



PROINVEST

Unlimited Steel Solutions



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Building Materials

Profile zincate MBS pentru structuri fotovoltaice

Profile Zincate MBS pentru structuri fotovoltaice

Proinvest Group este o companie specializata in procesarea otelului, de peste un deceniu fiind producator si furnizor de profile zincate MBS adaptate pentru constructia structurilor de sustinere a panourilor fotovoltaice.

Solutiile recomandate de Proinvest Group permit instalarea panourilor solare in parcurile fotovoltaice prin intermediul unor structuri solide si durabile, realizate din profile zincate tip C laminate la rece.

Structurile zincate sunt adaptabile pentru montaj pe diferite tipuri de teren si cladiri:

- **pentru montajul la sol;**
- **pentru montajul pe acoperisuri.**

Echipa noastra este pregatita sa dezvolte o solutie personalizata care se va potrivi cu specificatiile proiectului dumneavoastra.

Sunteti in cautarea unei solutii fiabile si eficiente pentru instalarea panourilor solare?

Contactati-ne pentru a afla mai multe despre sistemele noastre din profile zincate si despre cum va putem ajuta in implementarea proiectului!



Avantaje

Versatilitate

Structurile zincate disponibile in diferite dimensiuni si modele sunt adaptabile la diferite tipuri de teren si suprafete de acoperis.

Usurinta de instalare

Structurile zincate sunt proiectate astfel incat sa fie usor de asamblat si instalat, ceea ce reduce timpul si costurile de instalare.

Costuri reduse

Structurile zincate sunt o solutie economica pentru suportul panourilor fotovoltaice, cu un cost redus in comparatie cu alte variante.

Durabilitate

Structurile zincate sunt fabricate din otel de inalta calitate (*S250GD / S350GD + Z275MAC / Z450MAC), fiind protejate impotriva coroziunii, astfel incat pot fi utilizate in conditii extreme fara sa se degradeze.

Rezistenta

Structurile zincate sunt realizate din otel de inalta calitate, ceea ce le confera o durata de viata lunga si rezistenta la incarcari.

Performanta si mentenanta facila

Datorita pozitiei ridicate de montaj a panourilor, structurile zincate permit o buna circulatie a aerului sub panouri, imbunatatind performanta sistemului fotovoltaic si permitand un acces facil pentru serviciile de mentenanta.

Reciclabil

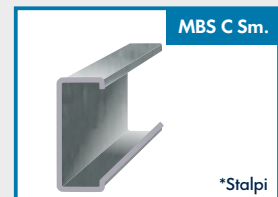
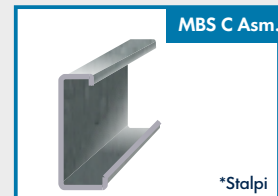
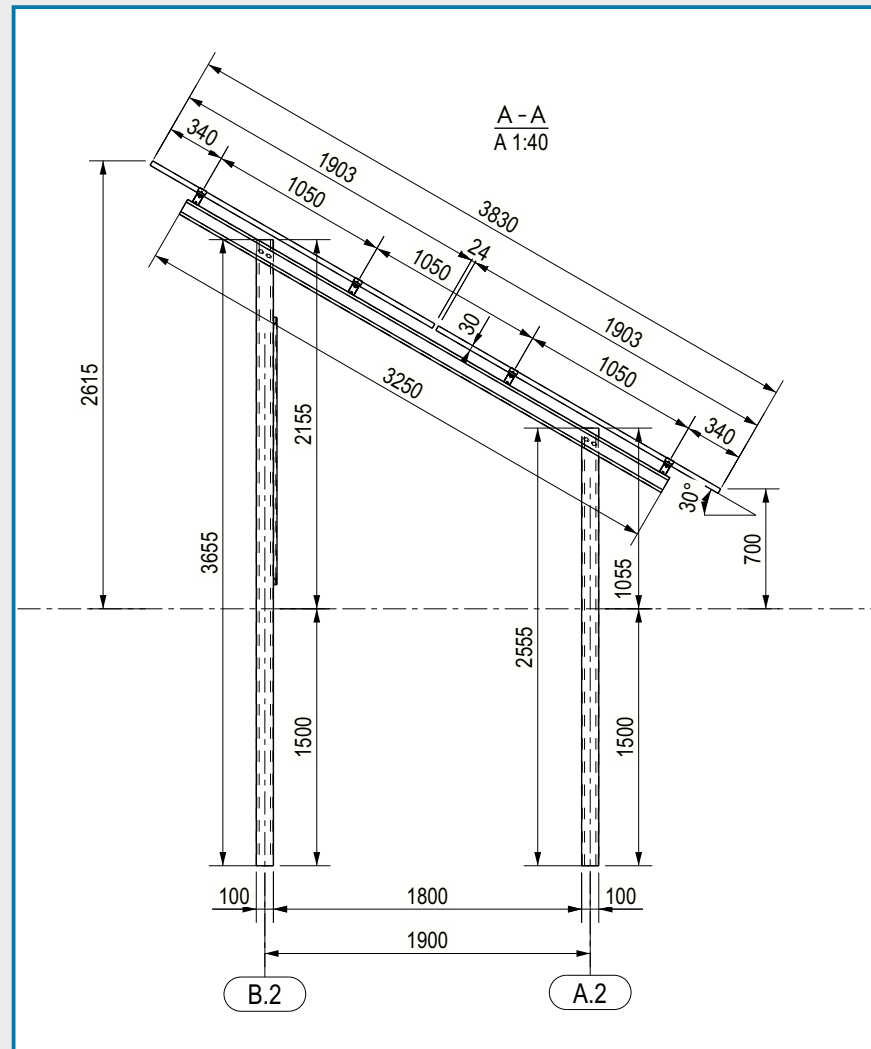
Otelul zincat poate fi reciclat, ceea ce face structurile din profile zincate o optiune sustenabila si prietenoasa cu mediul.

Capabilitati de productie

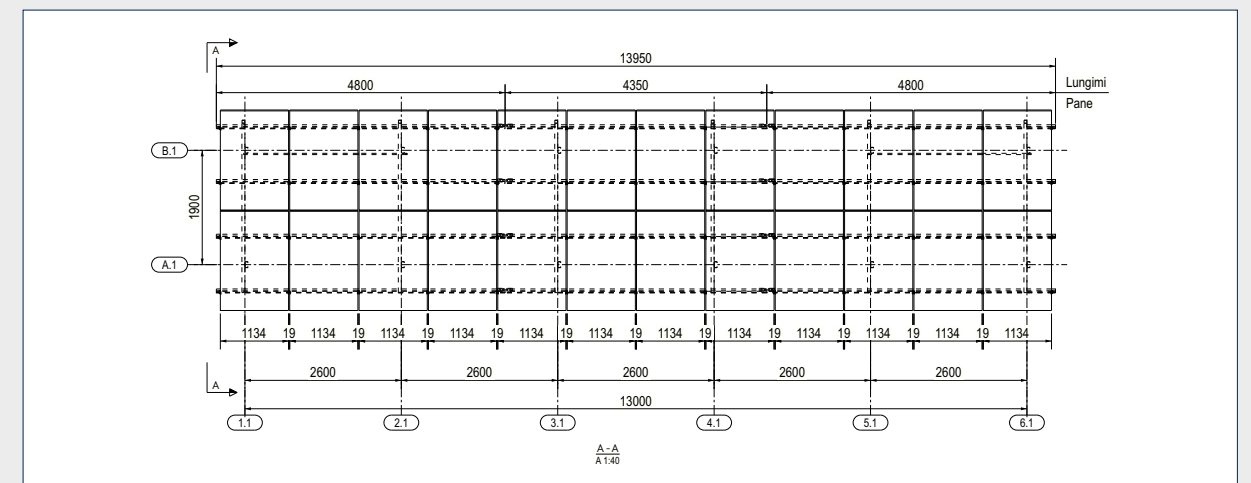
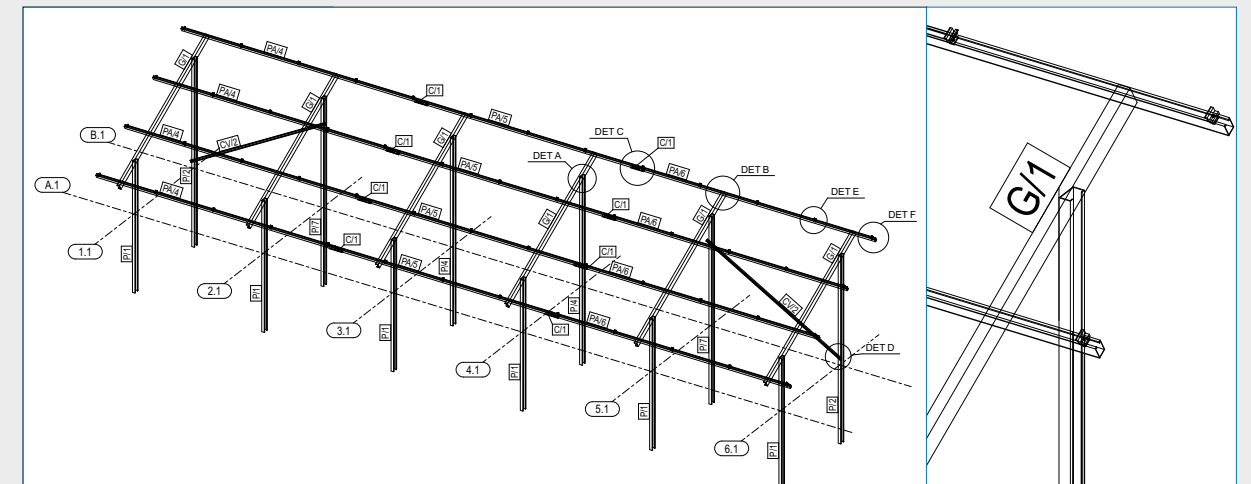
- Laminoare pentru profile Z,C,U,L si Σ



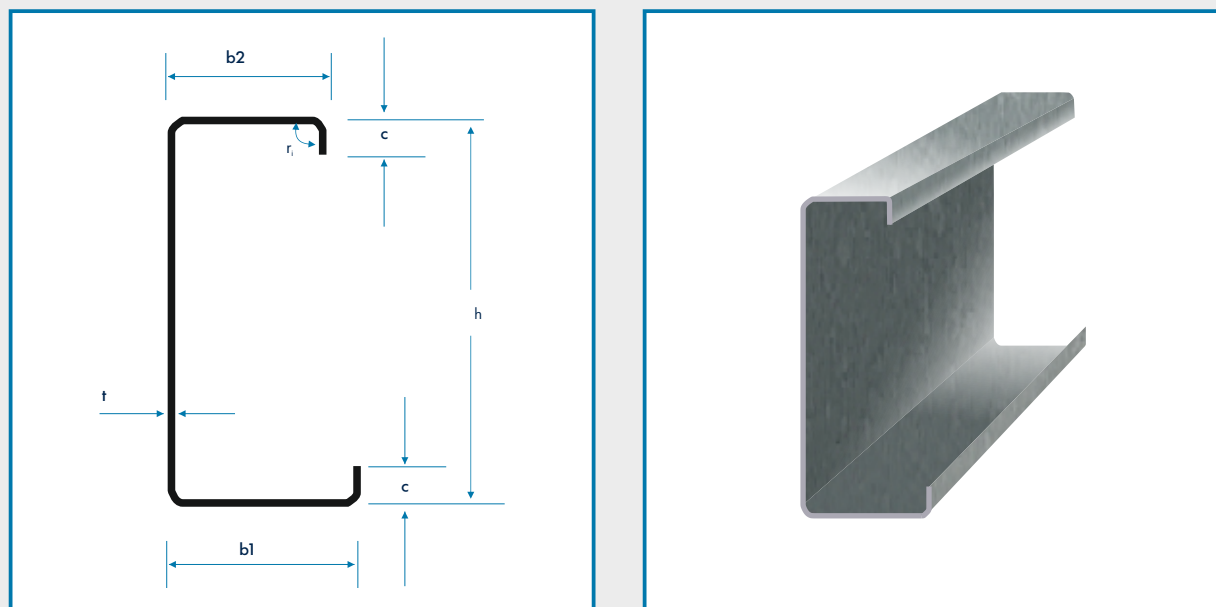
Profile zincate MBS recomandate pentru structuri fotovoltaice



Profile zincate MBS recomandate pentru structuri fotovoltaice



Profile zincate MBS C asimetrice pentru structuri fotovoltaice - detalii tehnice



Material	Limita de curgere	Rezistența la rupere	Modul de elasticitate
S350GD+Z275	(f _y) [N/mm ²]	(f _u) [N/mm ²]	(E) [N/mm ²]
S350GD+Z450	350	420	210000

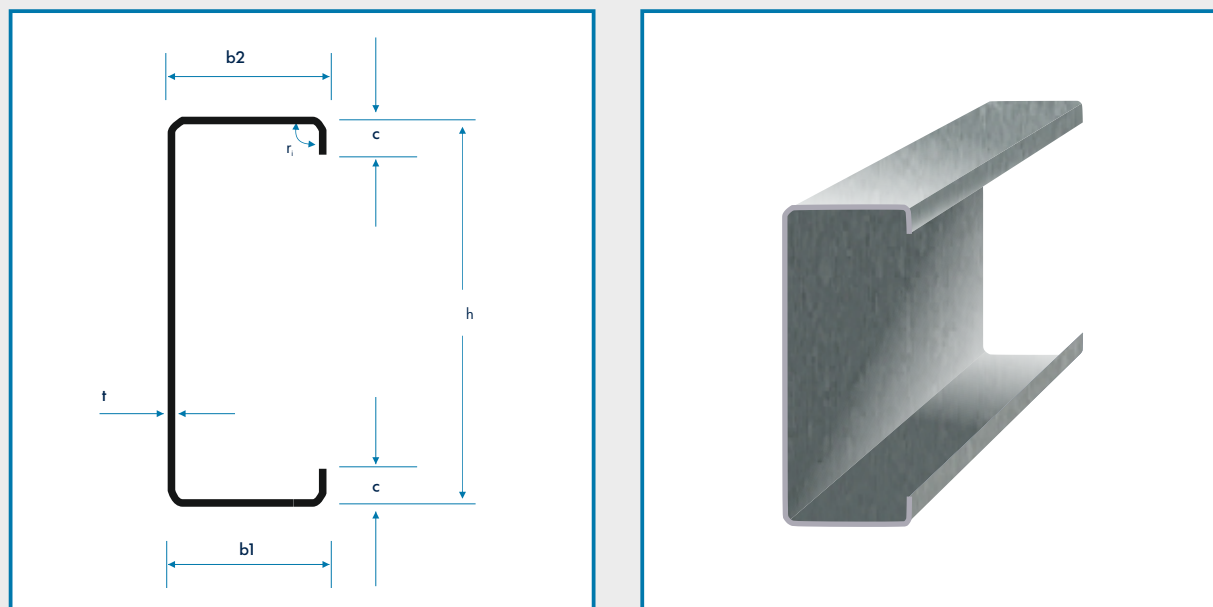
Profil	Dimensiuni sectionale								
	t	h	c	b1	b2	r _i	A	A _{ef}	G
	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm ²)	(mm ²)	(kg/m)
MBS C100	1.5	100	14.5	56	50	3	326	218	2.7
MBS C100	2.0	100	14.5	56	50	3	434	345	3.6
MBS C100	2.5	100	14.5	56	50	3	541	473	4.4
MBS C100	3.0	100	14.5	56	50	3	648	607	5.2
MBS C120	1.5	120	13.3	47	41	3	325	215	2.7
MBS C120	2.0	120	13.3	47	41	3	433	330	3.6
MBS C120	2.5	120	13.3	47	41	3	540	454	4.4
MBS C120	3.0	120	13.3	47	41	3	647	586	5.2
MBS C140	1.5	140	13.3	52	46	3	365	210	3.1
MBS C140	2.0	140	13.3	52	46	3	491	333	4.1
MBS C140	2.5	140	13.3	52	46	3	612	466	5.0
MBS C140	3.0	140	13.3	52	46	3	734	610	6.0
MBS C150	1.5	150	13.3	47	41	3	368	207	3.1
MBS C150	2.0	150	13.3	47	41	3	491	325	4.1
MBS C150	2.5	150	13.3	47	41	3	612	454	5.0
MBS C150	3.0	150	13.3	47	41	3	734	595	6.0

Profile zincate MBS C asimetrice pentru structuri fotovoltaice - detalii tehnice

Profil	t (mm)	Caracteristici geometrice ale secțiunii brute									
		y _G (mm)	Z _{G-} (mm ³)	Z _{G+} (mm ³)	I _y (mm ⁴)	W _{py-} (mm ³)	W _{py+} (mm ³)	I _z (mm ⁴)	I _t (mm ⁴)	i _y (mm)	i _z (mm)
MBS C100	1.5	18.87	48.71	51.29	539749	11081	10524	132149	219	40.71	20.14
MBS C100	2.0	18.99	48.71	51.29	712253	14624	13886	172607	528	40.50	19.94
MBS C100	2.5	19.11	48.70	51.30	877911	18027	17114	210574	1039	40.28	19.73
MBS C100	3.0	19.23	48.70	51.30	1040025	21357	20272	246839	1816	40.07	19.52
MBS C120	1.5	13.62	58.45	61.55	722529	12362	11738	87417	218	47.15	16.40
MBS C120	2.0	13.73	58.44	61.56	954079	16326	15498	113586	527	46.91	16.19
MBS C120	2.5	13.85	58.43	61.57	1176746	20139	19113	137838	1037	46.68	15.98
MBS C120	3.0	13.97	58.42	61.58	1394947	23876	22654	160693	1813	46.44	15.76
MBS C140	1.5	14.37	68.39	71.61	1097705	16050	15330	117688	242	54.83	17.95
MBS C140	2.0	14.49	68.39	71.61	1462455	21385	20422	154354	597	54.59	17.73
MBS C140	2.5	14.61	68.38	71.62	1807739	26436	25241	187867	1175	54.35	17.52
MBS C140	3.0	14.73	68.37	71.63	2147822	31413	29987	219687	2057	54.11	17.30
MBS C150	1.5	12.12	73.28	76.72	1220250	16652	15905	93442	247	57.61	15.94
MBS C150	2.0	12.24	73.27	76.73	1614872	22040	21046	121409	597	57.36	15.73
MBS C150	2.5	12.36	73.26	76.74	1996211	27247	26014	147325	1175	57.11	15.52
MBS C150	3.0	12.48	73.26	76.74	2371820	32377	30905	171744	2057	56.86	15.30

Profil		Caracteristici geometrice ale sectiunii eficace													
		Solicitarea la compresiune			Solicitarea la incovoiere dupa axa y-y cu talpa b1 solicitata la compresiune					Solicitarea la incovoiere dupa axa y-y cu talpa b2 solicitata la compresiune					
		Z _{Gef.c}	Z _{Gef.cl}	Z _{Gef.c2}	Z _{Gef.il}	Z _{Gef.i2}	I _{y.ef}	W _{y.ef.1}	W _{y.ef.2}	Z _{Gef.il}	Z _{Gef.i2}	I _{y.ef}	W _{y.ef.1}	W _{y.ef.2}	
	(mm)	(mm)	(mm)	(mm)	(mm)	(mm ⁴)	(mm ³)	(mm ³)	(mm)	(mm)	(mm ⁴)	(mm ³)	(mm ³)		
MBS C100	1.5	18.33	50.05	49.95	52.51	47.49	479877	9138	10106	53.84	46.16	496883,2	9229	10764	
MBS C100	2.0	18.37	49.27	50.73	50.71	49.29	669022	13194	13573	52.75	47.25	678404,9	12861	14357	
MBS C100	2.5	17.98	49.11	50.89	50.11	49.89	838808	16738	16814	52.34	47.66	846578,8	16174	17764	
MBS C100	3.0	17.57	49.02	50.98	49.76	50.24	1003499	20165	19976	52.11	47.89	1009991	19382	21090	
MBS C120	1.5	15.81	59.17	60.83	61.44	58.56	666849	10853	11388	63,99	56.01	677192,6	10582	12092	
MBS C120	2.0	15.22	58.77	61.23	60.11	59.89	909292	15128	15182	62.72	57.28	920158,6	14671	16064	
MBS C120	2.5	14.55	58.65	61.35	59.62	60.38	1135514	19046	18806	62.41	57.59	1144411	18336	19873	
MBS C120	3.0	13.95	58.62	61.38	59.33	60.67	1355658	22848	22346	62.24	57.76	1363244	21903	23602	
MBS C140	1.5	15.76	70.04	69.96	74.49	65.51	959997	12887	14655	76.55	63.45	987468,6	12899	15564	
MBS C140	2.0	15.65	69.07	70.93	71.02	68.98	1370932	19305	19873	73.47	66.53	1393003	18961	20937	
MBS C140	2.5	15.21	68.85	71.15	70.24	69.76	1724713	24555	24723	72.94	67.06	1743661	23905	26002	
MBS C140	3.0	14.71	68.71	71.29	69.77	70.23	2070582	29677	29483	72.64	67.36	2086620	28725	30977	
MBS C150	1.5	14.60	74.19	75.81	78.87	71.13	1091673	13842	15347	81.76	68.24	1106967	13539	16223	
MBS C150	2.0	14.19	73.74	76.26	75.38	74.62	1534303	20354	20562	78.45	71.55	1548697	19741	21645	
MBS C150	2.5	13.61	73.52	76.48	74.76	75.24	1922430	25716	25549	77.79	72.21	1939410	24933	26856	
MBS C150	3.0	13.03	73.43	76.57	74.39	75.61	2301958	30945	30445	77.56	72.44	2316432	29866	31978	

Profile zincate MBS C simetrice pentru structuri fotovoltaice - detalii tehnice



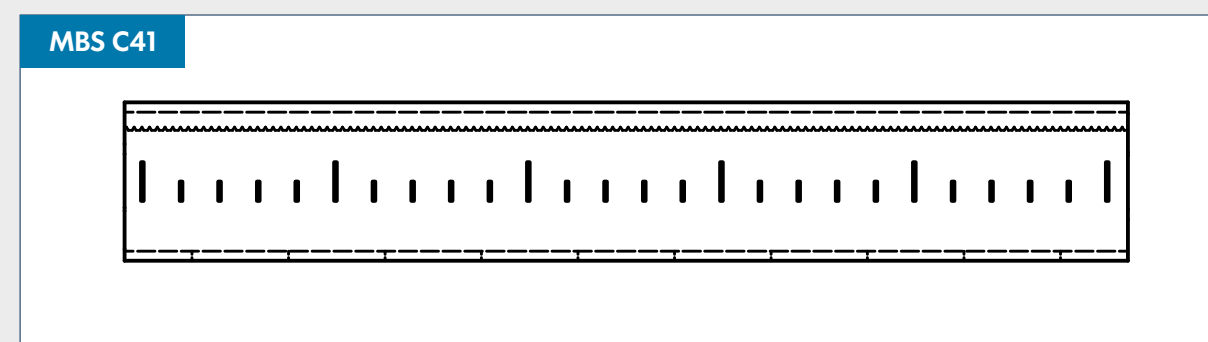
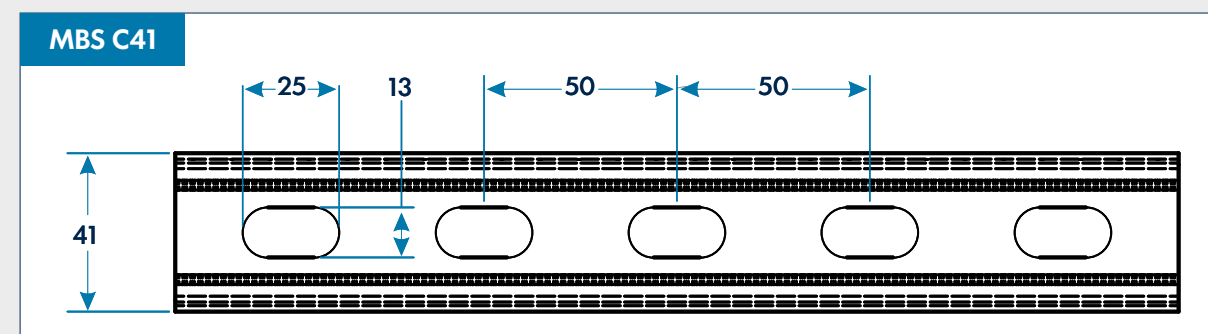
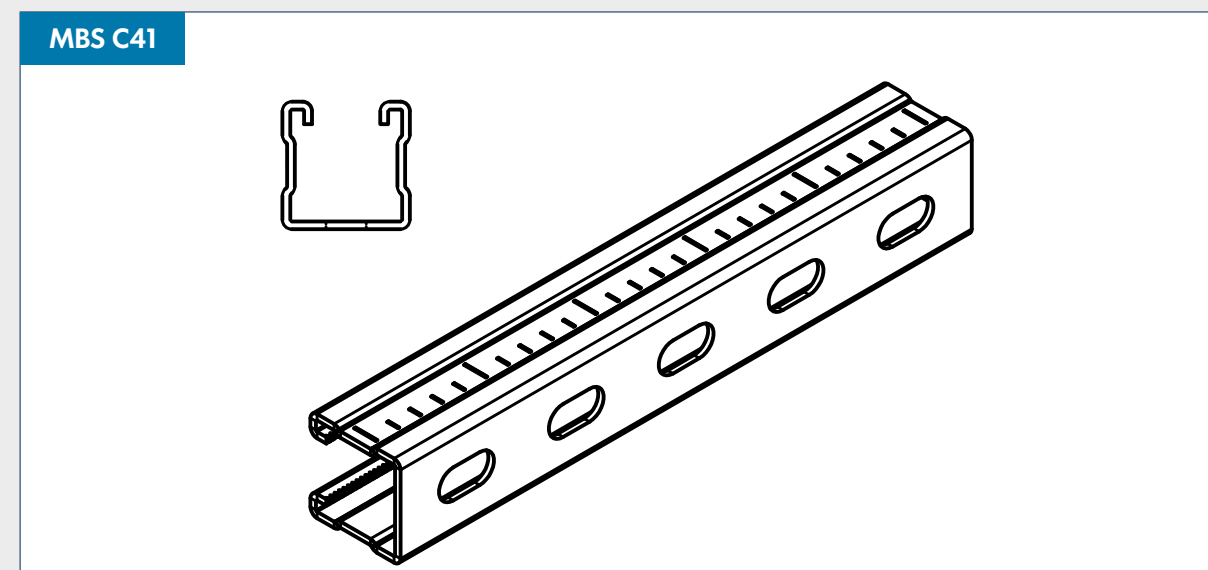
Material		Limita de curgere (f_y) [N/mm ²]	Rezistența la rupere (f_u) [N/mm ²]	Modul de elasticitate (E) [N/mm ²]
S350GD+Z275	●	350	420	210000
S350GD+Z450	◎			

Profil	Dimensiuni sectionale								
	t (mm)	h (mm)	c (mm)	b1 (mm)	b2 (mm)	r _i (mm)	A (mm ²)	A _{ef} (mm ²)	G (kg/m)
MBS C100	3.0	100	17	50	50	3	645	613	5.2
MBS C120	3.0	120	17	60	60	3	761	672	6.2

Profil	t (mm)	Caracteristici geometrice ale secțiunii brute									
		y _G (mm)	Z _{G-} (mm)	Z _{G+} (mm)	I _y (mm ⁴)	W _{py-} (mm ³)	W _{py+} (mm ³)	I _z (mm ⁴)	I _t (mm ⁴)	i _y (mm)	i _z (mm)
MBS C100	3.0	18.63	50.00	50.00	1017118	20342	20342	225694	1808	39.71	18.71
MBS C120	3.0	21.27	60.00	60.00	1757937	29299	29299	374275	2133	48.06	22.18

Profil	t (mm)	Caracteristici geometrice ale secțiunii eficiente							
		Solicitarea la compresiune			Solicitarea la încovoiere după axa y-y cu talpa b1=b2 solicitată la compresiune				
		Z _{Gef.c} (mm)	Z _{Gef.cl} (mm)	Z _{Gef.c2} (mm)	Z _{Gef.il} (mm)	Z _{Gef.i2} (mm)	I _{y.ef} (mm ⁴)	W _{y.ef.1} (mm ³)	W _{y.ef.2} (mm ³)
MBS C100	3.0	17.42	50.00	50.00	50.67	49.33	992222	19581	20115
MBS C120	3.0	20.23	60.00	60.00	61.27	58.73	1695011	27664	28862

Profile zincate MBS C21 / C41 / C62 pentru structuri fotovoltaice - detalii tehnice



Profile zincate MBS C21 / C41 / C62 pentru structuri fotovoltaice - detalii tehnice

Tipodimensiuni					
MBS C21/1.5	41-1.5-9.5-21-7.2	MBS C41/1.5	41-1.5-9.5-41-7.2	MBS C62/1.5	41-1.5-9.5-62-7.2
MBS C21/2.0	41-2-9.5-21-7.2	MBS C41/2.0	41-2-9.5-41-7.2	MBS C62/2.0	41-2-9.5-62-7.2
MBS C21/2.5	41-2.5-9.5-21-7.2	MBS C41/2.5	41-2.5-9.5-41-7.2	MBS C62/2.5	41-2.5-9.5-62-7.2

Profil	Dimensiuni sectionale									
	t	h	c	b1	b2	c _r	r _i	A	A _i	G
	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm ²)	(m ² /m)	(kg/m)
MBS C21	1.5	41	9.5	21	21	7.2	1.5	152.41	0.206	1.20
MBS C21	2.0	41	9.5	21	21	7.2	1	198.5	0.202	1.56
MBS C21	2.5	41	9.5	21	21	7.2	0.5	242.23	0.199	1.90
MBS C41	1.5	41	9.5	41	41	7.2	1.5	214.97	0.290	1.69
MBS C41	2.0	41	9.5	41	41	7.2	1	282.09	0.286	2.21
MBS C41	2.5	41	9.5	41	41	7.2	0.5	346.94	0.282	2.72
MBS C62	1.5	41	9.5	62	62	7.2	1.5	277.98	0.374	2.18
MBS C62	2.0	41	9.5	62	62	7.2	1	366.09	0.370	2.87
MBS C62	2.5	41	9.5	62	62	7.2	0.5	451.94	0.366	3.55

Profil	t	Caracteristici geometrice ale secțiunii brute									
		y _G	Z _{G-}	Z _{G+}	I _y	W _{py-}	W _{py+}	I _z	W _{pz}	i _y	i _z
	(mm)	(mm)	(mm)	(mm)	(mm ⁴)	(mm ³)	(mm ³)	(mm ⁴)	(mm ³)	(mm)	(mm)
MBS C21	1.5	20.5	8.9	12.1	9419	1058.31	778.43	36601.34	1785.43	7.86	15.5
MBS C21	2.0	20.5	8.9	12.1	11695.79	1314.13	966.59	46874.96	2286.58	7.68	15.37
MBS C21	2.5	20.5	8.79	12.21	13604.73	1547.75	1114.23	56245.02	2743.66	7.49	15.24
MBS C41	1.5	20.5	18.48	22.52	49086.22	2656.18	2179.67	58180.86	2838.09	15.11	16.45
MBS C41	2.0	20.5	18.39	22.31	62710.45	3410.03	2810.87	74908.69	3654.08	14.91	16.3
MBS C41	2.5	20.5	18.29	22.71	75077.32	4104.83	3305.91	90373.93	4408.48	14.71	16.14
MBS C62	1.5	20.5	28.73	33.27	136442.58	4749.13	4101.07	82771.54	4037.64	22.15	17.26
MBS C62	2.0	20.5	28.61	33.39	176169.24	6157.61	5276.11	106877.68	5213.55	21.94	17.09
MBS C62	2.5	20.5	28.49	33.51	213178.41	7482.57	6361.64	129339.63	6309.25	21.72	16.92

Profile zincate MBS C21 / C41 / C62 pentru structuri fotovoltaice - detalii tehnice



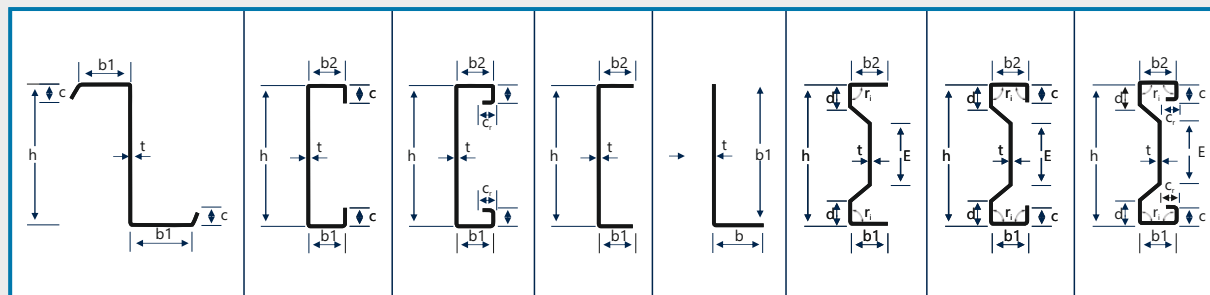
Selectia de material	
S250GD+Z275	●
S350GD+Z275	⊙

Profil	t	1.5	2.0	2.5
	(mm)	(mm)	(mm)	(mm)
MBS C21	●	●	●	●
MBS C41	●	●	●	●
MBS C62	●	●	●	●

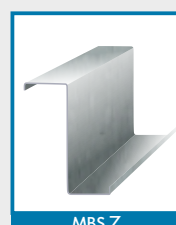
Profil din otel S250GD+Z	t	Rezistente dupa EN1993-1-1		
	(mm)	Axial N _{t,Rd} /N _{c,Rd} (kN)	Incovoiere dupa y-y M _{cy,Rd} (kNm)	Incovoiere dupa z-z M _{cz,Rd} (kNm)
MBS C21	1.5	38.10	0.19	0.45
MBS C21	2.0	49.63	0.24	0.57
MBS C21	2.5	60.56	0.28	0.69
MBS C41	1.5	53.74	0.54	0.71
MBS C41	2.0	70.52	0.70	0.91
MBS C41	2.5	86.74	0.83	1.10
MBS C62	1.5	69.50	1.03	1.01
MBS C62	2.0	91.52	1.32	1.30
MBS C62	2.5	112.99	1.59	1.58

Profil din otel S350GD+Z	t	Rezistente dupa EN1993-1-1		
	(mm)	Axial N _{t,Rd} /N _{c,Rd} (kN)	Incovoiere dupa y-y M _{cy,Rd} (kNm)	Incovoiere dupa z-z M _{cz,Rd} (kNm)
MBS C21	1.5	53.34	0.27	0.62
MBS C21	2.0	69.48	0.34	0.80
MBS C41	1.5	75.24	0.39	0.96
MBS C41	2.0	98.73	0.98	1.28
MBS C62	1.5	97.29	1.44	1.41
MBS C62	2.0	128.13	1.85	1.82

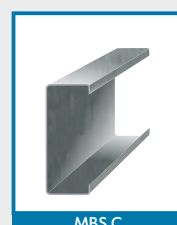
Gama completa de profile zincate MBS Z / C / U / L / Σ



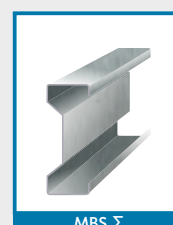
Profil	t (mm)	h (mm)
MBS Z, C, U 100	1,5; 2; 2,5; 3	100
MBS Z, C, U 120	1,5; 2; 2,5; 3	120
MBS Z, C, U 140	1,5; 2; 2,5; 3	140
MBS Z, C, U 150	1,5; 2; 2,5; 3	150
MBS Z, C, U 160	1,5; 2; 2,5; 3	160
MBS Z, C, U 172	1,5; 2; 2,5; 3	172
MBS Z, C, U 180	1,5; 2; 2,5; 3	180
MBS Z, C, U 200	1,5; 2; 2,5; 3; 4	200
MBS Z, C, U 210	1,5; 2; 2,5; 3; 4	210
MBS Z, C, U 220	1,5; 2; 2,5; 3; 4	220
MBS Z, C, U 250	1,5; 2; 2,5; 3; 4	250
MBS Z, C, U 260	1,5; 2; 2,5; 3; 4	260
MBS Z, C, U 300	1,5; 2; 2,5; 3; 4	300
MBS Z, C, U 350	1,5; 2; 2,5; 3; 4	350
MBS Z, C, U 400	1,5; 2; 2,5; 3; 4	400
MBS L75	1,5; 2; 2,5;	75
MBS CI120	2	120
MBS CI150	2	150
MBS CI200	2	200
MBS CI250	2	250
MBS Z, C 160e	1,5; 2; 2,5; 3	160
MBS Z, C 200e	1,5; 2; 2,5; 3	200
MBS Z, C 250e	1,5; 2; 2,5; 3	250
MBS Z, C 300e	1,5; 2; 2,5; 3	300
MBS Z, C 350e	1,5; 2; 2,5; 3	350



MBS Z



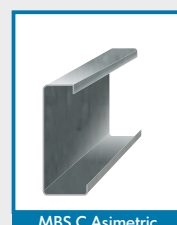
MBS C



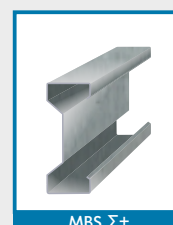
MBS Σ



MBS Z+



MBS C Asimetric



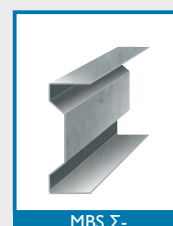
MBS Σ+



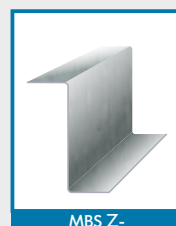
MBS Z Asimetric



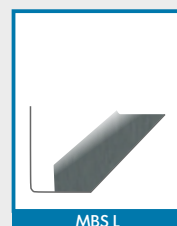
MBS U



MBS Σ-



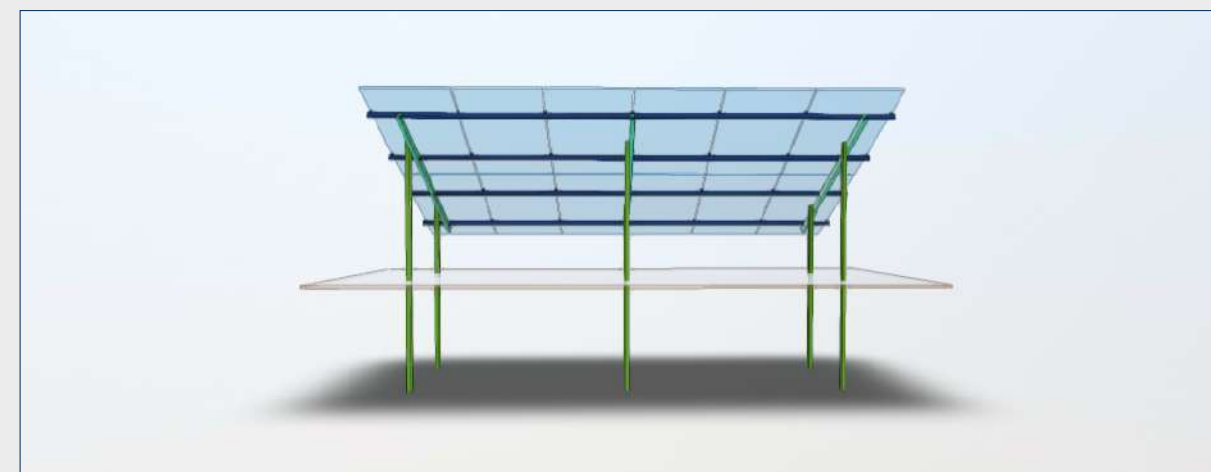
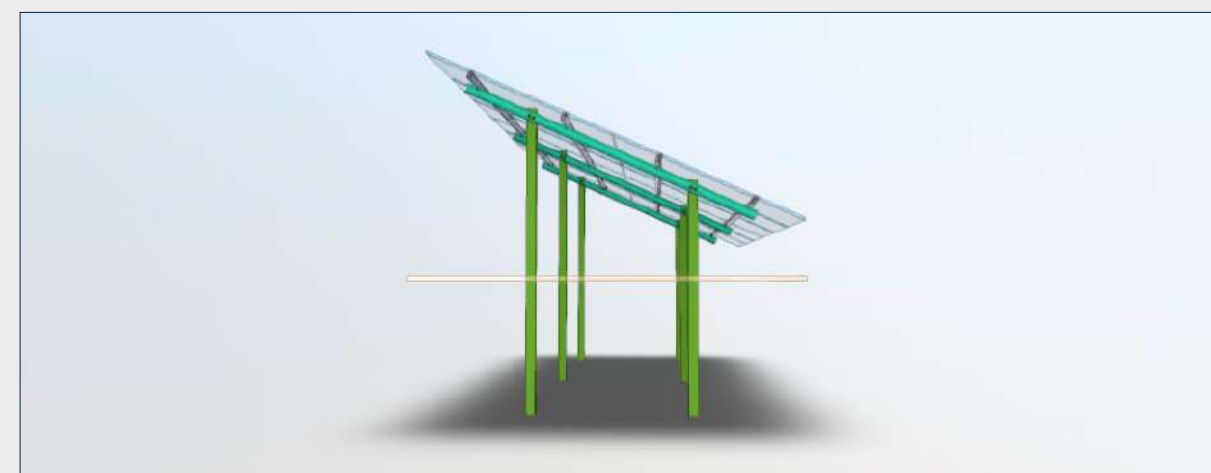
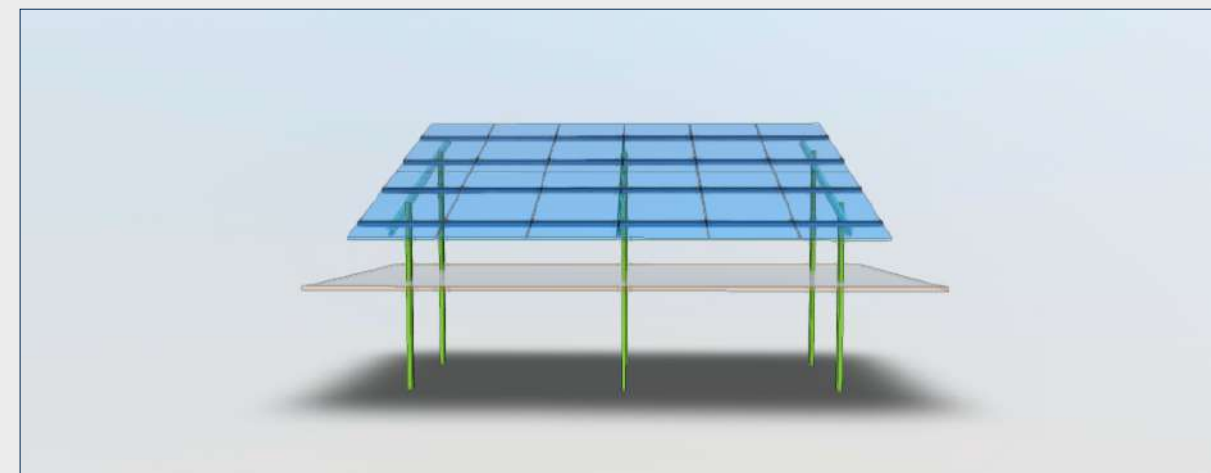
MBS Z-



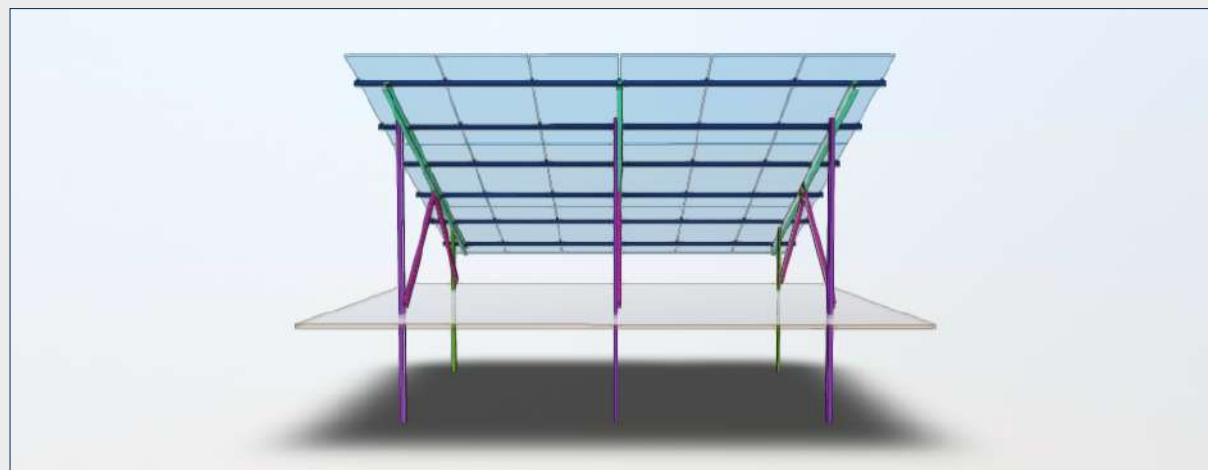
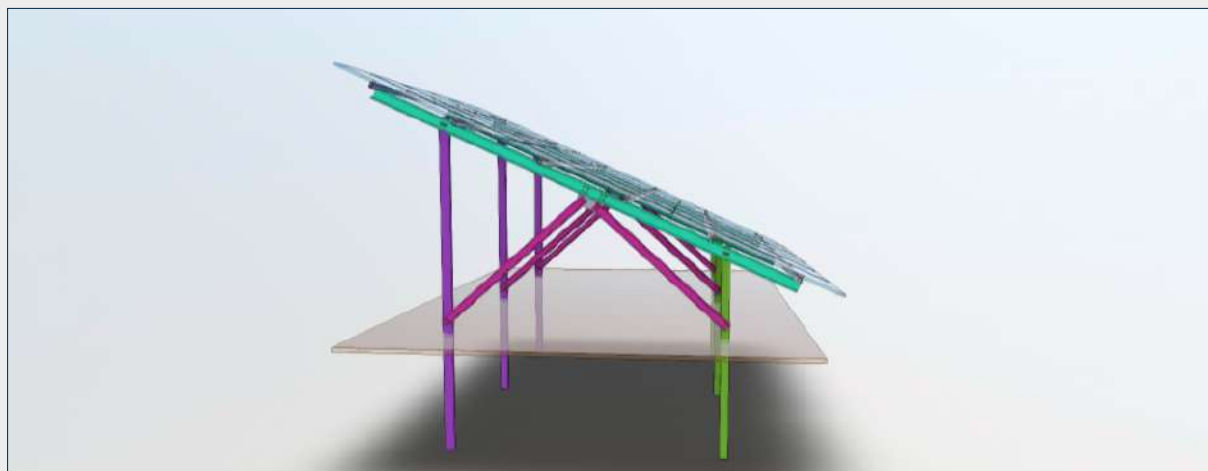
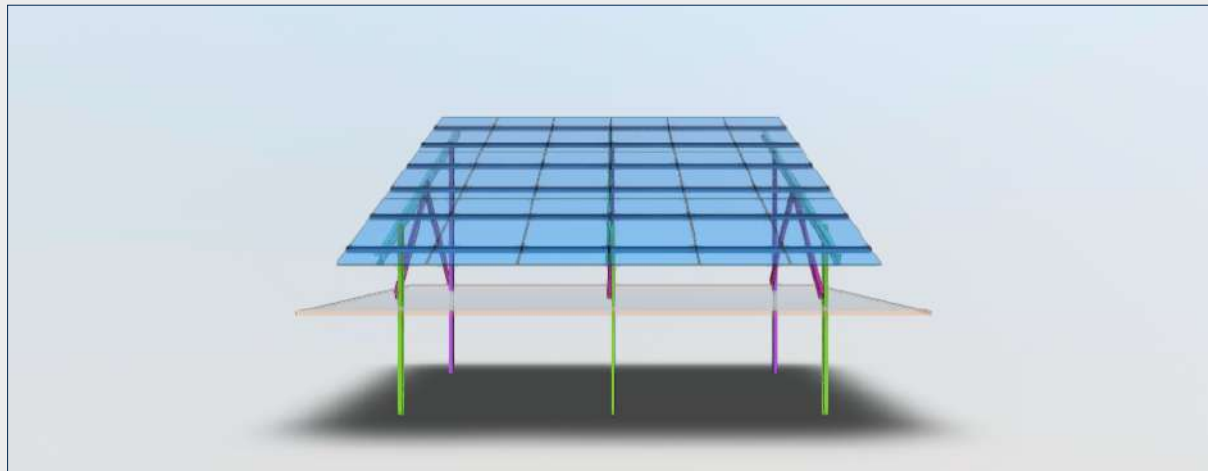
MBS L

Pentru mai multe detalii legate de gama completa de profile zincate MBS consultati **Catalogul de Componente de Constructii** sau contactati reprezentatii Proinvest Group.

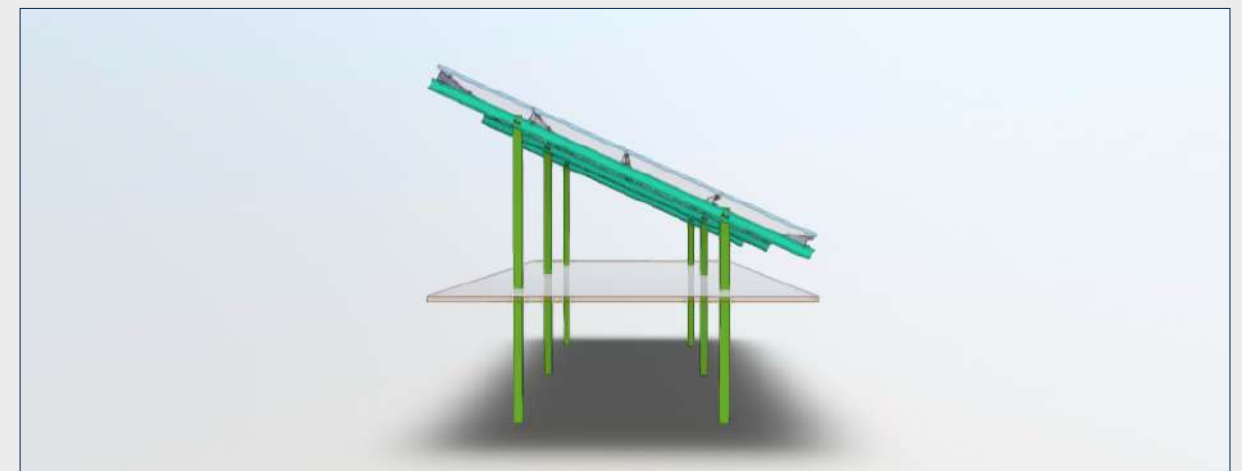
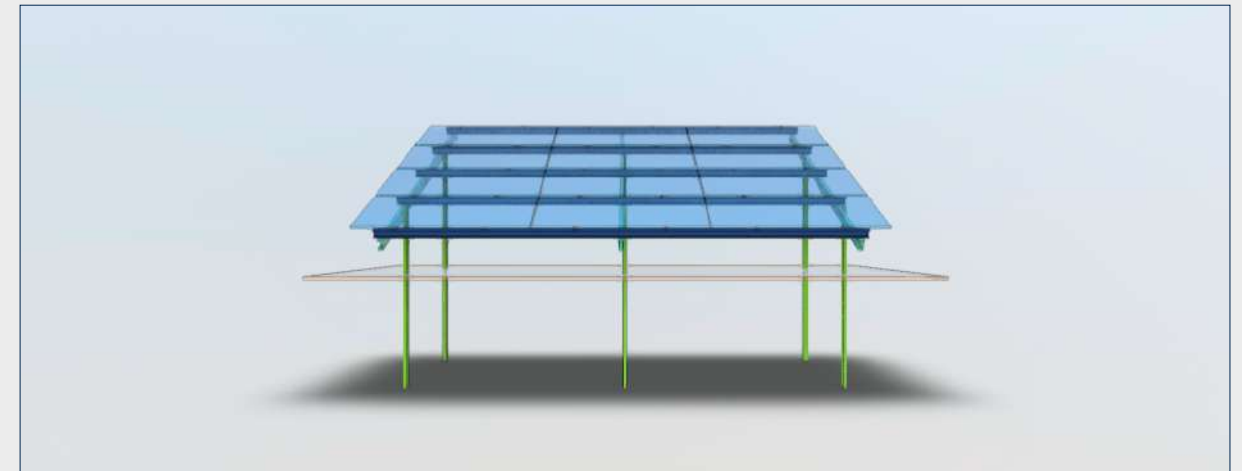
MODEL 1 _ Structura din profile zincate MBS pentru panouri fotovoltaice



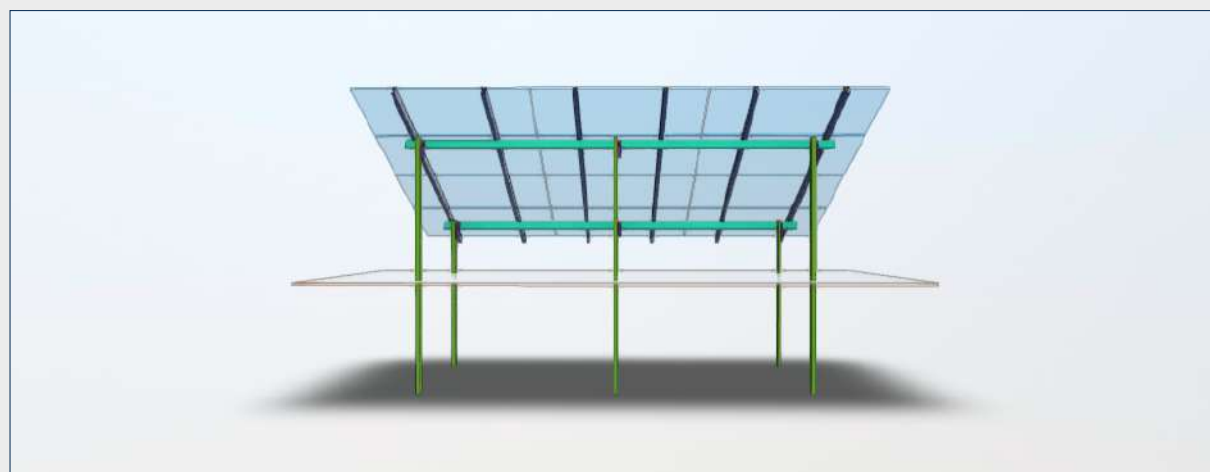
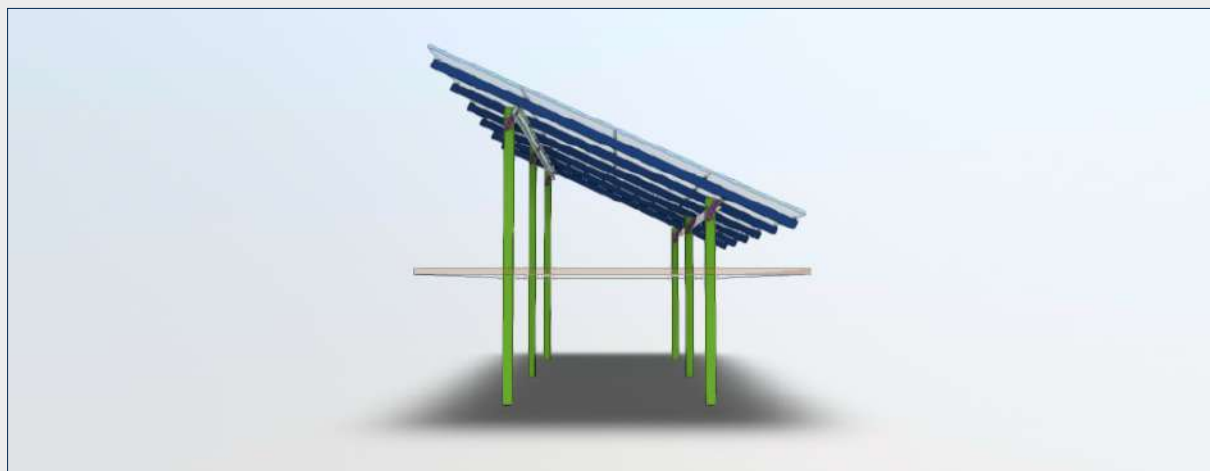
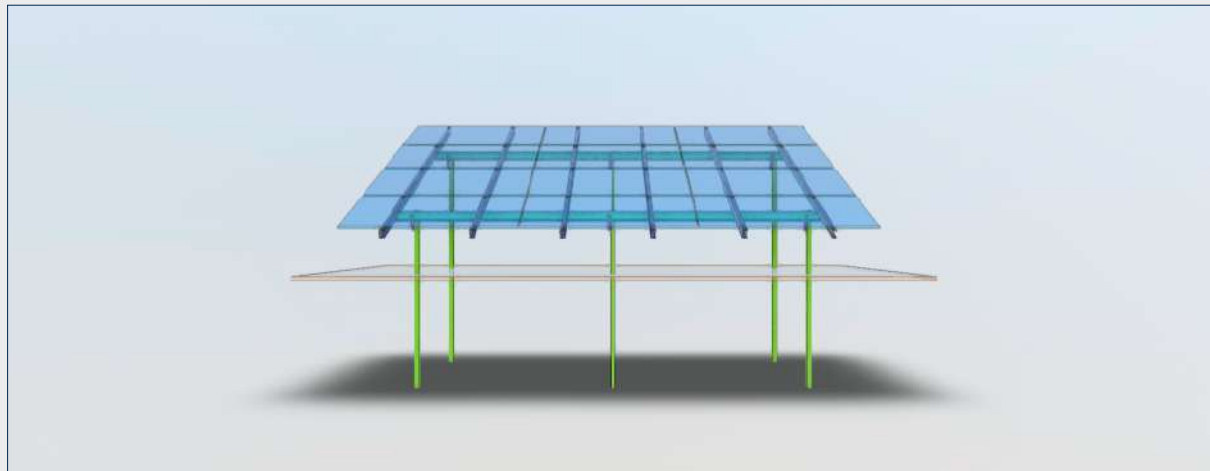
MODEL 2 _ Structura din profile zincate MBS pentru panouri fotovoltaice



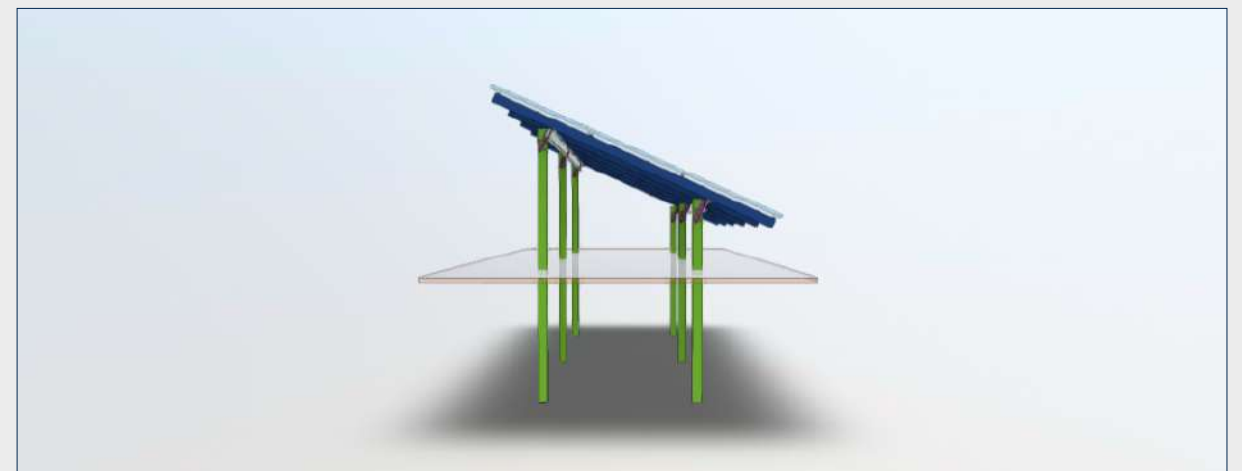
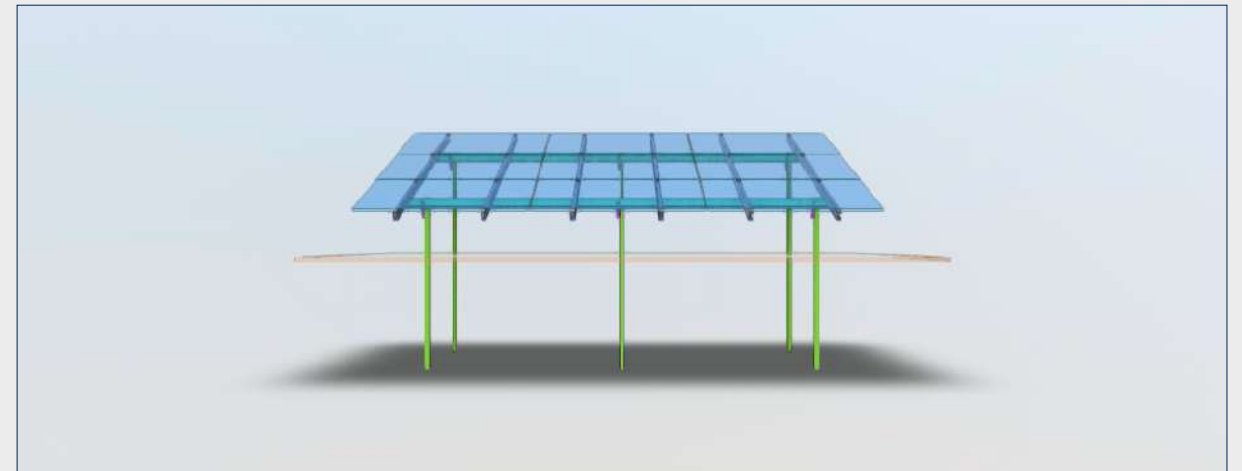
MODEL 3 _ Structura din profile zincate MBS pentru panouri fotovoltaice



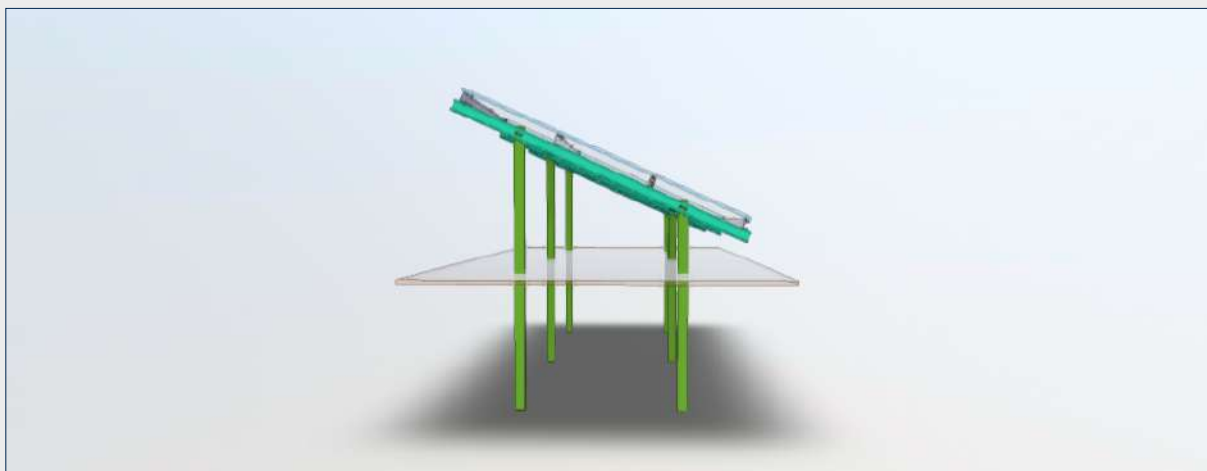
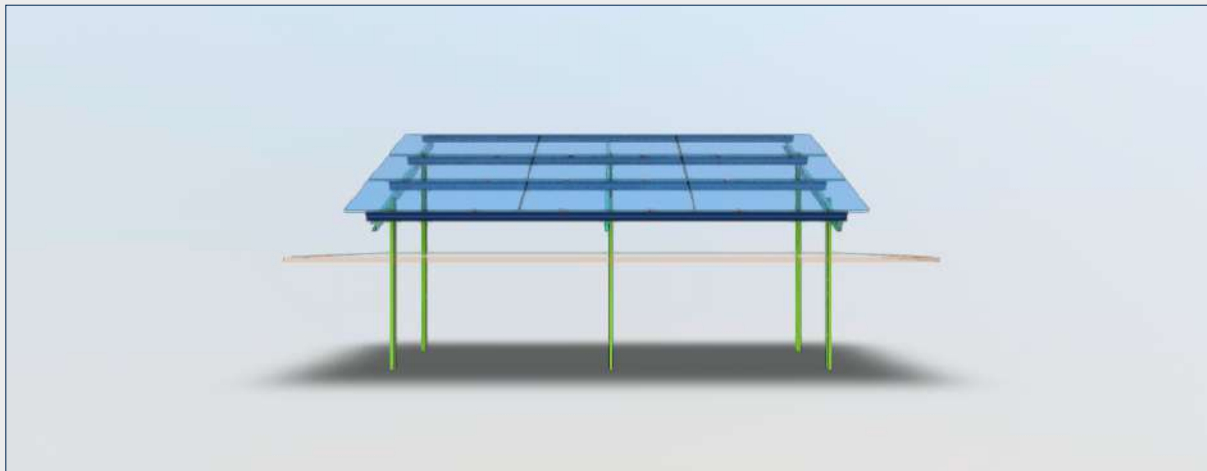
MODEL 4 _ Structura din profile zincate MBS pentru panouri fotovoltaice



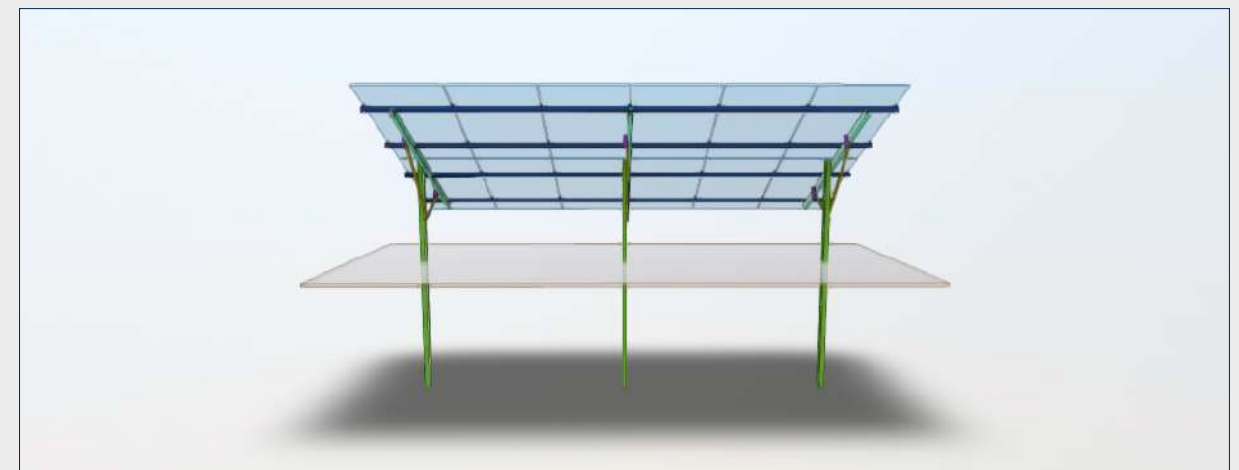
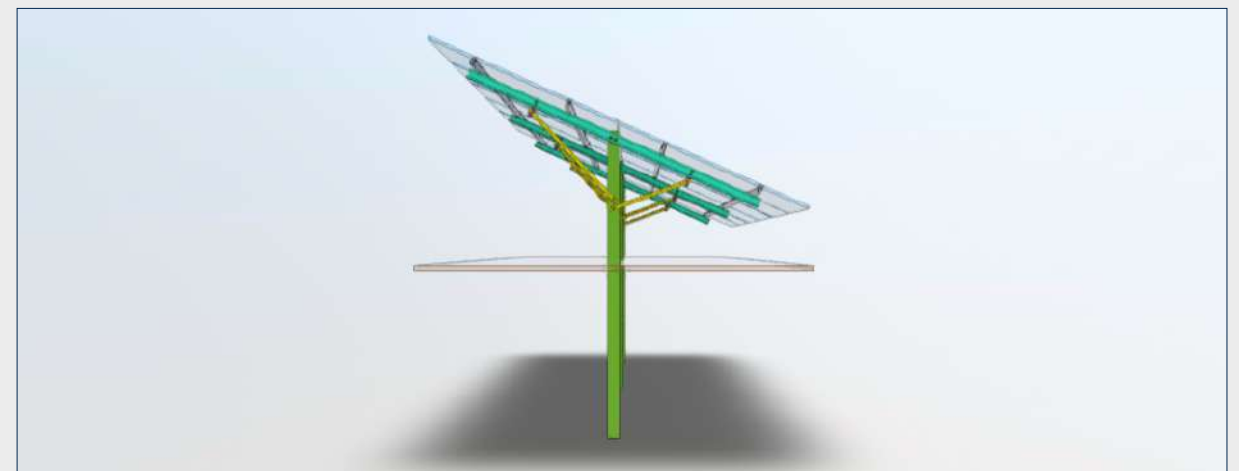
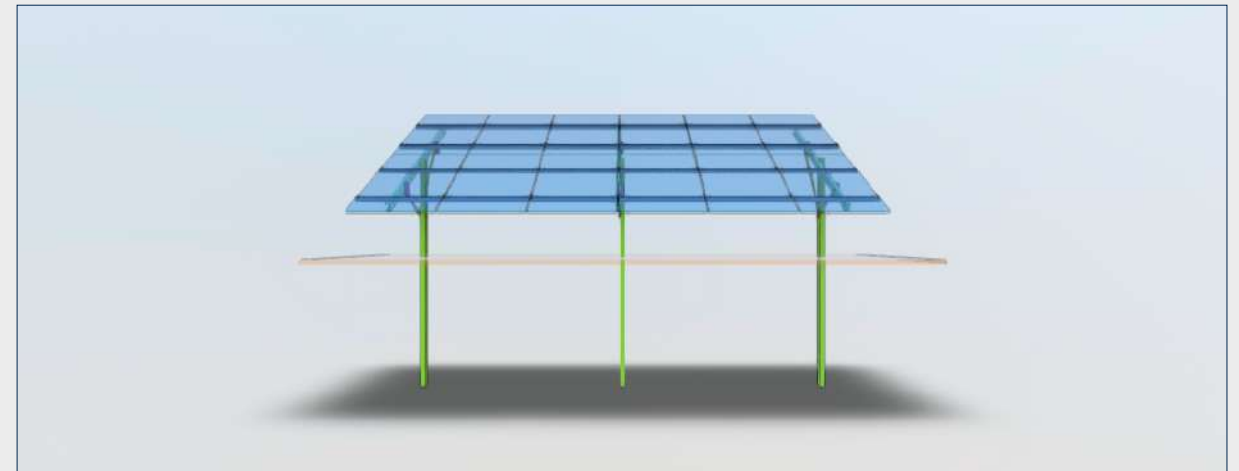
MODEL 5 _ Structura din profile zincate MBS pentru panouri fotovoltaice



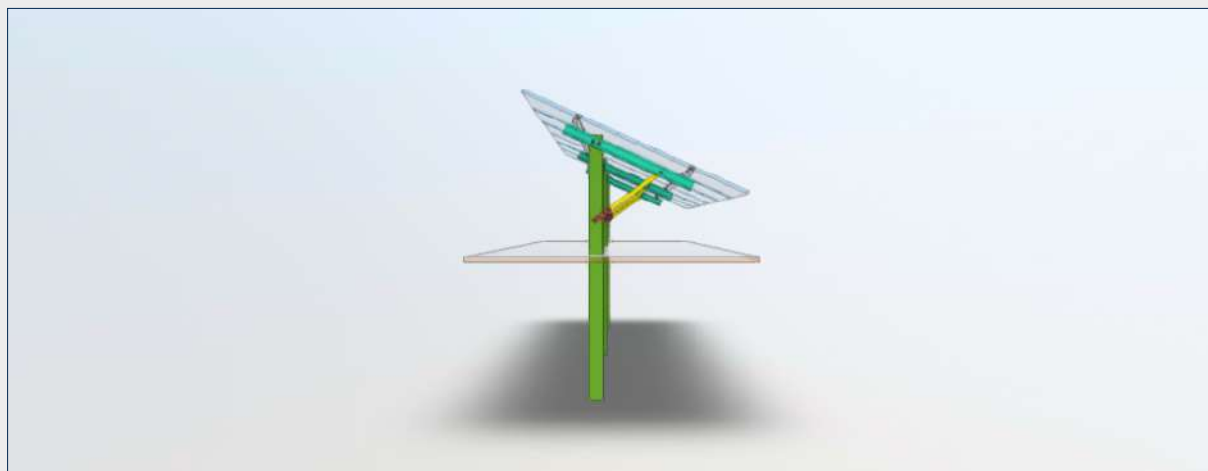
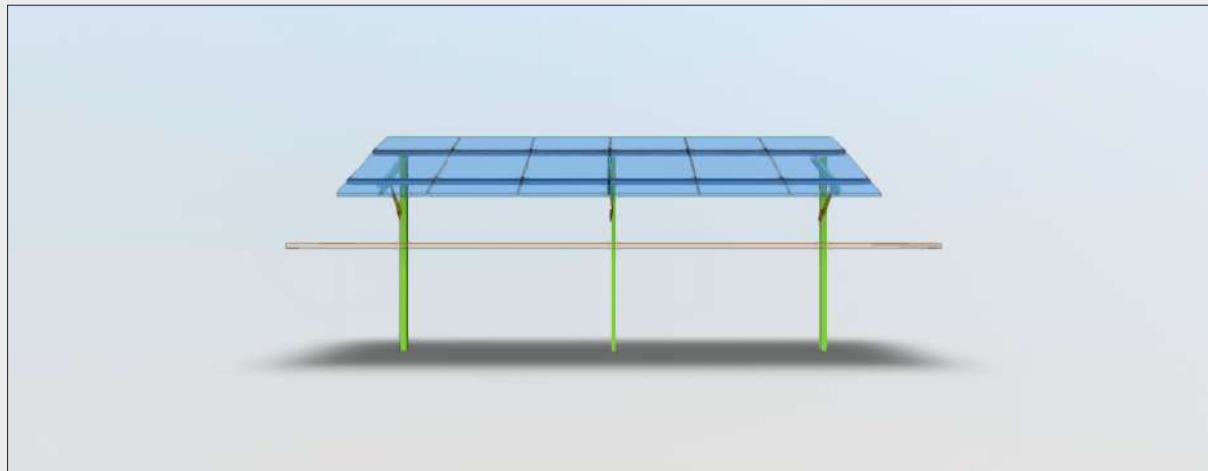
MODEL 6 _ Structura din profile zincate MBS pentru panouri fotovoltaice



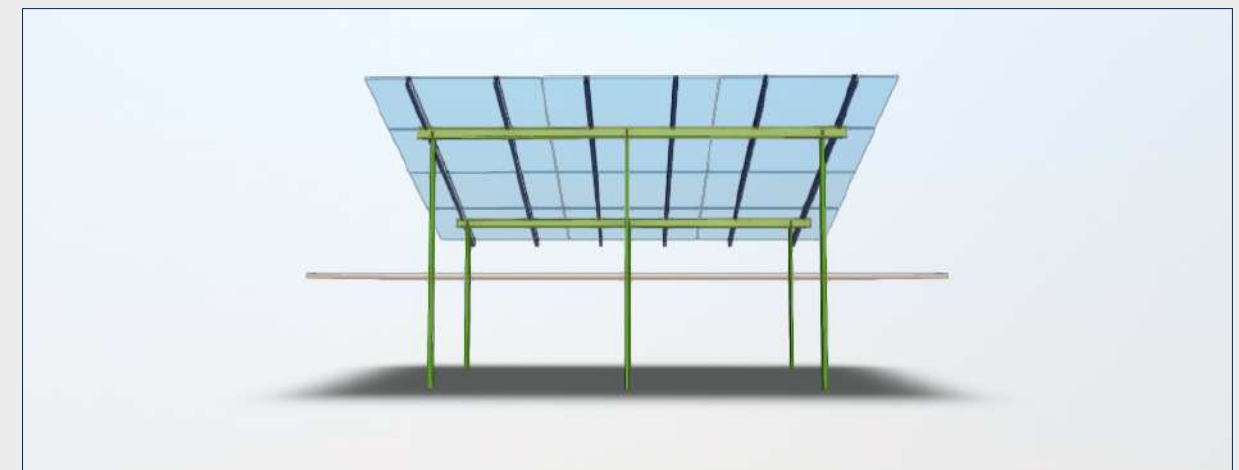
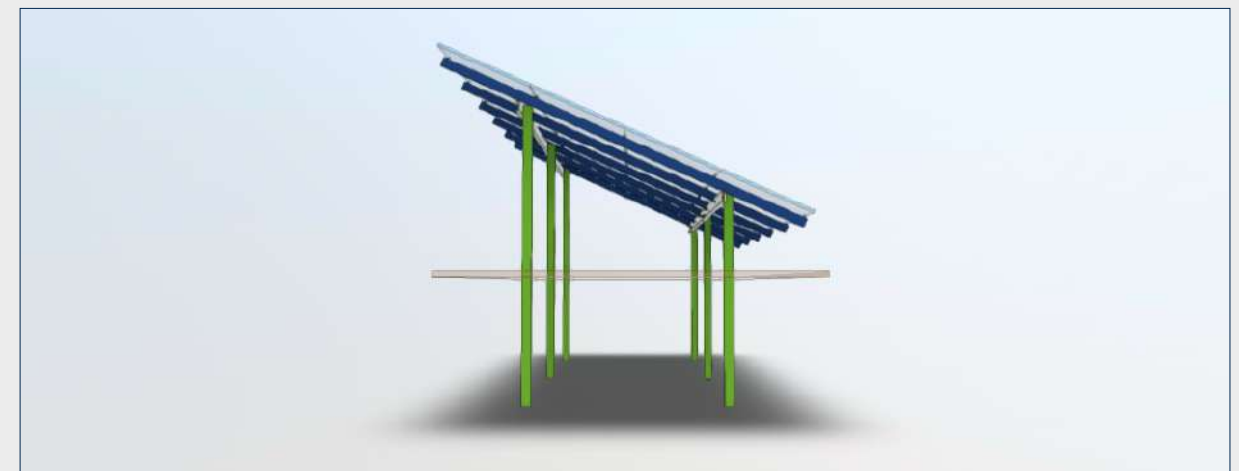
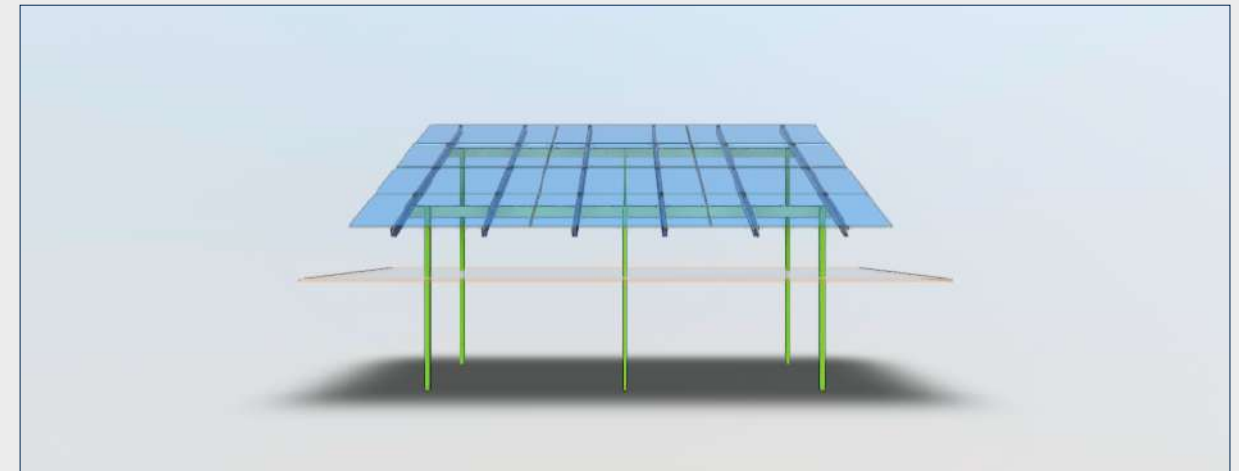
MODEL 7 _ Structura din profile zincate MBS pentru panouri fotovoltaice



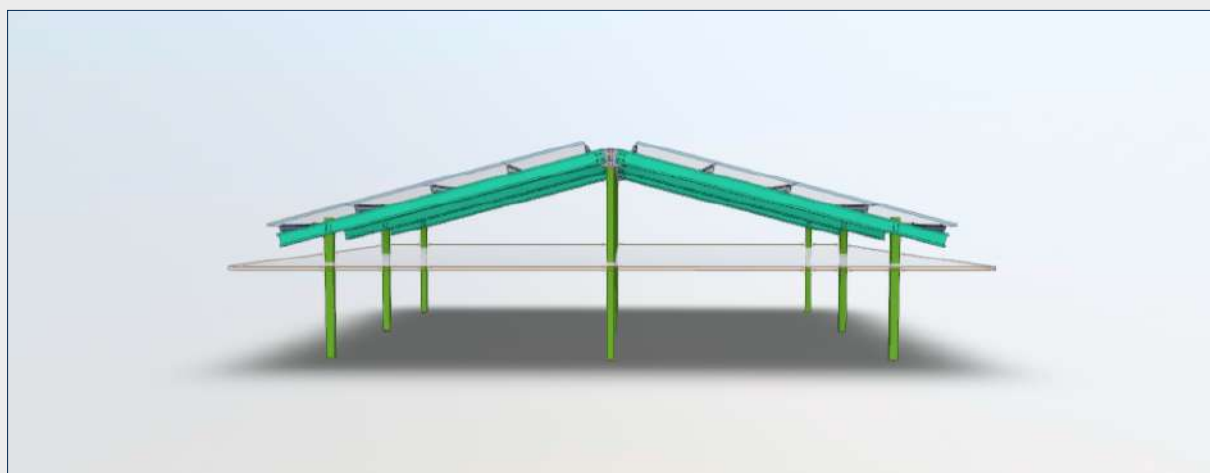
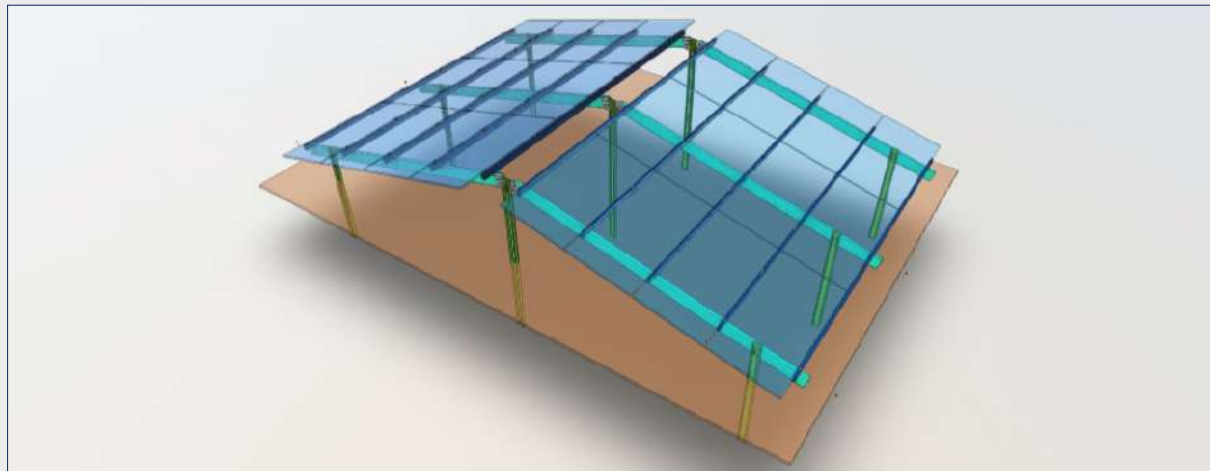
MODEL 8 _ Structura din profile zincate MBS pentru panouri fotovoltaice



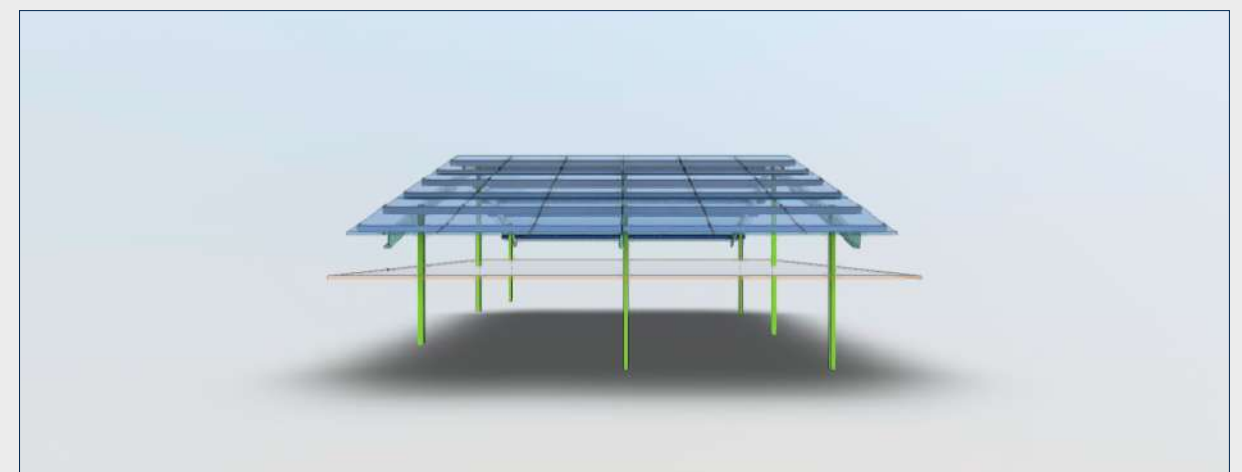
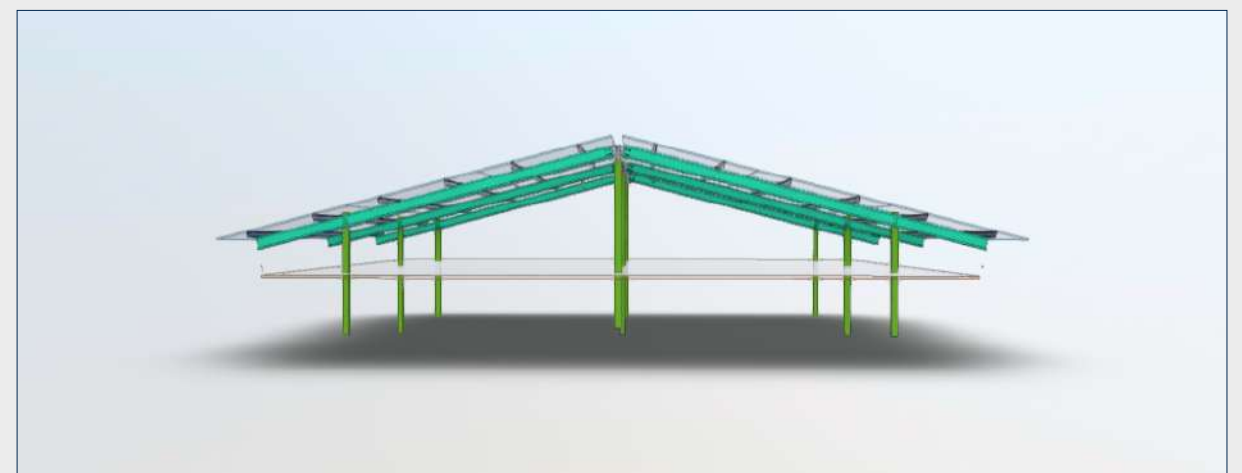
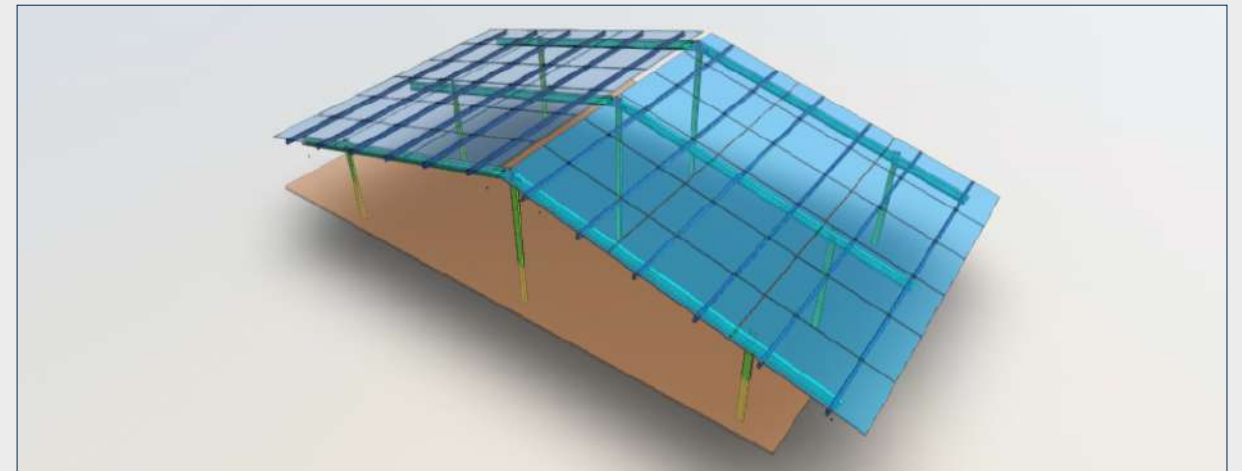
MODEL 9 _ Structura din profile zincate MBS pentru panouri fotovoltaice



MODEL 10 _ Structura din profile zincate MBS pentru panouri fotovoltaice



MODEL 11 _ Structura din profile zincate MBS pentru panouri fotovoltaice



Contactati-ne!

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Structura din profile zincate pentru panouri fotovoltaice _ Montaj pe sol _ CEF Oradea



Structura din profile zincate pentru panouri fotovoltaice _ Montaj pe acoperis _ Hala productie Proinvest Group