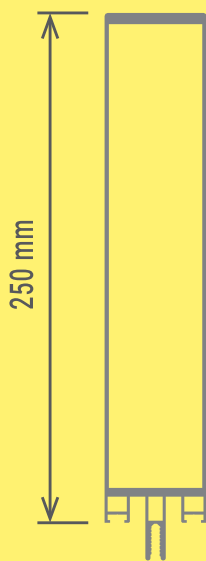
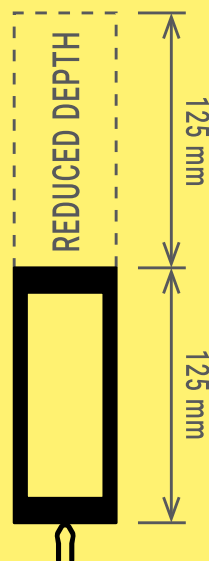


Maximal span, minimal size



ALUMINUM MULLION



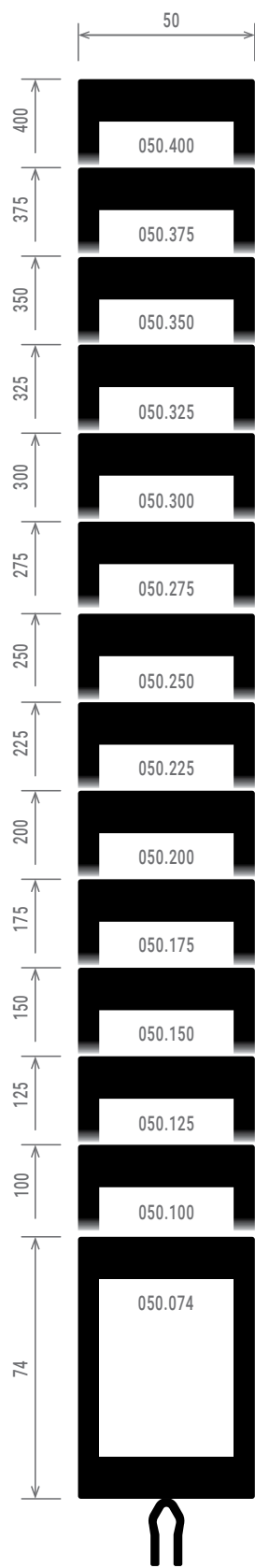
braiko sharp™
STEEL MULLION

Steel Profiles for Glazings

- large spans up to 12m
- reduced profile depts
- elegant look
- glass weight up to 1.2t

Contents

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Scale: 1:2

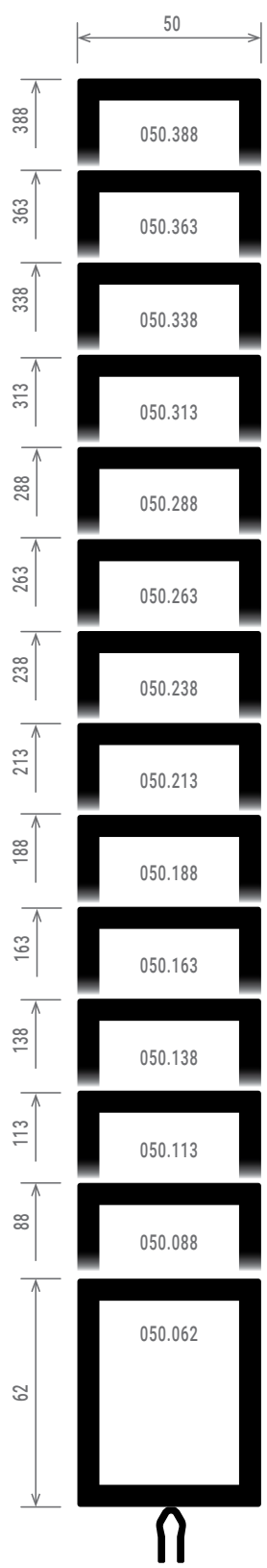
Material:
Mild Steel S235JR



RHS Mullions - section properties

Nr	A (cm2)	kg/m	Jy (cm4)	Wy (cm3)	Jz (cm4)	Wz (cm3)	A _c (m2/m)
050.074	18.00	14.13	129.26	34.94	54.22	21.69	0.25
050.100	21.12	16.58	277.66	55.53	69.41	27.77	0.30
050.125	24.12	18.93	487.54	78.01	84.02	33.61	0.35
050.150	27.12	21.29	772.80	103.04	98.63	39.45	0.40
050.175	30.12	23.64	1142.81	130.61	113.24	45.30	0.45
050.200	33.12	26.00	1606.94	160.69	127.85	51.14	0.50
050.225	36.12	28.35	2174.57	193.30	142.46	56.99	0.55
050.250	39.12	30.71	2855.08	228.41	157.07	62.83	0.60
050.275	42.12	33.06	3657.84	266.02	171.68	68.67	0.65
050.300	45.12	35.42	4592.22	306.15	186.29	74.52	0.70
050.325	48.12	37.77	5667.60	348.78	200.90	80.36	0.75
050.350	51.12	40.13	6893.36	393.91	215.51	86.21	0.80
050.375	54.12	42.48	8278.87	441.54	230.12	92.05	0.85
050.400	57.12	44.84	9833.50	491.67	244.73	97.89	0.90

- A (cm2) Corss section area
- G (kg/m) Profile weight per m
- Jy (cm4) Moment of Inertia - y axis
- Wy (cm3) Section modulus - y axis
- Jz (cm4) Moment of Inertia - z axis
- Wz (cm3) Section modulus - z axis
- A_c (m2/m) Coating area per m



Scale: 1:2

Material:
Mild Steel S235JR

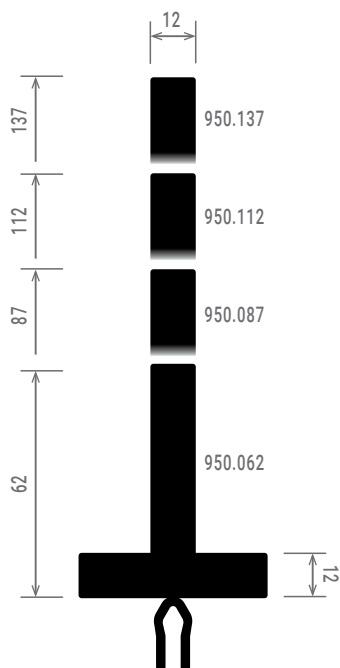


RHS Transoms - section properties

Nr	A (cm2)	kg/m	Jy (cm4)	Wy (cm3)	Jz (cm4)	Wz (cm3)	Ac (m2/m)
050.062	12.00	9.42	59.72	19.26	41.72	16.69	0.22
050.088	15.12	11.87	144.94	32.94	56.91	22.77	0.28
050.113	18.12	14.22	274.95	48.66	71.52	28.61	0.33
050.138	21.12	16.58	461.58	66.90	86.13	34.45	0.38
050.163	24.12	18.93	714.21	87.63	100.74	40.30	0.43
050.188	27.12	21.29	1042.22	110.87	115.35	46.14	0.48
050.213	30.12	23.64	1454.98	136.62	129.96	51.99	0.53
050.238	33.12	26.00	1961.86	164.86	144.57	57.83	0.58
050.263	36.12	28.35	2572.24	195.61	159.18	63.67	0.63
050.288	39.12	30.71	3295.50	228.85	173.79	69.52	0.68
050.313	42.12	33.06	4141.01	264.60	188.40	75.36	0.73
050.338	45.12	35.42	5118.14	302.85	203.01	81.21	0.78
050.363	48.12	37.77	6236.27	343.60	217.62	87.05	0.83
050.388	51.12	40.13	7504.78	386.84	232.23	92.89	0.88

A (cm2) Corss section area
G (kg/m) Profile weight per m
Jy (cm4) Moment of Inertia - y axis
Wy (cm3) Section modulus - y axis
Jz (cm4) Moment of Inertia - z axis
Wz (cm3) Section modulus - z axis
Ac (m2/m) Coating area per m

Material:
Mild Steel S235JR



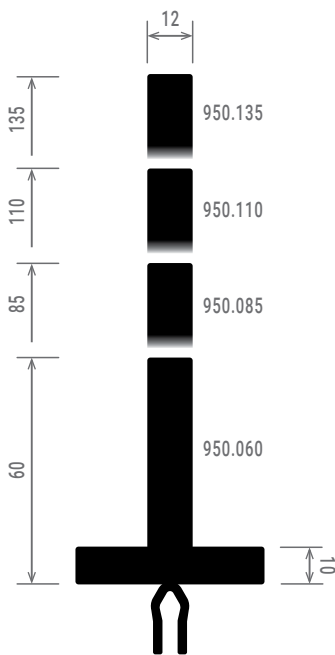
Scale: 1:2

T - Mullions - section properties

Nr	A (cm2)	G (kg/m)	Jy (cm4)	Wy (cm3)	Jz (cm4)	Wz (cm3)	Ac (m2/m)
950.062	12.00	9.42	42.05	10.38	13.22	5.29	0.22
950.087	15.00	11.78	111.03	20.22	13.58	5.43	0.27
950.112	18.00	14.13	226.16	32.94	13.94	5.58	0.32
950.137	21.00	16.49	397.13	48.39	14.30	5.72	0.37

- A (cm2) Corss section area
- G (kg/m) Profile weight per m
- Jy (cm4) Moment of Inertia - y axis
- Wy (cm3) Section modulus - y axis
- Jz (cm4) Moment of Inertia - z axis
- Wz (cm3) Section modulus - z axis
- Ac (m2/m) Coating area per m

Material:
Mild Steel S235JR



Scale: 1:2

T - Transoms - section properties

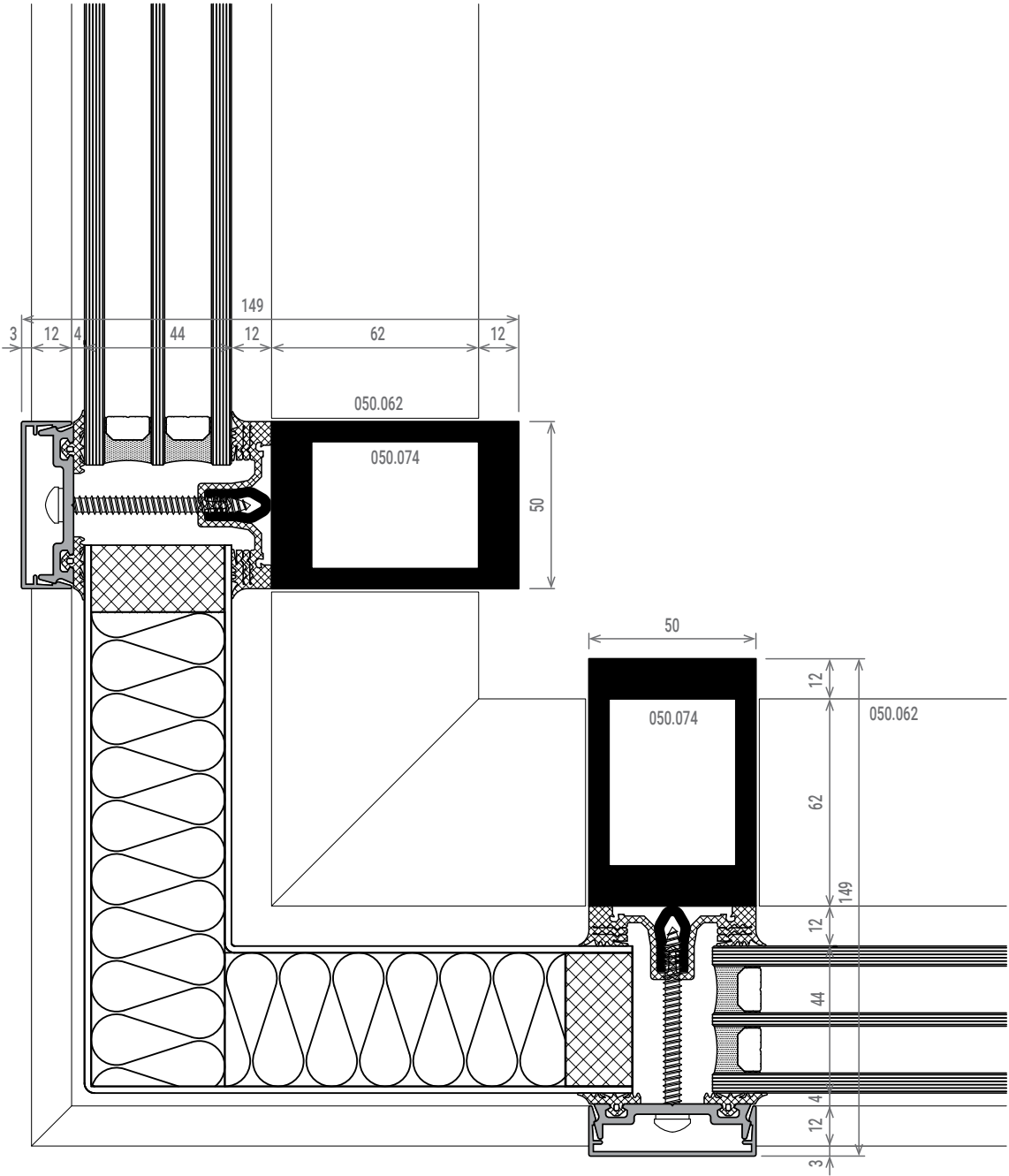
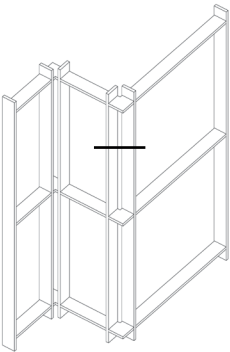
Nr	A (cm2)	G (kg/m)	Jy (cm4)	Wy (cm3)	Jz (cm4)	Wz (cm3)	Ac (m2/m)
950.060	11	8.64	37.46	9.70	11.14	4.45	0.22
950.085	14	10.99	100.66	19.11	11.50	4.60	0.27
950.110	17	13.35	207.18	31.31	11.86	4.74	0.32
950.135	20	15.70	366.59	46.18	12.22	4.89	0.37

- A (cm2) Corss section area
- G (kg/m) Profile weight per m
- Jy (cm4) Moment of Inertia - y axis
- Wy (cm3) Section modulus - y axis
- Jz (cm4) Moment of Inertia - z axis
- Wz (cm3) Section modulus - z axis
- Ac (m2/m) Coating area per m

Facade details

External corner

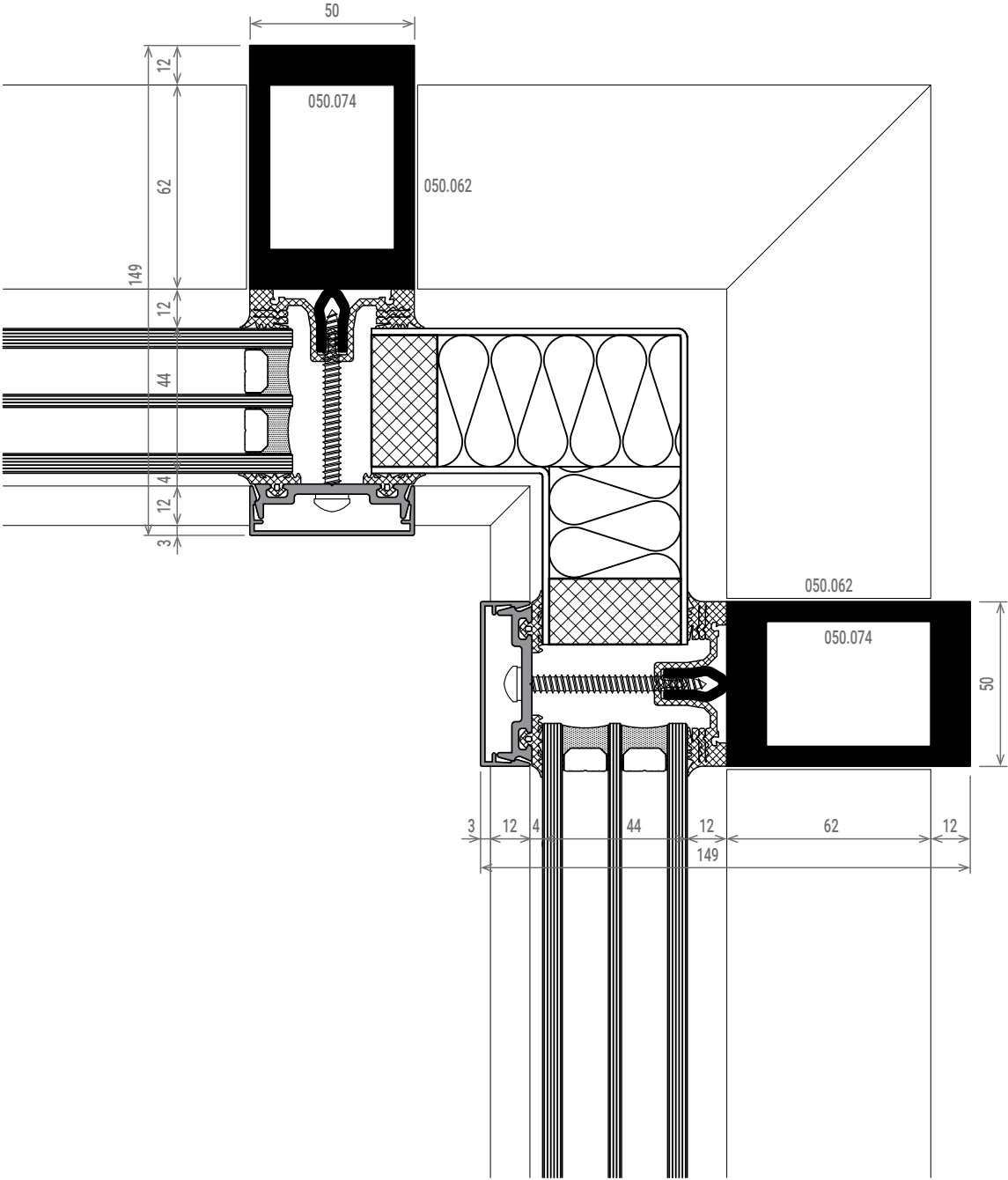
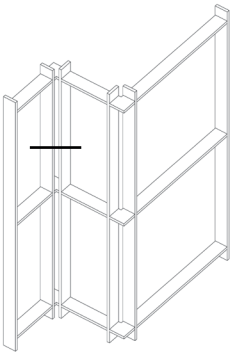
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Facade details

Internal corner

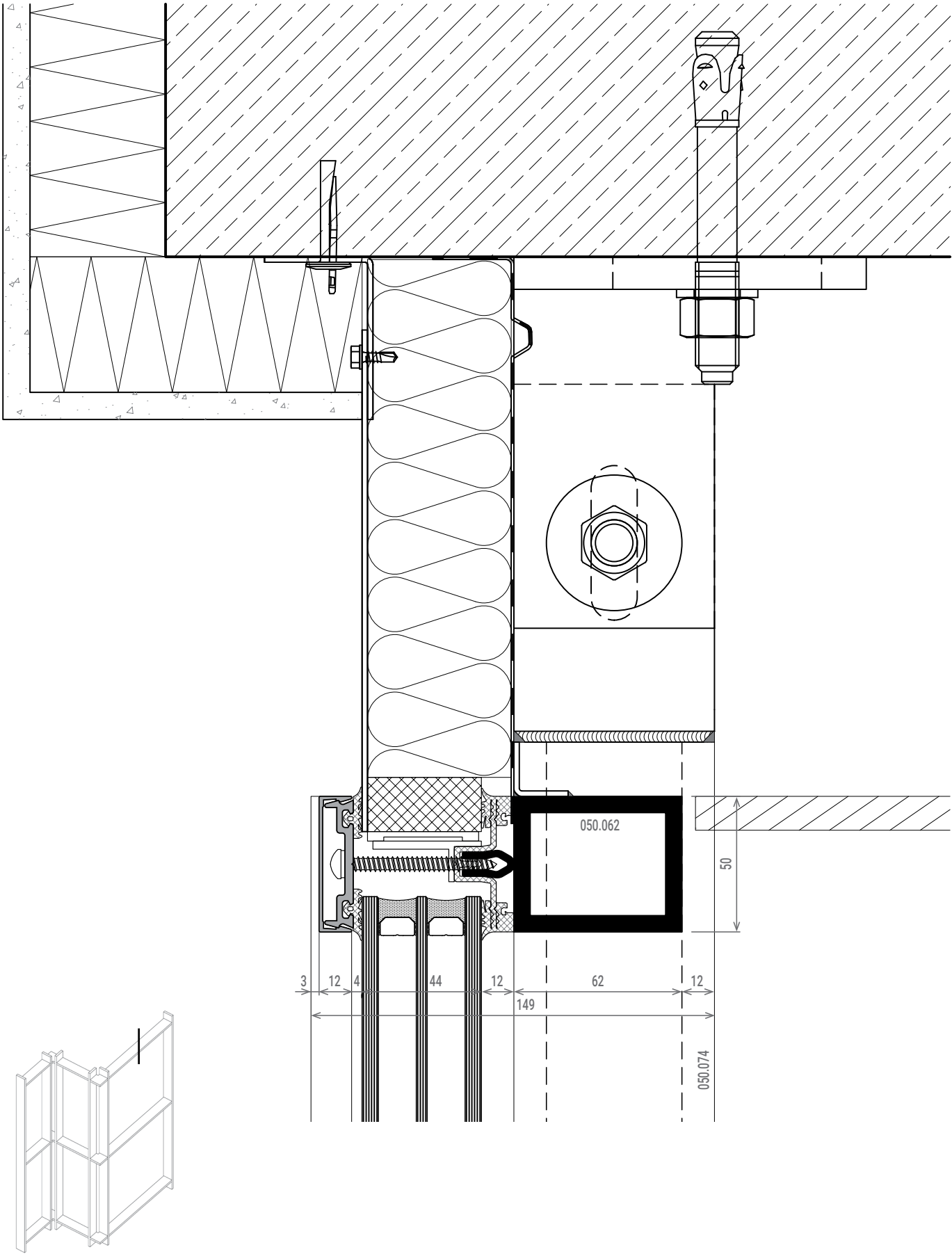
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Facade details

Top connection

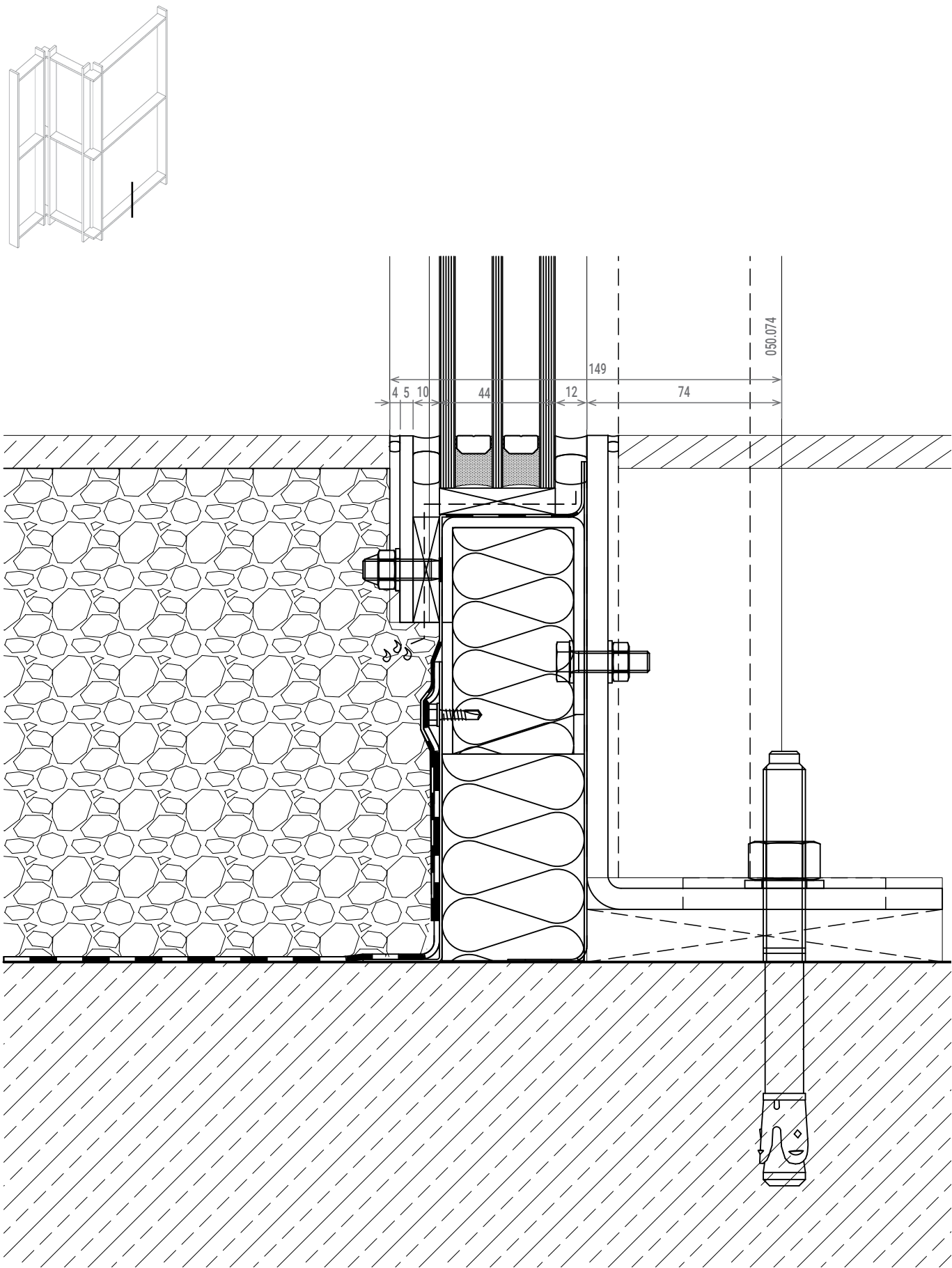
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Facade details

Bottom connection

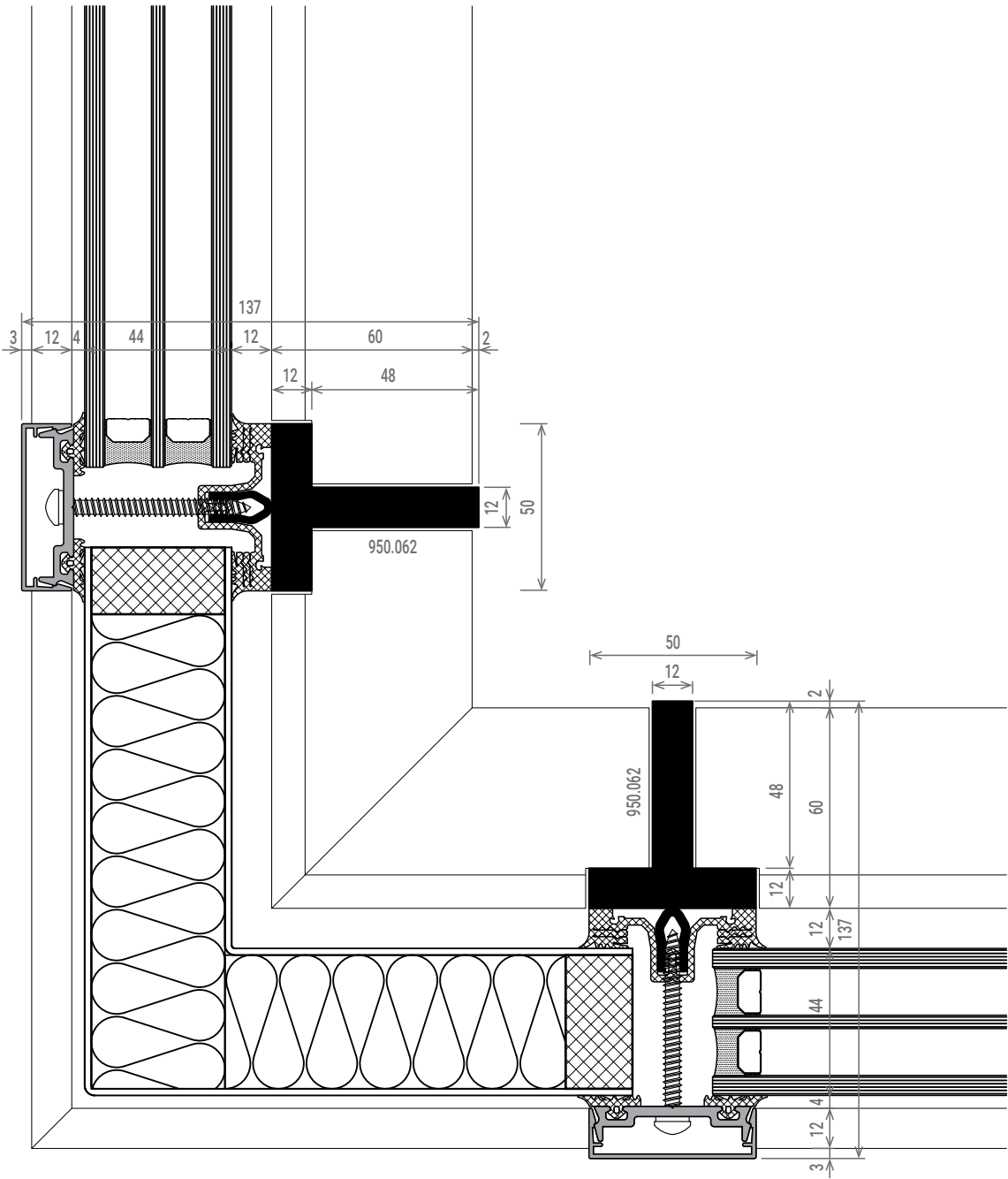
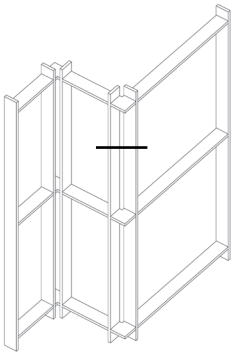
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Facade details

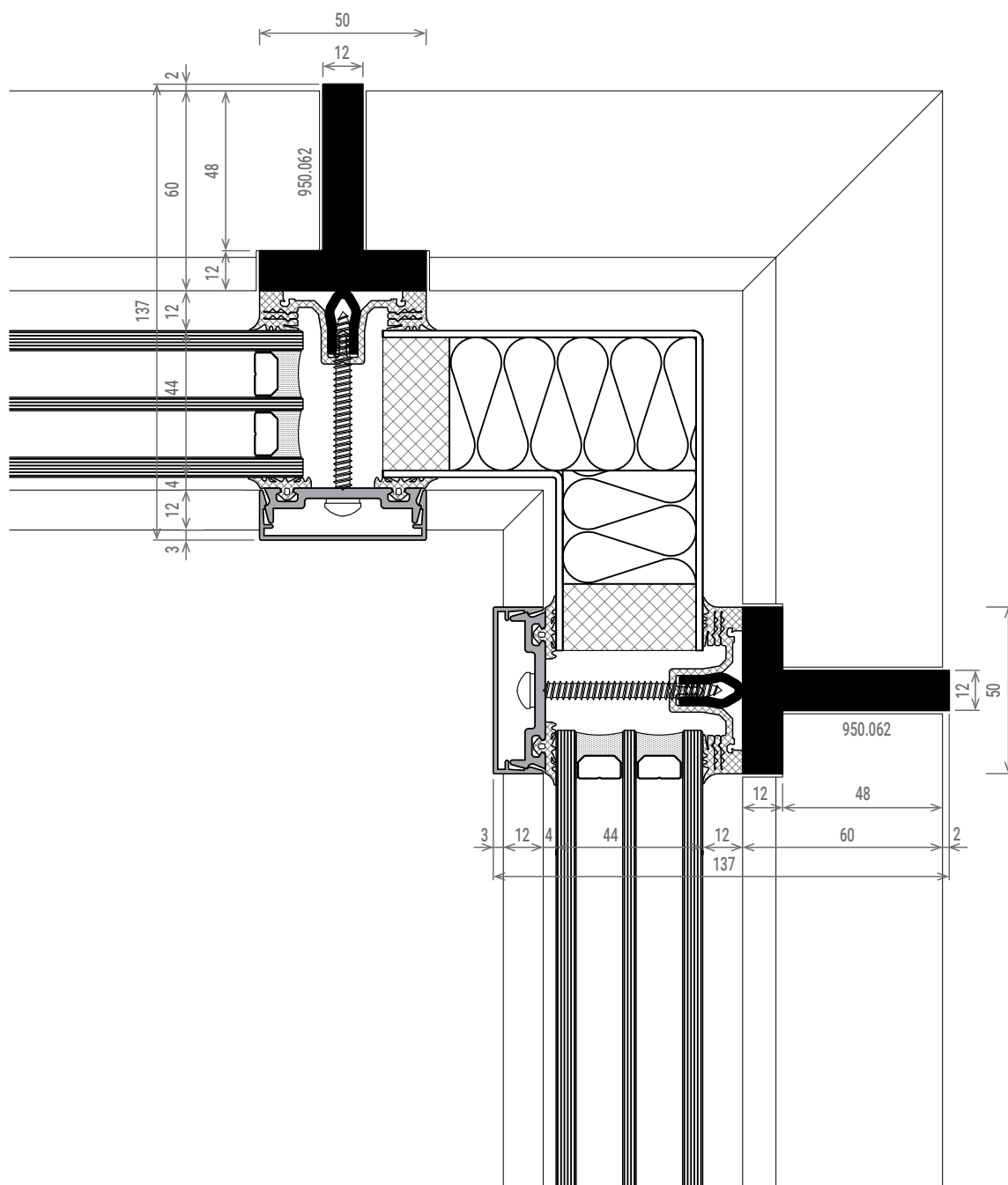
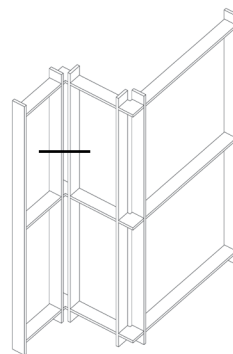
External corner

Scale: 1:2



Internal corner

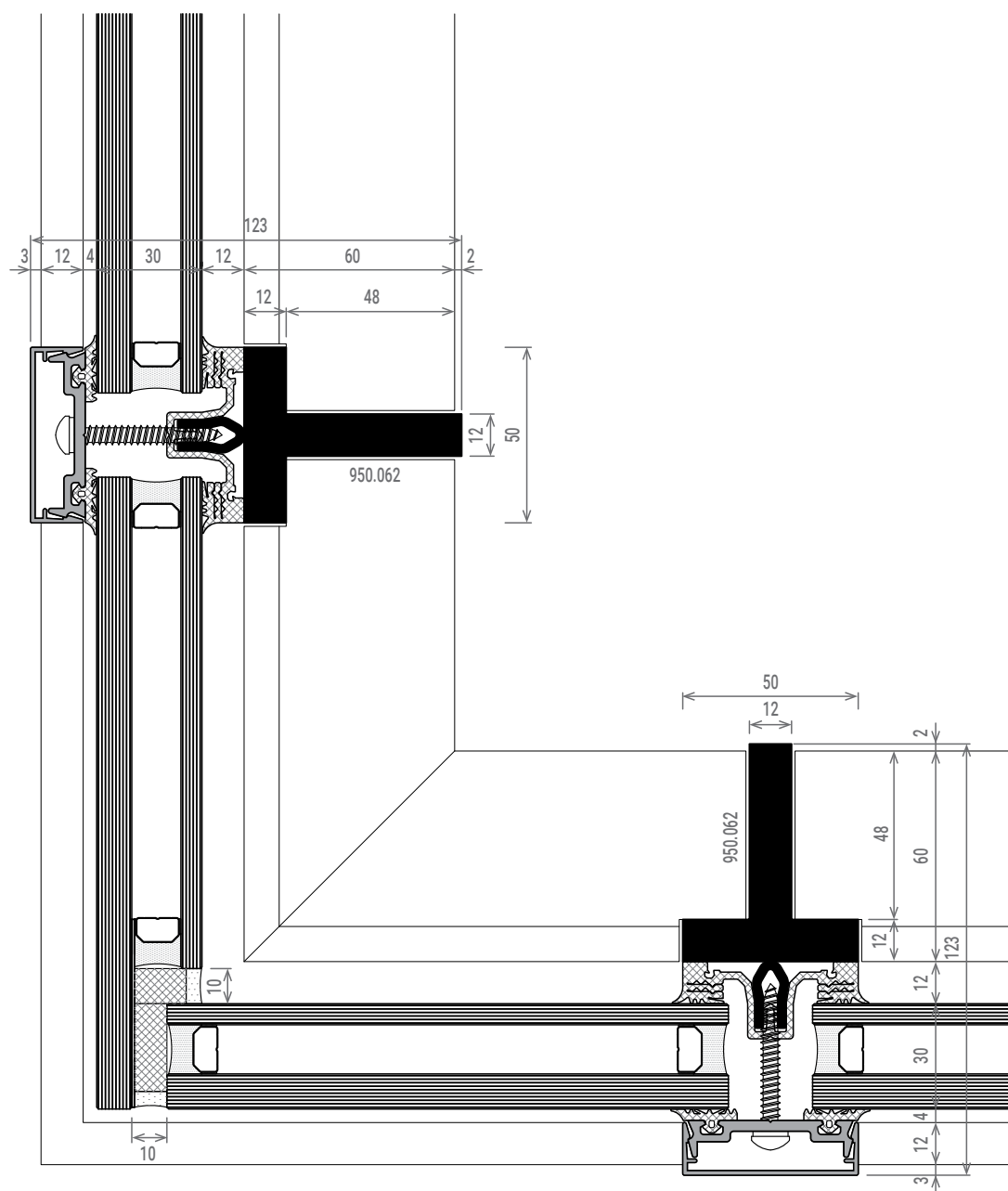
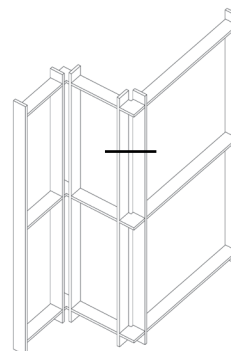
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Facade Details

External glass corner

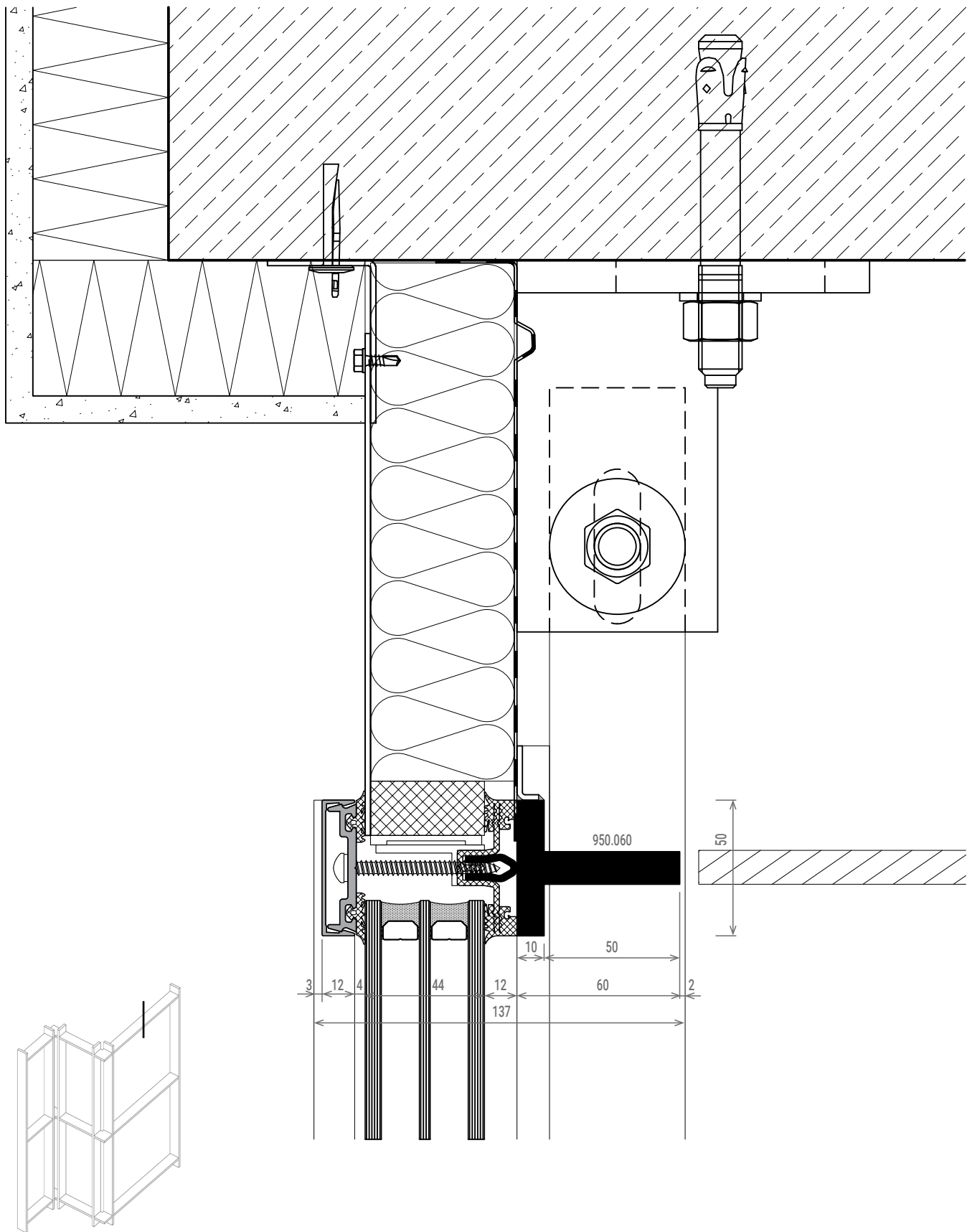
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Facade details

Top connection

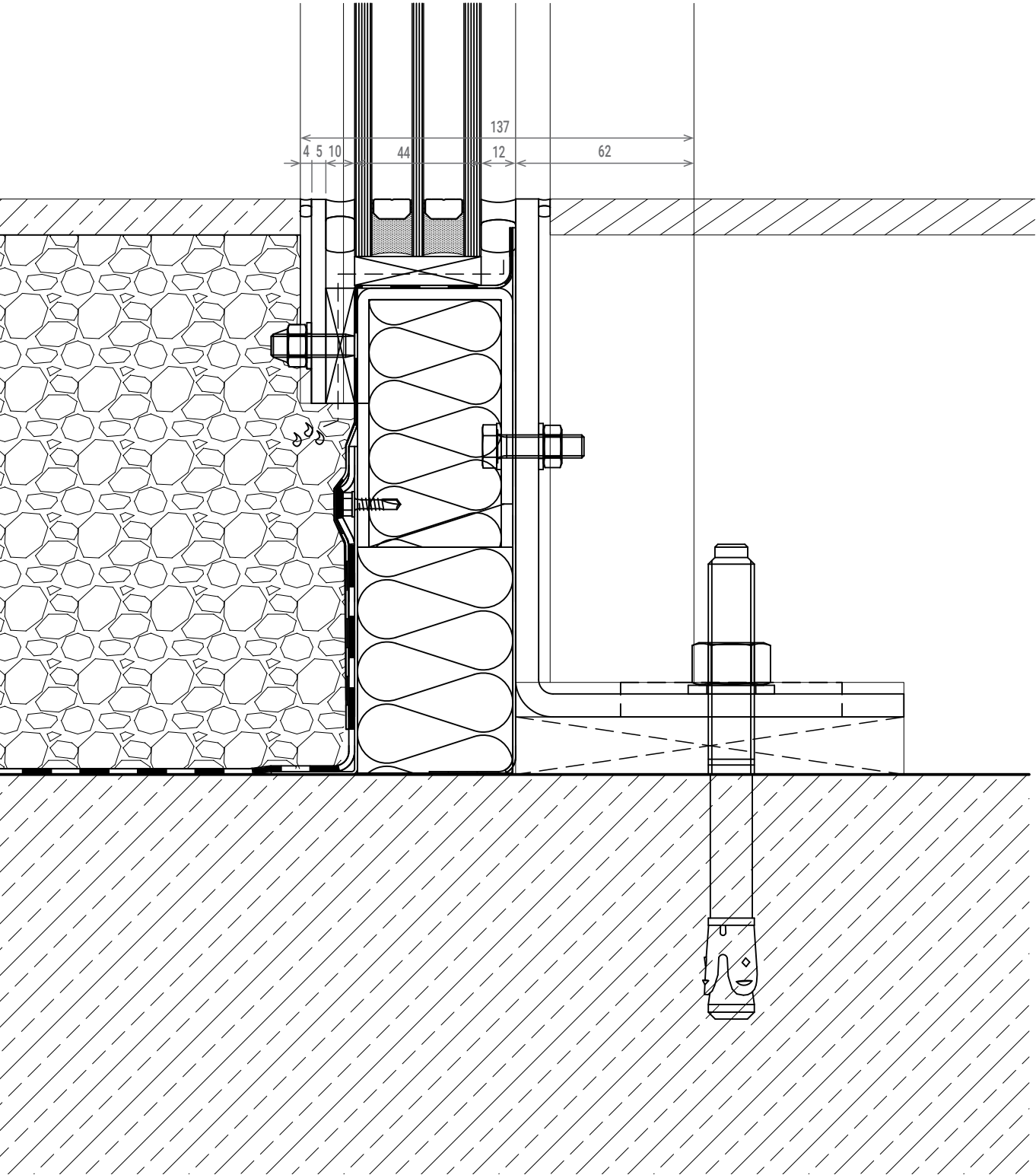
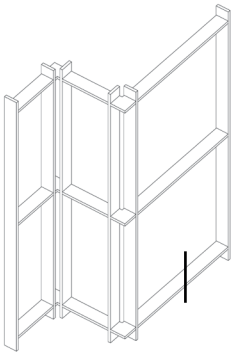
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Facade details

Bottom connection

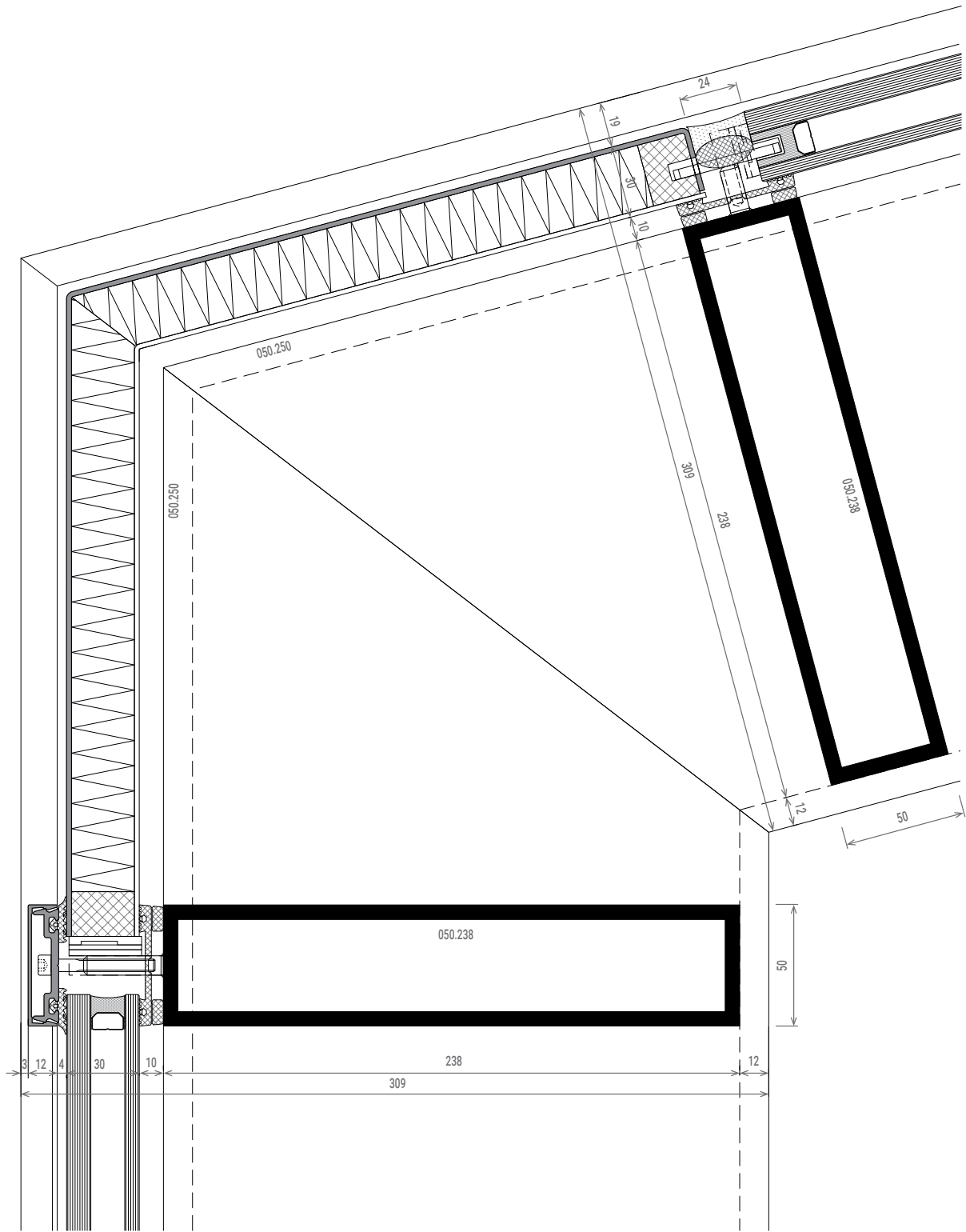
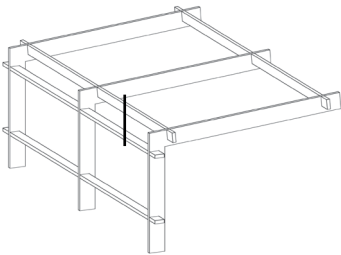
Scale: 1:2



Roof details

Front corner

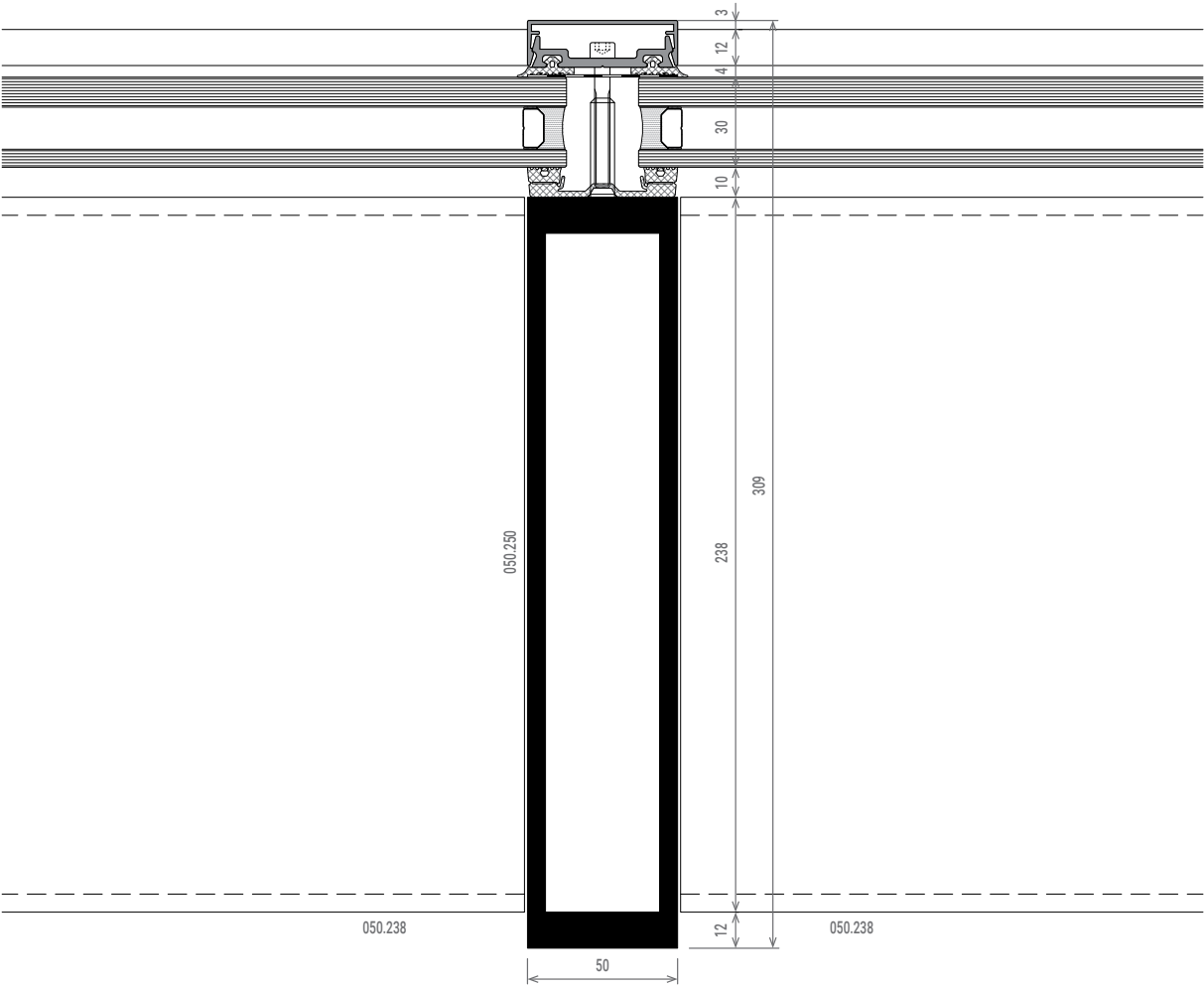
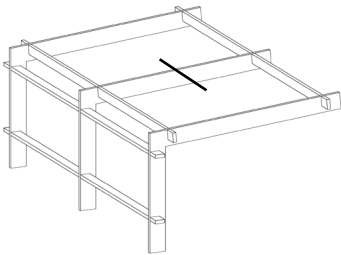
Scale: 1:2.5



Roof details

Standard rafter section

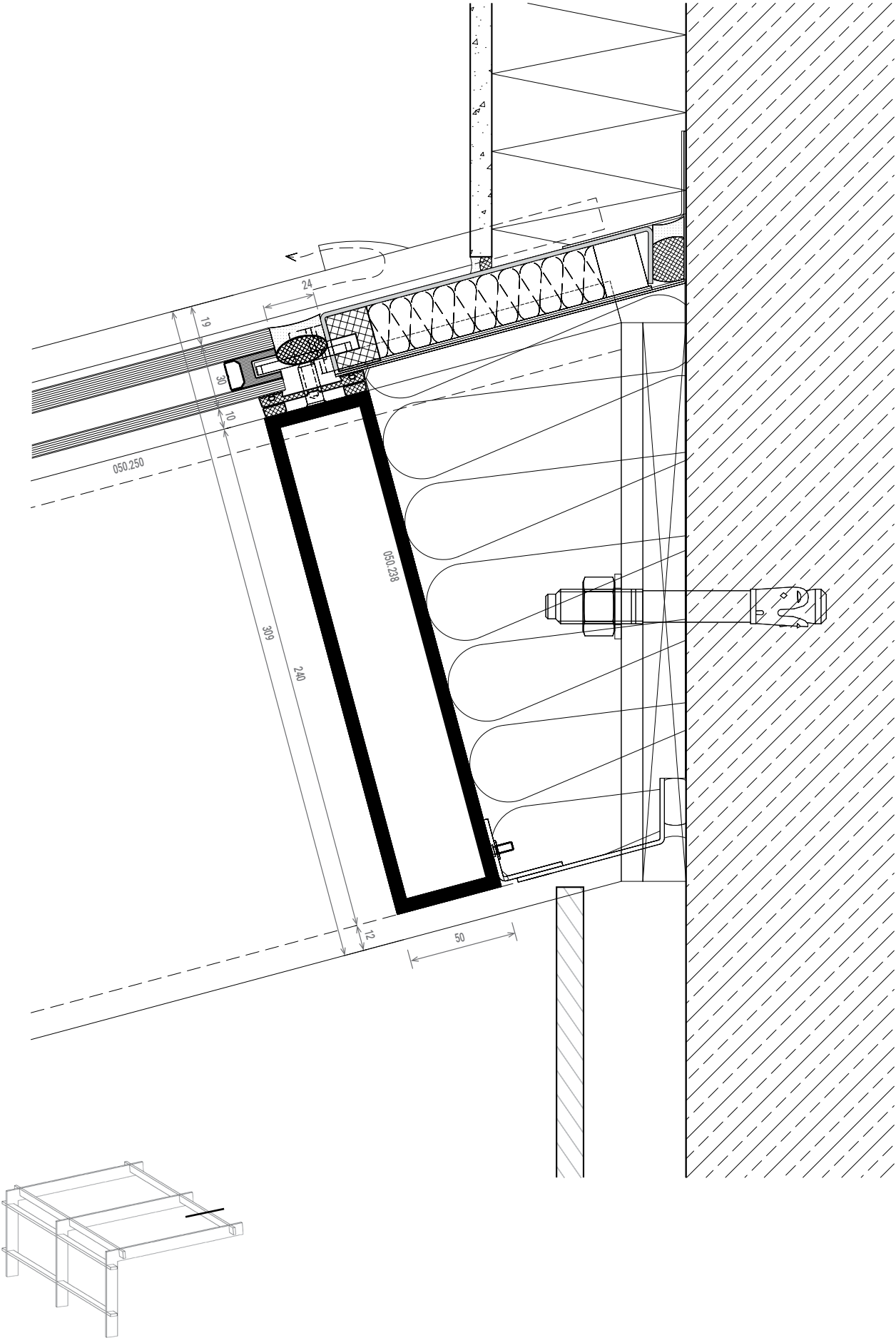
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Roof details

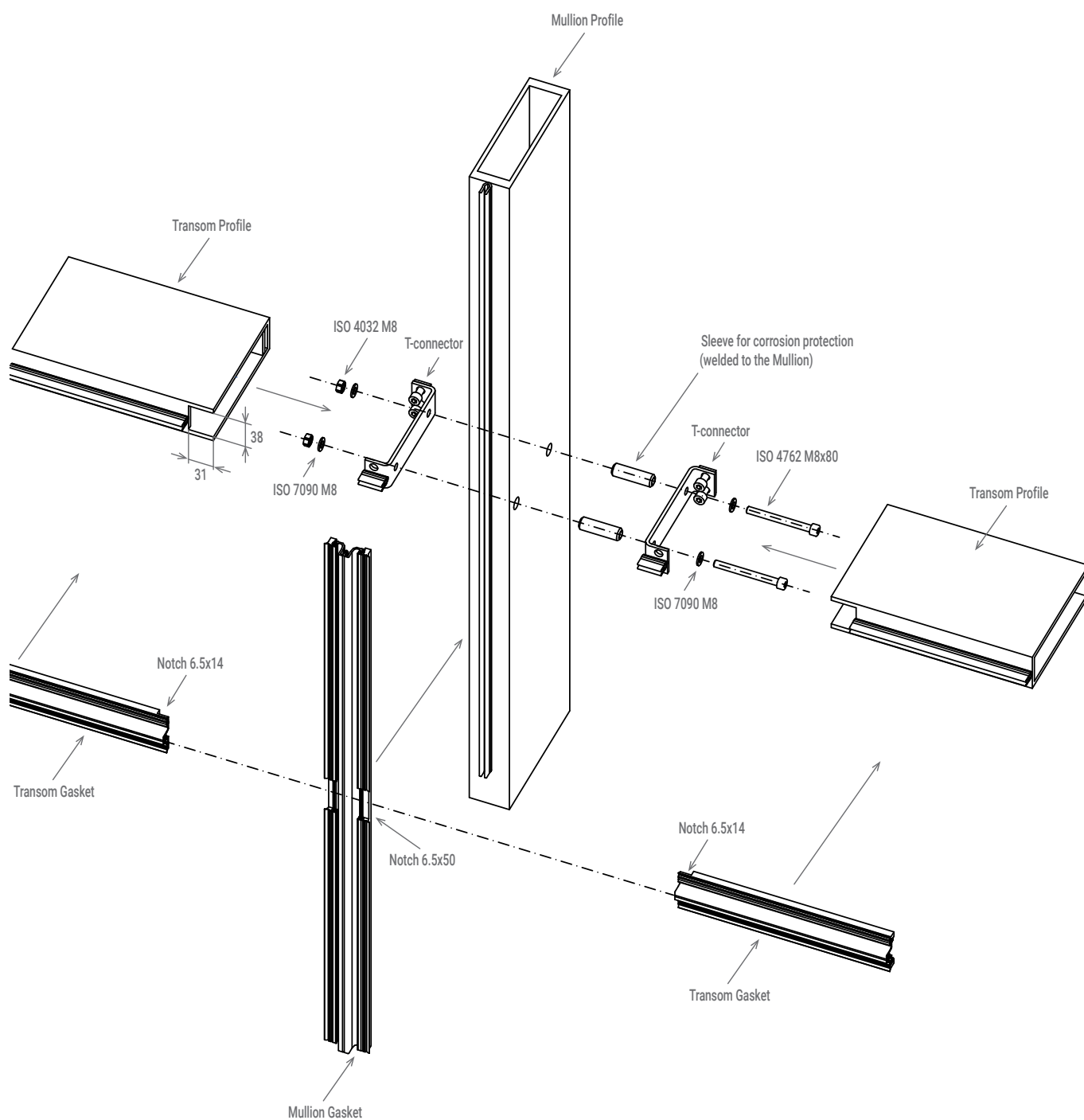
Connection to wall

Scale: 1:2.5

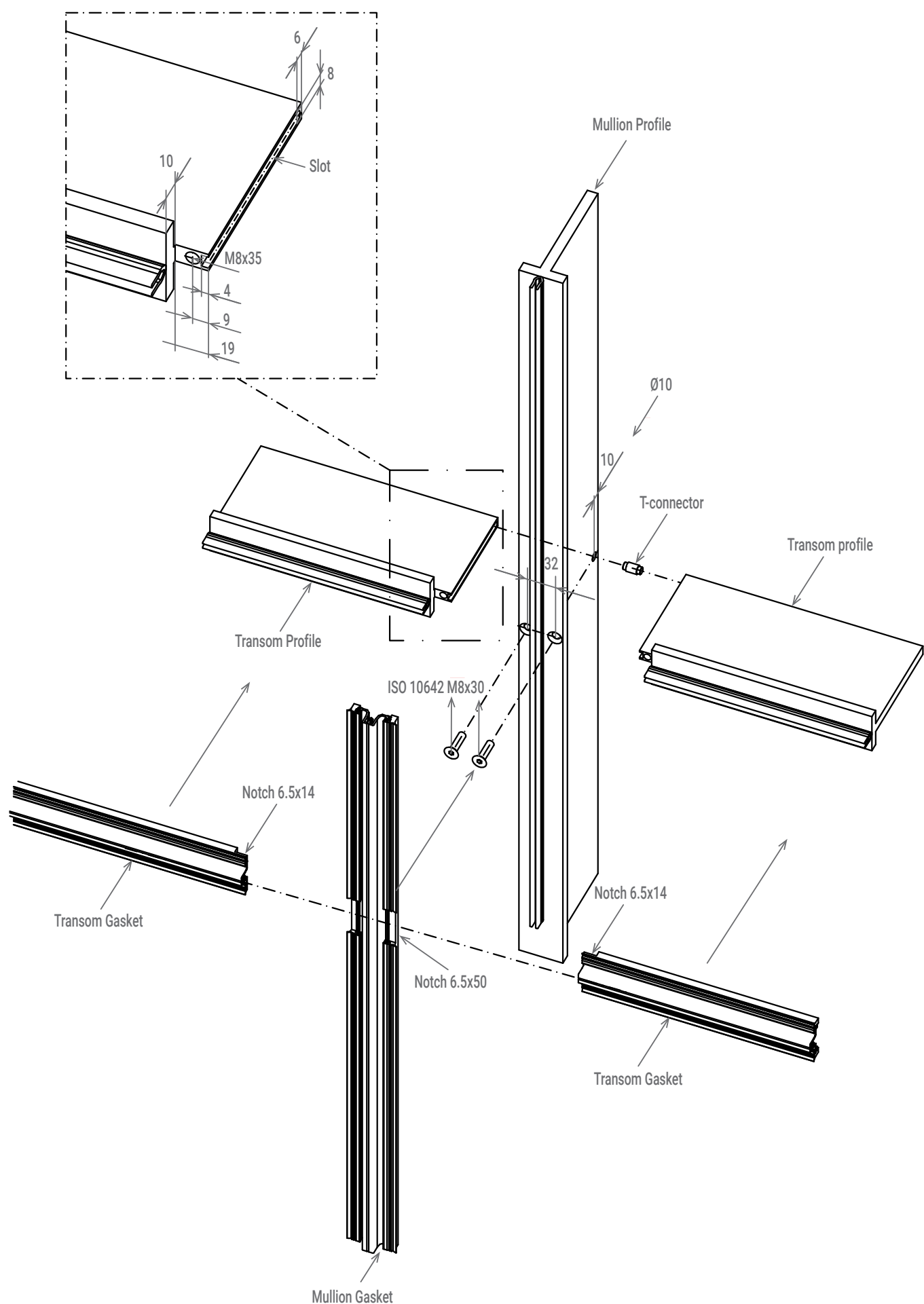


T-connection

RHS beams



T-connection
T- beams



Disclaimer: Preliminary Structural Calculation Tables for Beams

These tables are provided for preliminary and informative purposes only. They are intended to offer quick references for initial structural calculations related to beam design. Users are hereby cautioned that the results obtained from these tables should be considered approximate and are not a substitute for a thorough engineering analysis.

Limitations:

The calculations in these tables are based on simplified assumptions. Actual project conditions may vary.

The tables do not account for all potential factors, variations, and specific project requirements that may influence beam design.

Certified Engineer Approval:

It is imperative to highlight that the final selection of beam profiles and the approval of structural designs should be undertaken by a certified structural engineer. These tables are not replacements for professional engineering judgment and expertise.

Professional Consultation:

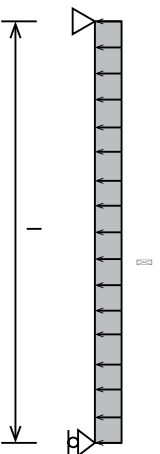
Users are strongly advised to consult with a qualified structural engineer to ensure that the calculated values align with the unique characteristics and specifications of their project.

Liability:

The creators of these tables disclaim any liability for damages or consequences arising from the use of the information provided herein. Users assume full responsibility for the application of these calculations.

By using these tables, the user acknowledges and agrees to the terms outlined in this disclaimer. It is the user's responsibility to exercise caution and seek professional guidance for the finalization of structural designs.

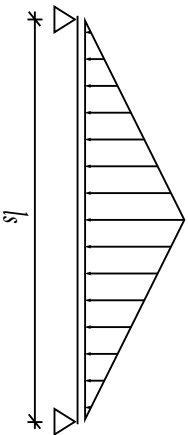
Technical data



Max. characteristic distributed wind load in kN/m (q) for
- deflection 1/300 and
- max stress 235 N/mm²
depending on profile type and span

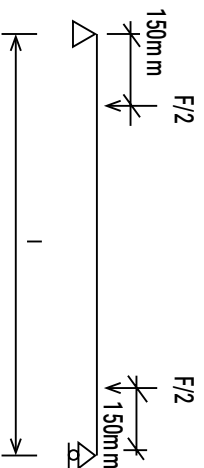
Span (l) mm	2000	2500	3000	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500	9000	9500	10000	10500	11000	11500	12000	12500	13000	13500	14000
Mullion Nr.																									
950.062	2,8	1,5	0,8	0,5	0,4	0,3	0,2	0,1	0,1	0,1	0,1	0,1	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0
950.087	5,5	3,5	2,1	1,3	0,9	0,6	0,5	0,3	0,3	0,2	0,2	0,1	0,1	0,1	0,1	0,1	0,1	0,1	0,0	0,0	0,0	0,0	0,0	0,0	0,0
950.112	6,0	5,8	4,0	2,7	1,8	1,3	0,9	0,7	0,5	0,4	0,3	0,3	0,2	0,2	0,2	0,1	0,1	0,1	0,1	0,1	0,1	0,1	0,1	0,1	0,0
950.137	6,0	6,0	6,0	4,4	3,2	2,3	1,6	1,2	1,0	0,8	0,6	0,5	0,4	0,3	0,3	0,2	0,2	0,2	0,2	0,1	0,1	0,1	0,1	0,1	0,1
050.074	6,0	4,5	2,6	1,6	1,1	0,8	0,6	0,4	0,3	0,3	0,2	0,2	0,1	0,1	0,1	0,1	0,1	0,1	0,1	0,1	0,0	0,0	0,0	0,0	0,0
050.100	6,0	6,0	5,5	3,5	2,3	1,6	1,2	0,9	0,7	0,5	0,4	0,4	0,3	0,2	0,2	0,2	0,2	0,1	0,1	0,1	0,1	0,1	0,1	0,1	0,1
050.125	6,0	6,0	6,0	6,0	4,1	2,9	2,1	1,6	1,2	1,0	0,8	0,6	0,5	0,4	0,4	0,3	0,3	0,2	0,2	0,2	0,2	0,1	0,1	0,1	0,1
050.150	6,0	6,0	6,0	6,0	6,0	4,6	3,3	2,5	1,9	1,5	1,2	1,0	0,8	0,7	0,6	0,5	0,4	0,4	0,3	0,3	0,2	0,2	0,2	0,2	0,2
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050.200	6,0	6,0	6,0	6,0	6,0	6,0	6,0	5,2	4,0	3,2	2,5	2,1	1,7	1,4	1,2	1,0	0,9	0,8	0,7	0,6	0,5	0,4	0,4	0,4	0,3
050.225	6,0	6,0	6,0	6,0	6,0	6,0	6,0	6,0	5,4	4,3	3,4	2,8	2,3	1,9	1,6	1,4	1,2	1,0	0,9	0,8	0,7	0,6	0,5	0,5	0,4
050.250	6,0	6,0	6,0	6,0	6,0	6,0	6,0	6,0	6,0	5,6	4,5	3,6	3,0	2,5	2,1	1,8	1,5	1,3	1,2	1,0	0,9	0,8	0,7	0,6	0,6
050.275	6,0	6,0	6,0	6,0	6,0	6,0	6,0	6,0	6,0	6,0	5,7	4,7	3,8	3,2	2,7	2,3	2,0	1,7	1,5	1,3	1,1	1,0	0,9	0,8	0,7
050.300	6,0	6,0	6,0	6,0	6,0	6,0	6,0	6,0	6,0	6,0	6,0	5,9	4,8	4,0	3,4	2,9	2,5	2,1	1,9	1,6	1,4	1,3	1,1	1,0	0,9
050.325	6,0	6,0	6,0	6,0	6,0	6,0	6,0	6,0	6,0	6,0	6,0	6,0	6,0	5,0	4,2	3,6	3,1	2,6	2,3	2,0	1,8	1,6	1,4	1,2	1,1
050.350	6,0	6,0	6,0	6,0	6,0	6,0	6,0	6,0	6,0	6,0	6,0	6,0	6,0	6,0	5,1	4,3	3,7	3,2	2,8	2,4	2,1	1,9	1,7	1,5	1,4
050.375	6,0	6,0	6,0	6,0	6,0	6,0	6,0	6,0	6,0	6,0	6,0	6,0	6,0	6,0	6,0	5,2	4,5	3,8	3,3	2,9	2,6	2,3	2,0	1,8	1,6
050.400	6,0	6,0	6,0	6,0	6,0	6,0	6,0	6,0	6,0	6,0	6,0	6,0	6,0	6,0	6,0	6,0	5,3	4,6	4,0	3,5	3,1	2,7	2,4	2,2	1,9

Technical data



Max. characteristic distributed wind load in kN/m for
- deflection 1/300 and
- max stress 235 N/mm²
depending on profile type and span

Span (l) mm	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	2400	2500	2600	2700	2800	2900	3000	3100	3200	3300	3400	3500	3600
Transom Nr.																									
950.060	6.0	6.0	6.0	6.0	6.0	5.7	5.1	4.6	3.9	3.4	3.0	2.6	2.3	2.0	1.8	1.6	1.4	1.3	1.2	1.1	1.0	0.9	0.8	0.7	0.7
950.085	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	5.7	5.2	4.8	4.3	3.9	3.5	3.1	2.8	2.6	2.4	2.2	2.0	1.8
950.110	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	5.6	5.2	4.8	4.4	4.1	3.7
950.135	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
050.062	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	5.4	4.7	4.1	3.6	3.2	2.9	2.6	2.3	2.1	1.9	1.7	1.5	1.4	1.3	1.2	1.1
050.088	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	5.6	5.0	4.5	4.1	3.7	3.4	3.1	2.8	2.6
050.113	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	5.9	5.4	5.0
050.138	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
050.163	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
050.188	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
050.213	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
050.238	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
050.263	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
050.288	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
050.313	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
050.338	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
050.363	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
050.388	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0



Max. characteristic total glass load (F) in kN for
- deflection 1/300 but not more than 3mm
depending on profile type and span

Span (l) mm	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	2400	2500	2600	2700	2800	2900	3000	3100	3200	3300	3400	3500	3600
Tanson Nr.																									
950.060	5.2	4.4	3.8	3.3	2.9	2.6	2.3	2.1	1.9	1.7	1.6	1.4	1.3	1.2	1.1	1.0	1.0	0.9	0.8	0.8	0.7	0.7	0.7	0.6	0.6
950.085	5.4	4.6	3.9	3.4	3.0	2.7	2.4	2.1	1.9	1.8	1.6	1.5	1.3	1.2	1.1	1.1	1.0	0.9	0.9	0.8	0.8	0.7	0.7	0.6	0.6
950.110	5.5	4.7	4.1	3.5	3.1	2.8	2.5	2.2	2.0	1.8	1.7	1.5	1.4	1.3	1.2	1.1	1.0	1.0	0.9	0.8	0.8	0.7	0.7	0.7	0.6
950.135	5.7	4.9	4.2	3.7	3.2	2.8	2.5	2.3	2.1	1.9	1.7	1.6	1.4	1.3	1.2	1.1	1.1	1.0	0.9	0.9	0.8	0.8	0.7	0.7	0.6
050.062	15.0	15.0	14.3	12.5	11.0	9.7	8.7	7.8	7.0	6.4	5.8	5.3	4.9	4.5	4.2	3.9	3.6	3.3	3.1	2.9	2.7	2.6	2.4	2.3	2.2
050.088	15.0	15.0	15.0	15.0	14.9	13.2	11.8	10.6	9.6	8.7	7.9	7.2	6.6	6.1	5.7	5.3	4.9	4.6	4.3	4.0	3.7	3.5	3.3	3.1	3.0
050.113	15.0	15.0	15.0	15.0	15.0	15.0	14.8	13.3	12.0	10.9	9.9	9.1	8.3	7.7	7.1	6.6	6.1	5.7	5.3	5.0	4.7	4.4	4.2	3.9	3.7
050.138	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	14.5	13.1	12.0	10.9	10.1	9.3	8.6	7.9	7.4	6.9	6.4	6.0	5.7	5.3	5.0	4.7	4.5
050.163	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	14.0	12.8	11.8	10.8	10.0	9.3	8.6	8.1	7.5	7.0	6.6	6.2	5.9	5.5	5.2
050.188	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	14.7	13.5	12.4	11.5	10.6	9.9	9.2	8.6	8.1	7.6	7.1	6.7	6.3	6.0
050.213	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	14.0	12.9	12.0	11.1	10.4	9.7	9.1	8.5	8.0	7.6	7.1	6.7
050.238	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	14.4	13.3	12.4	11.6	10.8	10.1	9.5	8.9	8.4	7.9	7.5
050.263	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	14.7	13.6	12.7	11.9	11.1	10.5	9.8	9.3	8.7	8.3
050.288	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	14.9	13.9	13.0	12.2	11.4	10.7	10.1	9.5	9.0
050.313	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	14.1	13.2	12.4	11.6	11.0	10.3	9.8
050.338	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	14.2	13.3	12.5	11.8	11.1	10.5
050.363	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	14.3	13.4	12.7	11.9	11.3
050.388	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	14.3	13.5	12.7	12.0

Technical data

Profiles

Braiko Sharp™ profiles are Laser Welded Build-up Steel Shapes by ASTM A1069/A1069M-23 (Standard Specification for Stainless Steel Laser and Laser Hybrid Welded Bars, Plates, Sharp-Cornered Profile (SCP), and Built-up Shapes) with an added add-on glazing system

Material

Mild Steel S235 JR or superior quality

Material Certificates: Compliant with EN 10204/3.1, provided upon request

Product tolerances

Straightness: Maximum deviation of 1mm per meter

Angular deviation of the cross-section: Maximum deviation of +/- 1.3 degrees from the right angle of the web

Twist Tolerance: Maximum of 1mm per meter

Other Tolerances: Consistent with standards such as DIN EN 10025, DIN EN10219, or DIN EN 10055, including inspection dimensions

Standard Coating and edges

Three-layer wet paint coating applied in a thickness of 120 micrometers

Color Specification: According to RAL standards

Edges: Maximum radius of 0.5mm. Sharp-edged is the standard. Chamfer on request.

Welding

Welding Certification: Compliant with EN1090-2 EXC2 / EXC3

Welding process: Profiles are welded using laser technology. Corrections can be implemented using MIG/MAG/WIG with or without additional material

Weld Penetration: The minimum weld penetration must be at least equal to the thickness of the sheet, reduced by 1 mm. However, the weld penetration shall not exceed 5 mm. A CJP is not guaranteed.

Visible Weld Seam Width in the uncoated condition: Approximately 2mm

Important Technical Note for Braiko Sharp™ profiles concerning hot dip

galvanizing: Weld seams may exhibit a slightly different structure or alloy composition than the base material, resulting in locally increased zinc absorption. Additionally, corrective welds, with or without additional material for optical reasons (not discernible in the uncoated state), may be present in certain areas, allowing for locally limited increased zinc absorption. Minor surface defects are within permissible limits.

Add on glazing system

Different add-on glazing systems (MBJ, Raico, Schueco) can be used depending on the client's requirements for acoustics, thermal insulation, UV resistance, and air permeability. Our catalogue shows the www.mbj-fassadentechnik.de glazing add on.



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