101: 2015! For larger diameters of the clearance hole see section 2.2 of SA TS 101: 2015!
- The accessory list in this report is for the information of the user only. In any case, the instructions for use provided with the product have to be followed to ensure a proper installation.
- For the determination of the $\psi_{re,v}$ (concrete edge failure) the minimum concrete cover defined in the design settings is used as the concrete cover of the edge reinforcement.
- Load transfer from supplementary reinforcement to the structural member shall be verified by the responsible structural engineer.
- With supplementary reinforcement and post-installed anchors, please ensure that in the jobsite the rebars are not drilled through.
- The anchor design methods in PROFIS Engineering require rigid baseplates, as per current regulations (AS 5216:2021, ETAG 001/Annex C, EOTA TR029 etc.). This means that the baseplate should be sufficiently rigid to prevent load re-distribution to the anchors due to elastic/plastic displacements. The user accepts that the baseplate is considered close to rigid by engineering judgment."
- The characteristic bond resistances depend on the return period (service life in years): 50

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Phone I Fax:	|	E-Mail:	
Design:	01-Tall Wall-150x100x3 RHS	Date:	15/4/2025
Fastening Point:			

1.7 Installation data

Baseplate, steel: Grade 300; E = 200,000.00 N/mm^2; f_{yk} = 310.00 N/mm^2

Profile: Rectangular hollow section, ; (L x W x T) = 150.0 mm x 100.0 mm x 3.0 mm

Hole diameter in the fixture: d_f = 14.0 mm

Plate thickness (input): 12.0 mm

Drilling method: Hammer drilled

Cleaning: No cleaning of the drilled hole is required

Anchor type and size: HST4 M12

Item number: 2329067 HST4 M12x145 5-80

Maximum installation torque: 60 Nm

Hole diameter in the base material: 12.0 mm

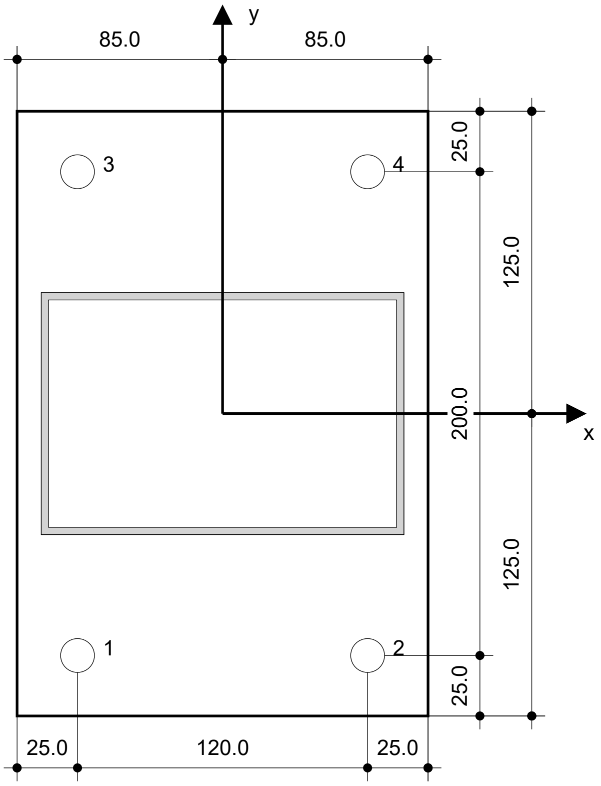
Hole depth in the base material: 114.0 mm

Minimum thickness of the base material: 146.0 mm

Hilti HST4 stud anchor with 85 mm embedment, M12, Steel galvanized, installation per ETA-21/0878

1.7.1 Recommended accessories

Drilling	Cleaning	Setting
• Suitable Rotary Hammer • Properly sized drill bit	• No accessory required	• Torque controlled cordless impact tool • Torque wrench • Hammer



Coordinates Anchor [mm]

Anchor	x	y	c_{-x}	c_{+x}	c_{-y}	c_{+y}
1	-60.0	-100.0	-	-	-	-
2	60.0	-100.0	-	-	-	-
3	-60.0	100.0	-	-	-	-
4	60.0	100.0	-	-	-	-

2 Baseplate design

2.1 Input data

Baseplate:	Shape: Rectangular l_x x l_y x t = 170.0 mm x 250.0 mm x 12.0 mm Calculation: CBFEM Material: Grade 300; F_y = 310.00 N/mm²; ε_{lim} = 5.00%
Anchor type and size:	HST4 M12, h_{ef} = 85.0 mm
Anchor stiffness:	The anchor is modelled considering stiffness values determined from load displacement curves tested in an independent laboratory. Please note that no simple replacement of the anchor is possible as the anchor stiffness has a major impact on the load distribution results.
Design method:	AS 4100:1998 -based design using component-based FEM
Stand-off installation:	e_b = 20.0 mm (Stand-off with grouting); t = 12.0 mm
Profile:	Custom; (L x W x T x FT) = 150.0 mm x 100.0 mm x 3.0 mm x - Material: Grade C250; F_y = 250.00 N/mm²; ε_{lim} = 5.00% Eccentricity x: 0.0 mm Eccentricity y: 0.0 mm
Base material:	Cracked concrete; 32MPa; $f_{c,cyl}$ = 32.00 N/mm²; h = 200.0 mm; E = 30,100.00 N/mm²; G = 12,541.67 N/mm²; v = 0.20
Welds (profile to baseplate):	Type of redistribution: Plastic Material: Grade B-E49XX Web weld thickness: 3.0 mm; f_{uw} = 490.00 N/mm² Flange weld thickness: 3.0 mm; f_{uw} = 490.00 N/mm²
Mesh size:	Number of elements on edge: 8 Min. size of element: 10.0 mm Max size of element: 50.0 mm

2.2 Summary

	Description	Profile		Baseplate			Welds [%]	Concrete [%]
		σ_{Eq} [N/mm²]	ε_{Pl} [%]	σ_{Eq} [N/mm²]	ε_{Pl} [%]	Hole bearing [%]		
1	Combination 1	161.89	0.00	263.83	0.00	2	98	12

2.3 Baseplate plate classification

Results below are displayed for the decisive load combinations: Combination 1

Anchor tension forces	Equivalent rigid baseplate (CBFEM)	Component-based Finite Element Method (CBFEM) baseplate
Anchor 1	14.687 kN	14.939 kN
Anchor 2	-0.003 kN	0.000 kN
Anchor 3	15.041 kN	15.496 kN
Anchor 4	-0.002 kN	0.287 kN

User accepted to consider the selected baseplate as rigid by his/her engineering judgement. This means the anchor design guidelines can be applied.

2.4 Profile/Stiffeners/Plate

Profile and stiffeners are verified at the level of the steel to concrete connection. The connection design does not replace the steel design for critical cross sections, which should be performed outside of PROFIS Engineering.

2.4.1 Equivalent stress and plastic strain

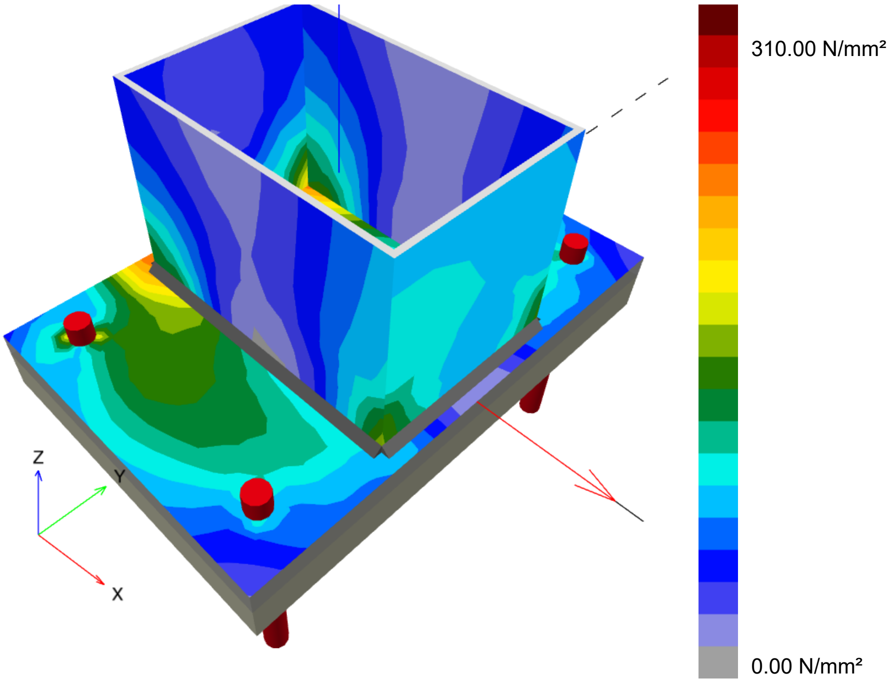
$$\varepsilon_{Pl} \leq \varepsilon_{lim}$$

Results

Part	Load combination	Material	σ_{Eq} [N/mm²]	ε_{Pl} [%]	f_y [N/mm²]	Φ_{steel}	$f_y\ \Phi_{steel}$ [N/mm²]	ε_{lim} [%]	Status
Plate	Combination 1	Grade 300	263.83	0.00	310.00	0.90	279.00	5.00	OK
Profile	Combination 1	Grade C250	161.89	0.00	250.00	0.90	225.00	5.00	OK
Profile	Combination 1	Grade C250	142.20	0.00	250.00	0.90	225.00	5.00	OK
Profile	Combination 1	Grade C250	135.80	0.00	250.00	0.90	225.00	5.00	OK
Profile	Combination 1	Grade C250	139.74	0.00	250.00	0.90	225.00	5.00	OK

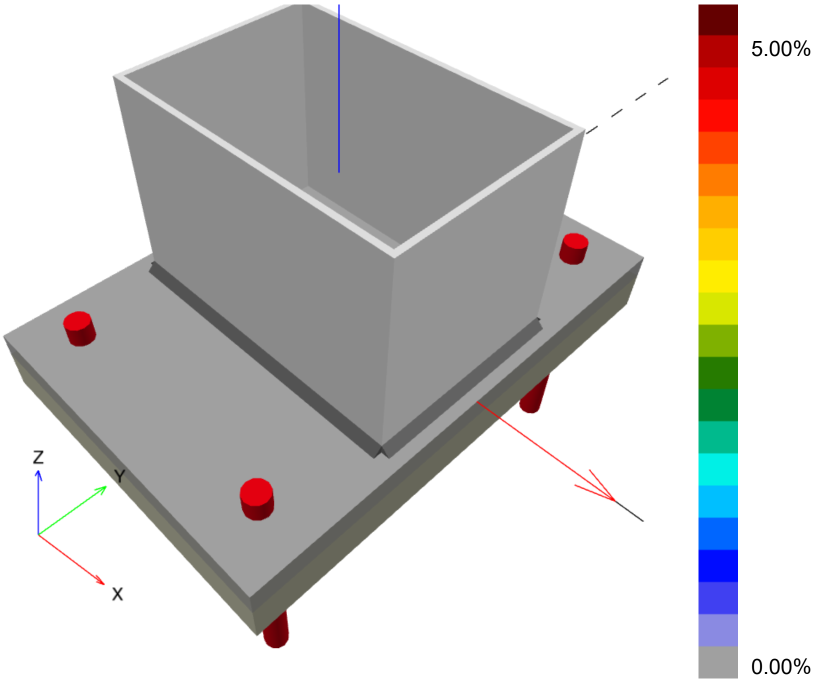
2.4.1.1 Equivalent stress

Results below are displayed for the decisive load combination: 1 - Combination 1



2.4.1.2 Plastic strain

Results below are displayed for the decisive load combination: 1 - Combination 1



2.4.2 Hole bearing

Decisive load combination: 1 - Combination 1

Plate hole bearing resistance, AS 4100:1998 section 9.3.2.4:

Equations

$V_b^* < \Phi V_b^*$

$V_b = \min(V_{bi}, V_{be})$

$V_{bi} = 3.2 d_f t_i f_{ui}$ AS 4100:1998 section 9.3.2.4(1) (Bearing strength)

$V_{be} = a_{ei} t_i f_{ui}$ AS 4100:1998 section 9.3.2.4(2) (Edge rupture)

Variables

	d_f [mm]	t_i [mm]	f_{ui} [N/mm²]	a_{ei} [mm]	Φ_{steel}
Anchor 1	12.0	12.0	430.00	24.2	0.90
Anchor 2	12.0	12.0	430.00	109.5	0.90
Anchor 3	12.0	12.0	430.00	26.2	0.90
Anchor 4	12.0	12.0	430.00	169.2	0.90

Results

	ΦV_b [kN]	V_b^* [kN]	Utilisation [%]	Status
Anchor 1	112.174	1.684	2	OK
Anchor 2	178.330	1.755	1	OK
Anchor 3	121.446	0.864	1	OK
Anchor 4	178.330	0.962	1	OK

2.5 Welds

Profiles are modelled without taking the corner radius into account. Special rules for welding (e.g. for cold-formed profiles ...) are not taken into account by the software.

2.5.1 Baseplate to profile

Decisive load combination: 1 - Combination 1

Equations

$v^*_w \leq \Phi v_w$

$\Phi v_w \leq \Phi(0.6\ f_{uw}\ t_t\ k_r)$

Variables

Edge	t_t [mm]	t_w [mm]	k_r	f_{uw} [N/mm^2]	Φ_{welds}
Member 1-tfl 1	◢3.0	4.2	1.00	320.00	0.80
Member 1-bfl 1	3.0◣	4.2	1.00	320.00	0.80
Member 1-w 1	◢3.0	4.2	1.00	320.00	0.80
Member 1-w 2	3.0◣	4.2	1.00	320.00	0.80

Results

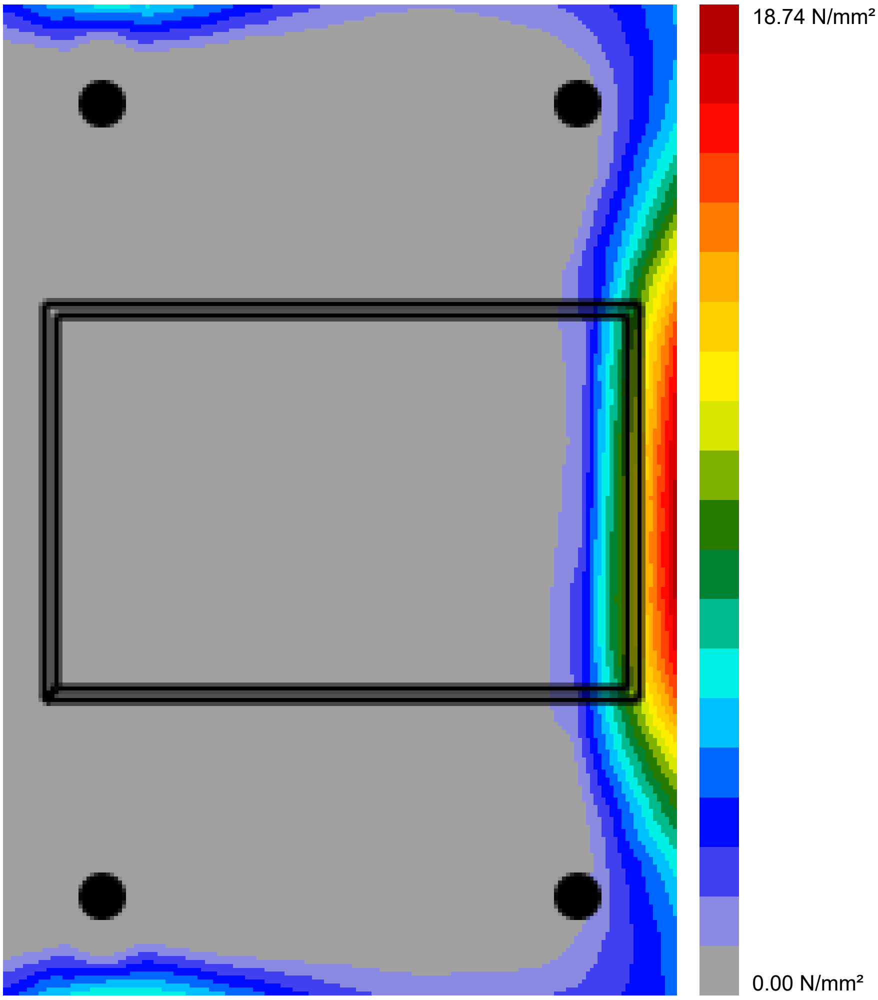
Edge	v^*_w [kN/m]	Φv_w [kN/m]	Utilisation [%]	Status
Member 1-tfl 1	449,509,290.09	460,800,000.00	98	OK
Member 1-bfl 1	447,376,842.84	460,800,000.00	98	OK
Member 1-w 1	449,659,760.59	460,800,000.00	98	OK
Member 1-w 2	450,096,368.99	460,800,000.00	98	OK

2.6 Concrete

Decisive load combination: 1 - Combination 1

According to AS 3600:2018 section 12.6, the concrete should have sufficient reinforcement to take into account the tensile forces that develop due to the fixture attachment. The definition of the reinforcement in the concrete is not within the scope of PROFIS Engineering.

2.6.1 Compression in concrete under the baseplate



2.6.2 Verification of compression in concrete under the baseplate around the profile as per AS 3600:2018 12.6

Equations

$$\sigma_c \le f_b$$

$$f_b = \min\{ \Phi 0.9\, f'_c \sqrt{(\frac{A_2}{A_1})}; \Phi 1.8\, f'_c \}$$ AS 3600:2018 section 12.6

Variables

f'_c [N/mm²]	A_1 [mm²]	A_2 [mm²]	$\Phi_{concrete}$
32.00	11,872	908,693	0.60

Results

σ_c [N/mm²]	f_b [N/mm²]	Utilisation [%]	Status
4.11	34.56	12	OK

2.7 Symbol explanation

A_1	Loaded area of concrete
A_2	Supporting area
a_{ei}	Edge distance from centre of hole in direction of shear
d_f	diameter of the anchor
ε_{lim}	Limit plastic strain
ε_{Pl}	Plastic strain from CBFEM results
f'_c	Concrete compressive strength
f_b	Concrete block bearing resistance
f_{ui}	Tensile strength of steel material
f_{uw}	Ultimate strength of weld material, specified by material properties (see AS 4855)
f_y	Yield strength
k_r	Reduction factor to account for length of weld see AS 4100:1998 Table 9.7.3.10 (2)
σ_c	Average stress in concrete
σ_{Eq}	Equivalent stress
$\Phi_{concrete}$	Concrete capacity factor
Φ_{steel}	Steel capacity factor
Φv_w	Capacity of fillet weld per unit length - given by $v_w = 0.6\ f_{uw}\ t_t\ k_r$.
Φ_{welds}	Welds capacity factor (SP - 0.8, GP - 0.6 AS 4100:1998 Table 3.4)
v^*_w	Design force per unit length on the weld. This is calculated as the vector sum of design load on weld, per unit length
t_i	Baseplate thickness
t_t	Throat thickness of the weld
t_w	Fillet weld width
V_b	Steel bearing resistance - AS 4100:1998
V_b*	Resultant of anchor shear forces Vy and Vz in shear planes
V_{be}	Edge rupture - AS 4100:1998 9.3.2.4(2)
V_{bi}	Bearing strength - AS 4100:1998 9.3.2.4(1)

2.8 Warnings

- By using the CBFEM calculation functionality of PROFIS Engineering you may act outside the applicable design codes and your specified baseplate may not behave rigidly. Please, have the results validated by a professional designer and/or structural engineer to ensure suitability and adequacy for your specific jurisdiction and project requirements.
- The anchor is modelled considering stiffness values determined from load displacement curves tested in an independent laboratory. Please note that no simple replacement of the anchor is possible as the anchor stiffness has a major impact on the load distribution results.

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3 Summary of results

Design of the baseplate, anchors, welds and other elements are based on CBFEM (component-based finite element method) and AS.

	Load combination	Max. utilisation	Status
Anchors	Combination 1	79%	OK
Baseplate	Combination 1	86%	OK
Welds	Combination 1	98%	OK
Concrete	Combination 1	12%	OK
Profile	Combination 1	65%	OK

Fastening meets the design criteria!

4 Remarks; Your Cooperation Duties

- Any and all information and data contained in the Software concern solely the use of Hilti products and are based on the principles, formulas and security regulations in accordance with Hilti's technical directions and operating, mounting and assembly instructions, etc., that must be strictly complied with by the user. All figures contained therein are average figures, and therefore use-specific tests are to be conducted prior to using the relevant Hilti product. The results of the calculations carried out by means of the Software are based essentially on the data you put in. Therefore, you bear the sole responsibility for the absence of errors, the completeness and the relevance of the data to be put in by you. Moreover, you bear sole responsibility for having the results of the calculation checked and cleared by an expert, particularly with regard to compliance with applicable norms and permits, prior to using them for your specific facility. The Software serves only as an aid to interpret norms and permits without any guarantee as to the absence of errors, the correctness and the relevance of the results or suitability for a specific application.
- You must take all necessary and reasonable steps to prevent or limit damage caused by the Software. In particular, you must arrange for the regular backup of programs and data and, if applicable, carry out the updates of the Software offered by Hilti on a regular basis. If you do not use the AutoUpdate function of the Software, you must ensure that you are using the current and thus up-to-date version of the Software in each case by carrying out manual updates via the Hilti Website. Hilti will not be liable for consequences, such as the recovery of lost or damaged data or programs, arising from a culpable breach of duty by you.