

LANGUAGE  
EN



# LOAD BEARING PROFILE

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## LG153-840

**M**  
PART OF  
MANNI  
GROUP



**ISOPAN**

INSULATING DESIGN

**M**

**PART OF  
MANNI  
GROUP**



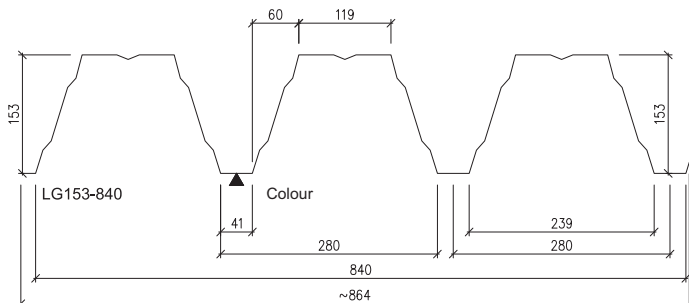
**ISOPAN**

**INSULATING DESIGN**

# LOAD BEARING PROFILE LG 153-840

Load Bearing Profile LG 153-840 is mainly used for roof structures with large spans as support for thermal and hydro-insulation. It can be used also as concrete form works.

## GEOMETRIC CHARACTERISTICS



The arrow indicates the polyester 15 µm protected side.  
**Note! Load bearing profiles are delivered with the narrow flange oriented upward.**  
 Please check the correct position of the profile before installation.

Product properties	Isopan LG153-840
	LG = Trapezoidal sheet
	153 = Height
	41 = Flange width
	L = Load bearing profile
	840 = Effective width
<b>Height:</b>	153 mm
<b>Effective width:</b>	840 mm
<b>Steel thickness:</b>	0.75–1.25 mm
<b>Thickness on stock:</b>	0.75, 0.88, 1.00, 1.25 mm
<b>Minimum length:</b>	1800 mm
<b>Maximum length:</b>	13500 mm
<b>Quality check:</b>	Factory production control according to EN 14782
<b>Material:</b>	Hot dip galvanized S320GD+Z
	Galvanized according to EN 10346
	Coil coated according to EN 10169-1
<b>Tolerance:</b>	Product: EN 508-1; Raw material: EN 14782

## MATERIALS

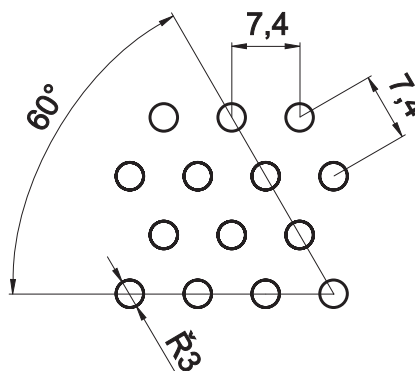
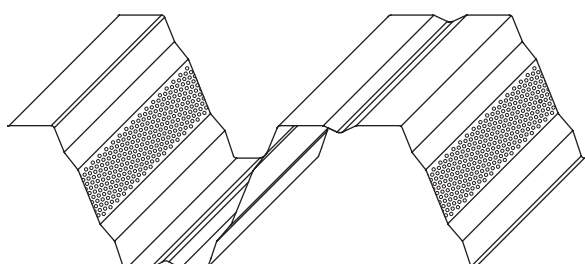
Thickness	Coating	Zinc	Corosion class	Steel grade	Weight	Colours
mm			Interior		kg/m <sup>2</sup>	
0.75	Polyester 15	Z100	C1-C2	S320	10.51	white-gray
0.88	Polyester 15	Z100	C1-C2	S320	12.34	white-gray
1.00	Polyester 15	Z100	C1-C2	S320	14.02	white-gray
1.25	Polyester 15	Z100	C1-C2	S320	17.52	white-gray

## SERVICES AND OPTIONS

### Steel sheet perforation

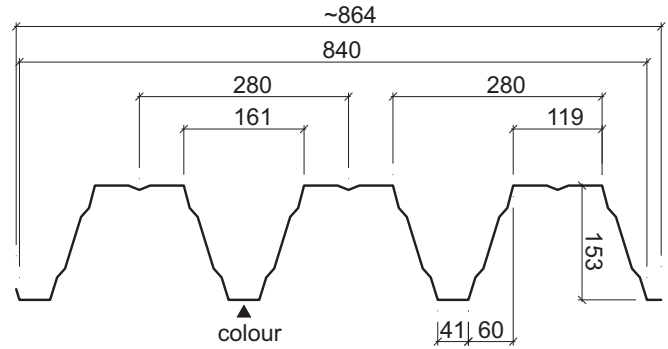
Standard perforation percentage is 15%. The perforated holes are 3 mm diameter, these being distributed on an equilateral triangle path with 7,4 mm side. Because of the perforation, strength parameters are reduced.

Please check the load tables for perforated profiles.



# LG153-840-Positive-Narrow flange against support

Maximum width [mm]	Effective width [mm]
864	840



No.	Thickness		Weight	Limit yield point	Tensile strength	Zinc	Coating
A	nominal	core	g	$f_u$	$f_y$	Zn	SP 15
B	mm	mm	kg/m <sup>2</sup>	MPa	MPa	g/m <sup>2</sup>	μm
1.	0.75	0.74	10.51	320.0	390.0	100	15
2.	0.88	0.87	12.34	320.0	390.0	100	15
3.	1.00	0.99	14.02	320.0	390.0	100	15
4.	1.25	1.24	17.52	320.0	390.0	100	15

Dimensioning tables according to EN 1993-1-3

Compare design load where safety factors must be included to table values (1/ULS)

Serviceability limit state safety factors = 1.0

Self-weight of the sheet has been taken into account with 1.35 safety factor

Continuous uniform load in [kN/m<sup>2</sup>]

1.Ultimate limit state [ULS; Q]

2.Serviceability limit state. Deflection limit  $f = L/150$  [SLS; Q<sub>s</sub>]

3.Serviceability limit state. Deflection limit  $f = L/200$  [SLS; Q<sub>s</sub>]

4.Serviceability limit state. Deflection limit  $f = L/300$  [SLS; Q<sub>s</sub>]

## 1. Span structure

Material factor

End support width:

Middle support width:

$\gamma_{M1} = 1.0$

60 mm

160 mm



Thick [mm]	State	Span length L [m]																				
		4.00	4.25	4.50	4.75	5.00	5.25	5.50	5.75	6.00	6.25	6.50	6.75	7.00	7.25	7.50	7.75	8.00	8.25	8.50	8.75	9.00
0.75	1. USL	5.95	5.26	4.68	4.19	3.76	3.41	3.09	2.82	2.58	2.37	2.18	2.01	1.86	1.73	1.61	1.50	1.40	1.31	1.23	1.15	1.08
	2. L/150	6.25	5.19	4.36	3.69	3.15	2.71	2.34	2.03	1.78	1.56	1.38	1.22	1.08	0.96	0.86	0.77	0.69	0.62	0.56	0.50	0.46
	3. L/200	4.66	3.87	3.24	2.74	2.33	2.00	1.73	1.51	1.31	1.15	1.01	0.89	0.79	0.70	0.62	0.55	0.49	0.44	0.39	0.35	0.32
	4. L/300	3.07	2.55	2.13	1.79	1.52	1.30	1.12	0.97	0.84	0.73	0.64	0.56	0.49	0.43	0.38	0.33	0.29	0.26	0.22	0.20	0.18
0.88	1. USL	7.52	6.65	5.91	5.29	4.76	4.31	3.91	3.56	3.26	2.99	2.76	2.55	2.36	2.19	2.04	1.90	1.77	1.66	1.55	1.46	1.37
	2. L/150	7.56	6.28	5.27	4.47	3.81	3.28	2.83	2.46	2.16	1.89	1.66	1.48	1.31	1.17	1.04	0.93	0.84	0.75	0.67	0.61	0.55
	3. L/200	5.64	4.67	3.92	3.32	2.82	2.43	2.09	1.82	1.58	1.38	1.23	1.08	0.95	0.84	0.75	0.67	0.60	0.53	0.48	0.43	0.38
	4. L/300	3.72	3.08	2.58	2.18	1.85	1.58	1.36	1.17	1.01	0.89	0.77	0.68	0.60	0.52	0.45	0.40	0.35	0.32	0.28	0.24	0.21
1.00	1. USL	8.70	7.69	6.84	6.12	5.51	4.98	4.53	4.13	3.78	3.47	3.20	2.95	2.73	2.54	2.36	2.20	2.05	1.92	1.80	1.69	1.59
	2. L/150	8.78	7.30	6.12	5.19	4.43	3.80	3.29	2.86	2.50	2.20	1.94	1.72	1.53	1.36	1.21	1.09	0.97	0.87	0.79	0.71	0.64
	3. L/200	6.55	5.43	4.55	3.85	3.28	2.82	2.43	2.11	1.84	1.61	1.42	1.25	1.11	0.98	0.88	0.78	0.70	0.62	0.56	0.50	0.45
	4. L/300	4.32	3.58	2.99	2.52	2.15	1.83	1.58	1.36	1.18	1.03	0.90	0.79	0.69	0.61	0.54	0.47	0.41	0.37	0.32	0.29	0.25
1.25	1. USL	11.20	9.90	8.81	7.88	7.10	6.41	5.83	5.32	4.86	4.47	4.12	3.80	3.52	3.27	3.04	2.84	2.64	2.47	2.32	2.18	2.05
	2. L/150	11.01	9.15	7.68	6.51	5.56	4.77	4.13	3.59	3.14	2.76	2.44	2.16	1.91	1.70	1.52	1.36	1.22	1.10	0.99	0.90	0.81
	3. L/200	8.22	6.82	5.72	4.84	4.12	3.53	3.05	2.65	2.31	2.02	1.78	1.57	1.39	1.24	1.11	0.98	0.88	0.78	0.70	0.63	0.57
	4. L/300	5.42	4.49	3.75	3.17	2.69	2.30	1.98	1.72	1.48	1.29	1.13	0.99	0.87	0.77	0.68	0.60	0.53	0.47	0.41	0.36	0.32

# LG153-840-Positive-Narrow flange against support

## 2. Span structure

Material factor  $\gamma_{M1} = 1.0$   
 End support width: 60 mm  
 Middle support width: 160 mm



Thick [mm]	State	Span length L [m]																				
		4.00	4.25	4.50	4.75	5.00	5.25	5.50	5.75	6.00	6.25	6.50	6.75	7.00	7.25	7.50	7.75	8.00	8.25	8.50	8.75	9.00
0.75	1. ULS	4.14	3.75	3.41	3.12	2.86	2.63	2.43	2.24	2.08	1.94	1.81	1.69	1.58	1.49	1.39	1.31	1.23	1.16	1.10	1.03	0.98
	2. L/150	15.25	12.70	10.68	9.06	7.76	6.68	5.80	5.06	4.45	3.92	3.47	3.09	2.76	2.48	2.22	2.01	1.82	1.65	1.49	1.36	1.24
	3. L/200	11.41	9.50	7.99	6.77	5.79	4.99	4.32	3.77	3.31	2.91	2.58	2.29	2.04	1.83	1.64	1.48	1.34	1.21	1.10	1.00	0.91
	4. L/300	7.57	6.29	5.28	4.48	3.82	3.29	2.85	2.48	2.17	1.91	1.68	1.49	1.33	1.18	1.06	0.95	0.86	0.77	0.69	0.63	0.57
0.88	1. ULS	5.51	4.99	4.54	4.15	3.80	3.50	3.22	2.98	2.77	2.57	2.40	2.24	2.10	1.96	1.84	1.74	1.63	1.54	1.45	1.38	1.30
	2. L/150	18.40	15.31	12.88	10.94	9.35	8.06	7.00	6.11	5.37	4.74	4.19	3.73	3.33	2.99	2.69	2.43	2.19	1.99	1.81	1.65	1.51
	3. L/200	13.77	11.45	9.63	8.17	6.99	6.02	5.22	4.55	3.99	3.52	3.11	2.77	2.47	2.21	1.98	1.78	1.61	1.46	1.32	1.21	1.09
	4. L/300	9.14	7.60	6.38	5.40	4.62	3.97	3.44	2.99	2.62	2.30	2.03	1.80	1.61	1.44	1.28	1.15	1.04	0.94	0.84	0.76	0.69
1.00	1. ULS	6.86	6.20	5.63	5.14	4.71	4.33	4.00	3.70	3.43	3.18	2.97	2.77	2.59	2.43	2.28	2.14	2.02	1.91	1.80	1.70	1.61
	2. L/150	21.33	17.76	14.94	12.68	10.85	9.36	8.12	7.08	6.22	5.49	4.87	4.33	3.87	3.47	3.12	2.81	2.54	2.31	2.10	1.91	1.75
	3. L/200	15.97	13.28	11.17	9.47	8.11	6.98	6.05	5.28	4.63	4.08	3.61	3.21	2.86	2.56	2.30	2.07	1.87	1.69	1.54	1.40	1.27
	4. L/300	10.59	8.81	7.40	6.27	5.35	4.61	3.99	3.47	3.04	2.67	2.36	2.10	1.87	1.67	1.49	1.34	1.20	1.09	0.98	0.89	0.80
1.25	1. ULS	9.51	8.58	7.79	7.09	6.48	5.95	5.48	5.06	4.69	4.35	4.05	3.78	3.53	3.30	3.10	2.91	2.74	2.58	2.44	2.31	2.18
	2. L/150	26.81	22.32	18.77	15.95	13.64	11.76	10.21	8.91	7.82	6.90	6.11	5.44	4.86	4.36	3.92	3.54	3.20	2.90	2.64	2.40	2.19
	3. L/200	20.07	16.71	14.04	11.91	10.18	8.78	7.61	6.64	5.82	5.13	4.54	4.04	3.60	3.22	2.89	2.61	2.35	2.13	1.93	1.76	1.60
	4. L/300	13.32	11.07	9.30	7.88	6.73	5.80	5.01	4.37	3.82	3.36	2.97	2.63	2.34	2.10	1.87	1.68	1.51	1.37	1.23	1.11	1.01

## 3. Span structure

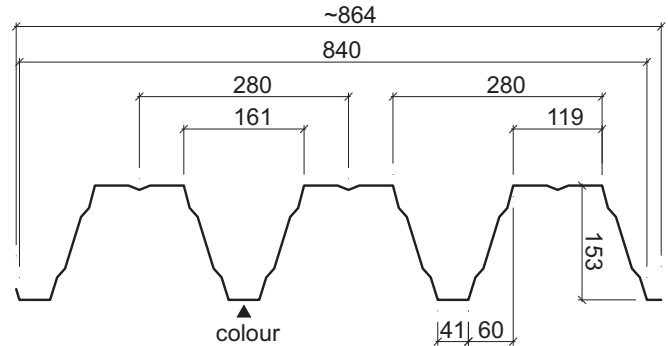
Material factor  $\gamma_{M1} = 1.0$   
 End support width: 60 mm  
 Middle support width: 160 mm



Thick [mm]	State	Span length L [m]																				
		4.00	4.25	4.50	4.75	5.00	5.25	5.50	5.75	6.00	6.25	6.50	6.75	7.00	7.25	7.50	7.75	8.00	8.25	8.50	8.75	9.00
0.75	1. ULS	5.00	4.53	4.13	3.78	3.47	3.20	2.96	2.74	2.55	2.37	2.22	2.08	1.95	1.83	1.72	1.62	1.53	1.44	1.36	1.29	1.23
	2. L/150	12.08	10.06	8.45	7.18	6.14	5.28	4.58	4.00	3.50	3.09	2.73	2.43	2.17	1.94	1.74	1.57	1.42	1.28	1.16	1.06	0.96
	3. L/200	9.04	7.52	6.32	5.35	4.57	3.94	3.41	2.97	2.60	2.29	2.03	1.80	1.60	1.44	1.29	1.15	1.04	0.94	0.85	0.77	0.70
	4. L/300	5.99	4.98	4.17	3.53	3.01	2.59	2.25	1.95	1.70	1.49	1.31	1.16	1.03	0.92	0.82	0.73	0.66	0.58	0.53	0.48	0.43
0.88	1. ULS	6.65	6.03	5.49	5.03	4.62	4.25	3.93	3.64	3.39	3.15	2.94	2.75	2.58	2.42	2.27	2.14	2.02	1.91	1.81	1.71	1.62
	2. L/150	14.59	12.15	10.21	8.66	7.41	6.38	5.54	4.83	4.24	3.74	3.30	2.94	2.62	2.35	2.11	1.90	1.72	1.55	1.41	1.28	1.17
	3. L/200	10.91	9.08	7.63	6.47	5.53	4.76	4.12	3.59	3.14	2.77	2.45	2.17	1.94	1.73	1.55	1.39	1.26	1.14	1.03	0.93	0.84
	4. L/300	7.24	6.01	5.05	4.27	3.64	3.13	2.71	2.35	2.06	1.81	1.59	1.41	1.25	1.11	0.99	0.89	0.80	0.71	0.64	0.58	0.53
1.00	1. ULS	8.27	7.49	6.82	6.24	5.73	5.27	4.87	4.51	4.19	3.90	3.64	3.41	3.19	2.99	2.81	2.65	2.50	2.36	2.23	2.11	2.00
	2. L/150	16.93	14.09	11.85	10.06	8.60	7.41	6.42	5.61	4.92	4.33	3.84	3.41	3.05	2.73	2.45	2.21	1.99	1.81	1.64	1.48	1.36
	3. L/200	12.66	10.53	8.86	7.51	6.42	5.52	4.79	4.16	3.65	3.21	2.84	2.52	2.25	2.01	1.80	1.62	1.46	1.32	1.19	1.08	0.98
	4. L/300	8.40	6.98	5.85	4.95	4.23	3.64	3.14	2.73	2.39	2.10	1.85	1.64	1.45	1.30	1.15	1.03	0.93	0.83	0.75	0.67	0.60
1.25	1. ULS	11.53	10.43	9.47	8.63	7.91	7.27	6.71	6.20	5.75	5.35	4.98	4.66	4.35	4.08	3.84	3.61	3.40	3.21	3.03	2.87	2.72
	2. L/150	21.26	17.69	14.88	12.63	10.80	9.30	8.07	7.04	6.18	5.45	4.82	4.29	3.82	3.43	3.08	2.77	2.50	2.27	2.06	1.87	1.71
	3. L/200	15.90	13.22	11.11	9.43	8.05	6.93	6.01	5.24	4.59	4.04	3.57	3.17	2.82	2.53	2.26	2.03	1.83	1.66	1.50	1.36	1.24
	4. L/300	10.55	8.76	7.35	6.23	5.31	4.56	3.95	3.43	3.00	2.63	2.32	2.06	1.83	1.62	1.45	1.30	1.17	1.05	0.94	0.85	0.77

# LG153-840-Perforated-Positive-Narrow flange against support

Maximum width [mm]	Effective width [mm]
864	840



No.	Thickness		Weight	Limit yield point	Tensile strength	Zinc	Coating
A	nominal	core	g	$f_u$	$f_y$	Zn	SP 15
B	mm	mm	kg/m <sup>2</sup>	MPa	MPa	g/m <sup>2</sup>	μm
1.	0.75	0.74	10.51	320.0	390.0	100	15
2.	0.88	0.87	12.34	320.0	390.0	100	15
3.	1.00	0.99	14.02	320.0	390.0	100	15
4.	1.25	1.24	17.52	320.0	390.0	100	15

Dimensioning tables according to EN 1993-1-3.

Compare design load where safety factors must be included to table values (1ULS).

Serviceability limit state safety factors = 1.0.

Self-weight of the sheet has been taken into account with 1.35 safety factor

Continuous uniform load in [kN/m<sup>2</sup>].

1.Ultimate limit state (ULS;  $Q_1$ )

2.Serviceability limit state. Deflection limit  $f = L/150$  (SLS;  $Q_{s1}$ )

3.Serviceability limit state. Deflection limit  $f = L/200$  (SLS;  $Q_{s2}$ )

4.Serviceability limit state. Deflection limit  $f = L/300$  (SLS;  $Q_{s3}$ )

## 1. Span structure

Material factor

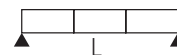
$\gamma_{M1} = 1.0$

End support width:

60 mm

Middle support width:

160 mm

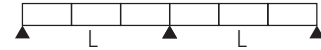


Thick [mm]	State	Span length L [m]																				
		4.00	4.25	4.50	4.75	5.00	5.25	5.50	5.75	6.00	6.25	6.50	6.75	7.00	7.25	7.50	7.75	8.00	8.25	8.50	8.75	9.00
0.75	1. ULS	5.65	4.99	4.44	3.97	3.57	3.23	2.93	2.67	2.44	2.24	2.06	1.90	1.76	1.63	1.52	1.42	1.33	1.24	1.16	1.09	1.02
	2. L/150	5.93	4.92	4.13	3.50	2.99	2.56	2.22	1.93	1.68	1.48	1.30	1.15	1.02	0.90	0.81	0.73	0.65	0.58	0.52	0.48	0.43
	3. L/200	4.42	3.67	3.07	2.59	2.21	1.89	1.64	1.43	1.24	1.09	0.95	0.84	0.74	0.66	0.58	0.52	0.46	0.41	0.37	0.32	0.29
	4. L/300	2.91	2.41	2.01	1.70	1.44	1.23	1.06	0.91	0.79	0.69	0.60	0.53	0.46	0.40	0.35	0.31	0.27	0.24	0.21	0.18	0.16
0.88	1. ULS	7.06	6.24	5.55	4.97	4.47	4.04	3.67	3.34	3.06	2.81	2.59	2.39	2.21	2.05	1.90	1.78	1.66	1.55	1.45	1.36	1.28
	2. L/150	7.17	5.96	5.00	4.24	3.61	3.11	2.68	2.34	2.04	1.79	1.57	1.39	1.24	1.10	0.98	0.88	0.79	0.71	0.63	0.57	0.52
	3. L/200	5.35	4.44	3.72	3.15	2.68	2.30	1.98	1.72	1.50	1.31	1.16	1.02	0.90	0.80	0.71	0.63	0.56	0.50	0.45	0.40	0.36
	4. L/300	3.53	2.92	2.44	2.06	1.75	1.50	1.29	1.11	0.96	0.84	0.73	0.64	0.56	0.48	0.43	0.37	0.33	0.30	0.26	0.23	0.20
1.00	1. ULS	8.17	7.22	6.42	5.74	5.17	4.68	4.24	3.87	3.54	3.25	2.99	2.76	2.56	2.37	2.21	2.06	1.92	1.80	1.68	1.58	1.48
	2. L/150	8.33	6.92	5.81	4.92	4.20	3.61	3.12	2.71	2.37	2.08	1.83	1.62	1.44	1.28	1.14	1.02	0.92	0.82	0.74	0.67	0.60
	3. L/200	6.21	5.15	4.32	3.65	3.11	2.67	2.30	2.00	1.74	1.53	1.34	1.18	1.05	0.93	0.83	0.73	0.65	0.59	0.52	0.47	0.41
	4. L/300	4.09	3.39	2.83	2.39	2.03	1.73	1.49	1.28	1.11	0.97	0.85	0.74	0.65	0.57	0.50	0.44	0.38	0.34	0.30	0.27	0.23
1.25	1. ULS	10.51	9.29	8.26	7.40	6.66	6.01	5.46	4.98	4.56	4.19	3.85	3.56	3.30	3.05	2.84	2.65	2.48	2.32	2.17	2.04	1.92
	2. L/150	10.44	8.67	7.28	6.16	5.26	4.52	3.91	3.40	2.97	2.61	2.30	2.03	1.80	1.60	1.43	1.29	1.15	1.03	0.93	0.84	0.76
	3. L/200	7.78	6.46	5.41	4.58	3.90	3.34	2.89	2.51	2.19	1.91	1.68	1.48	1.31	1.17	1.04	0.92	0.82	0.73	0.66	0.59	0.53
	4. L/300	5.13	4.25	3.55	2.99	2.54	2.17	1.87	1.61	1.40	1.22	1.07	0.93	0.82	0.72	0.63	0.56	0.49	0.43	0.37	0.33	0.29

# LG153-840-Perforated-Positive-Narrow flange against support

## 2. Span structure

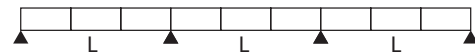
Material factor  $\gamma_{M1} = 1.0$   
 End support width: 60 mm  
 Middle support width: 160 mm



Thick [mm]	State	Span length L [m]																				
		4.00	4.25	4.50	4.75	5.00	5.25	5.50	5.75	6.00	6.25	6.50	6.75	7.00	7.25	7.50	7.75	8.00	8.25	8.50	8.75	9.00
0.75	1. ULS	3.70	3.35	3.05	2.78	2.55	2.35	2.17	2.01	1.86	1.74	1.61	1.50	1.41	1.32	1.24	1.16	1.09	1.03	0.97	0.92	0.87
	2. L/150	14.44	12.03	10.11	8.58	7.34	6.33	5.49	4.79	4.21	3.71	3.29	2.93	2.61	2.34	2.10	1.89	1.71	1.55	1.41	1.28	1.17
	3. L/200	10.81	8.99	7.56	6.41	5.48	4.72	4.09	3.57	3.13	2.75	2.44	2.16	1.93	1.73	1.56	1.40	1.26	1.14	1.03	0.94	0.86
	4. L/300	7.17	5.96	5.00	4.24	3.62	3.11	2.69	2.34	2.05	1.81	1.59	1.41	1.25	1.12	1.00	0.90	0.81	0.73	0.65	0.59	0.53
0.88	1. ULS	4.89	4.42	4.03	3.68	3.37	3.10	2.85	2.64	2.45	2.28	2.12	1.98	1.85	1.73	1.63	1.53	1.44	1.36	1.29	1.22	1.15
	2. L/150	17.45	14.53	12.22	10.37	8.87	7.65	6.64	5.79	5.09	4.48	3.98	3.53	3.16	2.83	2.54	2.29	2.08	1.88	1.71	1.55	1.42
	3. L/200	13.05	10.87	9.14	7.75	6.62	5.70	4.94	4.31	3.78	3.33	2.95	2.62	2.34	2.09	1.88	1.69	1.52	1.38	1.25	1.14	1.04
	4. L/300	8.67	7.20	6.05	5.13	4.38	3.76	3.25	2.83	2.48	2.18	1.93	1.71	1.52	1.36	1.21	1.08	0.98	0.88	0.79	0.72	0.65
1.00	1. ULS	6.13	5.55	5.04	4.60	4.21	3.87	3.57	3.30	3.06	2.85	2.65	2.48	2.31	2.17	2.04	1.92	1.80	1.70	1.60	1.52	1.43
	2. L/150	20.24	16.84	14.17	12.02	10.29	8.87	7.70	6.72	5.90	5.20	4.61	4.10	3.66	3.28	2.95	2.66	2.41	2.18	1.98	1.81	1.65
	3. L/200	15.14	12.60	10.59	8.99	7.68	6.62	5.74	5.00	4.38	3.87	3.42	3.04	2.71	2.43	2.18	1.96	1.77	1.60	1.45	1.32	1.20
	4. L/300	10.05	8.35	7.02	5.94	5.08	4.36	3.78	3.29	2.88	2.53	2.24	1.99	1.77	1.57	1.41	1.27	1.13	1.02	0.92	0.83	0.76
1.25	1. ULS	8.71	7.87	7.14	6.51	5.95	5.46	5.03	4.65	4.31	4.00	3.72	3.47	3.25	3.04	2.85	2.67	2.52	2.38	2.24	2.11	2.01
	2. L/150	25.41	21.17	17.80	15.11	12.93	11.15	9.67	8.44	7.41	6.53	5.79	5.15	4.60	4.12	3.71	3.34	3.03	2.74	2.49	2.27	2.07
	3. L/200	19.01	15.82	13.30	11.29	9.65	8.32	7.21	6.29	5.51	4.86	4.30	3.81	3.41	3.05	2.74	2.46	2.22	2.01	1.82	1.66	1.51
	4. L/300	12.62	10.49	8.81	7.47	6.37	5.48	4.75	4.13	3.62	3.18	2.81	2.49	2.22	1.98	1.77	1.59	1.43	1.29	1.16	1.05	0.95

## 3. Span structure

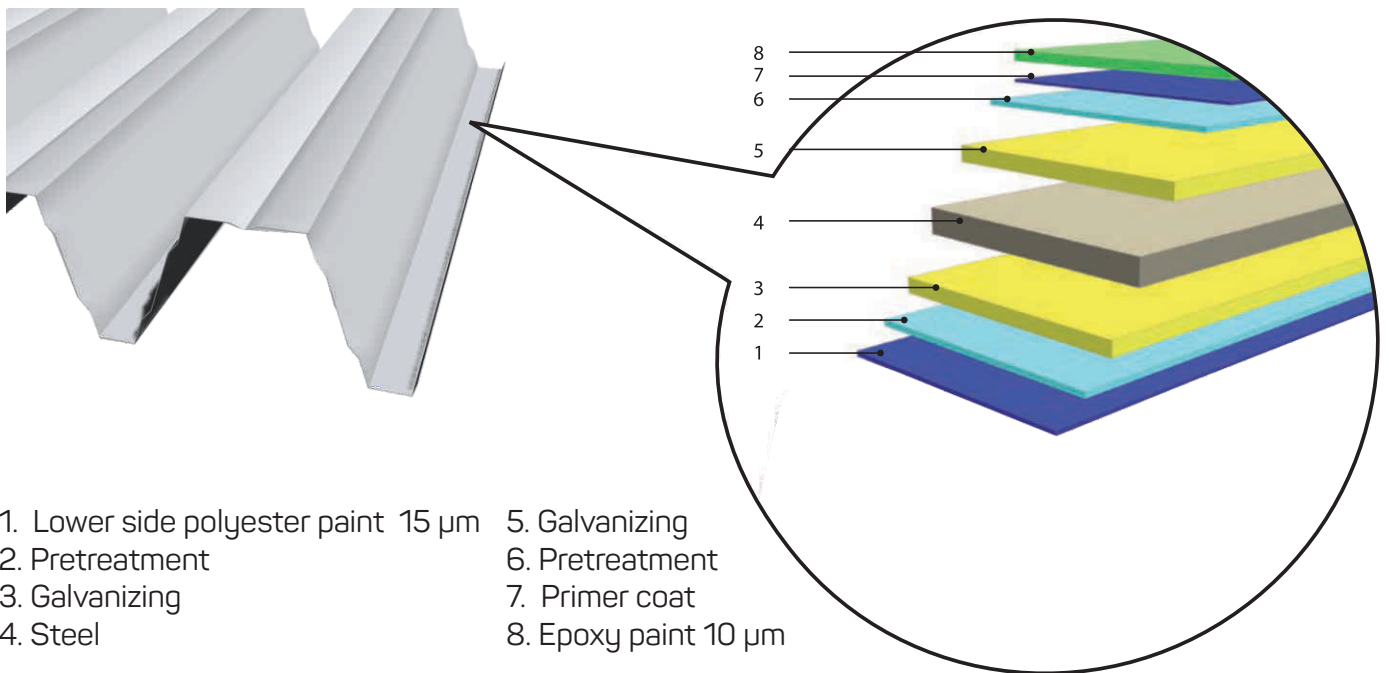
Material factor  $\gamma_{M1} = 1.0$   
 End support width: 60 mm  
 Middle support width: 160 mm



Thick [mm]	State	Span length L [m]																				
		4.00	4.25	4.50	4.75	5.00	5.25	5.50	5.75	6.00	6.25	6.50	6.75	7.00	7.25	7.50	7.75	8.00	8.25	8.50	8.75	9.00
0.75	1. ULS	4.99	4.53	4.13	3.78	3.47	3.20	2.95	2.74	2.54	2.37	2.21	2.07	1.93	1.82	1.71	1.61	1.52	1.43	1.36	1.29	1.22
	2. L/150	11.46	9.53	8.01	6.79	5.81	5.01	4.34	3.79	3.32	2.93	2.59	2.30	2.05	1.84	1.65	1.48	1.34	1.21	1.10	1.00	0.91
	3. L/200	8.56	7.12	5.98	5.07	4.33	3.72	3.23	2.81	2.46	2.16	1.91	1.70	1.52	1.36	1.21	1.09	0.98	0.88	0.80	0.73	0.66
	4. L/300	5.67	4.71	3.95	3.34	2.85	2.45	2.12	1.85	1.61	1.41	1.24	1.10	0.98	0.86	0.77	0.68	0.62	0.55	0.50	0.45	0.41
0.88	1. ULS	4.99	4.53	4.13	3.78	3.47	3.20	2.95	2.74	2.54	2.37	2.21	2.07	1.93	1.82	1.71	1.61	1.52	1.43	1.36	1.29	1.22
	2. L/150	13.85	11.53	9.68	8.22	7.03	6.05	5.26	4.58	4.02	3.54	3.13	2.78	2.48	2.23	2.00	1.80	1.62	1.47	1.33	1.21	1.10
	3. L/200	10.36	8.61	7.23	6.14	5.24	4.51	3.91	3.40	2.98	2.62	2.32	2.06	1.83	1.63	1.47	1.31	1.19	1.07	0.97	0.88	0.80
	4. L/300	6.86	5.70	4.78	4.05	3.45	2.96	2.56	2.23	1.95	1.71	1.51	1.33	1.18	1.05	0.94	0.84	0.75	0.68	0.60	0.55	0.49
1.00	1. ULS	7.40	6.71	6.11	5.58	5.12	4.72	4.36	4.03	3.75	3.49	3.25	3.04	2.85	2.67	2.51	2.37	2.23	2.11	1.99	1.89	1.79
	2. L/150	16.07	13.37	11.24	9.54	8.15	7.03	6.09	5.31	4.66	4.11	3.64	3.23	2.88	2.58	2.32	2.09	1.89	1.70	1.55	1.41	1.29
	3. L/200	12.01	9.99	8.39	7.12	6.08	5.23	4.54	3.95	3.46	3.04	2.69	2.39	2.13	1.90	1.70	1.53	1.38	1.24	1.13	1.02	0.93
	4. L/300	7.96	6.62	5.55	4.70	4.01	3.44	2.98	2.59	2.27	1.98	1.75	1.55	1.37	1.22	1.09	0.98	0.87	0.78	0.70	0.63	0.57
1.25	1. ULS	10.55	9.55	8.68	7.92	7.26	6.67	6.16	5.70	5.28	4.91	4.58	4.28	4.01	3.76	3.53	3.32	3.13	2.95	2.79	2.64	2.50
	2. L/150	20.16	16.78	14.10	11.96	10.24	8.82	7.64	6.67	5.85	5.16	4.56	4.06	3.62	3.24	2.91	2.62	2.37	2.14	1.94	1.76	1.61
	3. L/200	15.08	12.54	10.54	8.93	7.63	6.57	5.69	4.96	4.34	3.82	3.37	3.00	2.67	2.39	2.14	1.92	1.73	1.56	1.41	1.28	1.17
	4. L/300	9.99	8.30	6.97	5.89	5.03	4.32	3.73	3.25	2.84	2.49	2.19	1.94	1.73	1.53	1.37	1.22	1.10	0.98	0.89	0.80	0.72

## LOAD BEARING SHEET

The upper side is 10 µm epoxy paint protected while the lower side (exposed) is protected with polyester paint 15 µm.



- |                                     |                      |
|-------------------------------------|----------------------|
| 1. Lower side polyester paint 15 µm | 5. Galvanizing       |
| 2. Pretreatment                     | 6. Pretreatment      |
| 3. Galvanizing                      | 7. Primer coat       |
| 4. Steel                            | 8. Epoxy paint 10 µm |

The designer must take into account the exposed side when choosing the accurate installation of load bearing profile.

Due to unexposed upper side, the load bearing profile is not affected by the UV or weather conditions but can be affected by the internal conditions such as production lines, condense or contact with chemical agents used for cleaning or transported by vapours.

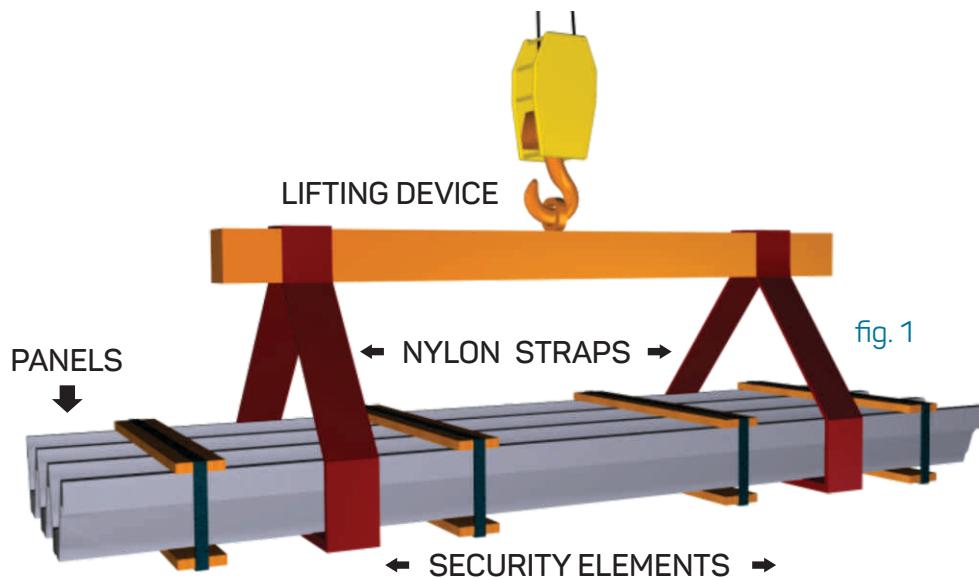
*For further information please contact the technical department of Isopan Est.*



## CRANE UNLOADING

For lifting, the packages must always be fixed in at least two points at a certain distance between them, but not less than half of the packages length.

Lifting must be performed with straps made of synthetic fibre (nylon), having the width of 10 cm or more, so that the load is distributed on the straps and does not cause panel deformation. Do not use chains or sharp metallic accessories (see fig. 1)



Adequate spacers must be used under or above the package, made of solid and robust wooden or plastic elements, which prevent the direct contact between straps and package.

These spacers shall be at least 4 cm longer than the width of the package and shall be at least as wide as the straps.

The straps and the holders must be adequately fixed in order to avoid their movement during the lift and the handling must be performed very carefully and in an organised manner.

## FORKLIFT UNLOADING

If the panels are unloaded with the forklift, the length of the packages and their potential bending (arrow) must be taken into account, in order to avoid the deformation of the bottom of the package and the rupture of the panels on the outside.

Consequently, it is recommended to use forklifts adequate for handling panels or similar products (lifting trucks with thin blades and 25 cm wide, with additional movement system and the distance between blades of at least 2 cm).

## STORAGE

The packages must be stored at a distance from the ground of at least 20 cm, both in the storehouse, as well as at the site. The materials must be stored on dry wooden supports, longer than the width of the package and with an adequate distance between the supports (depending on the length of the package).

Also, three packages shall be stacked, without exceeding this number.

The packages supplied by Isopan are packed according to these rules. We recommend to store the panels in the original package.

It is not recommended to store the packages in wet places, because signs of condensation may occur in the contact areas or in the less ventilated areas or, in case of a more aggressive environment, traces of oxidation.

The panels made of zincked or unpainted material must be stored in a dry and ventilated place, with a certain distance between them and an adequate ventilation. If the packages remain packed, in aggressive environment conditions, traces of oxidation may occur on them due to the electrolytic corrosion.

In case of an extended storage period, the prepainted products must be stored indoors or under a roof; there is a risk that the standing water attacks the paint coat, causing its chipping from the zincked coat.

It is not recommended that the storage period exceeds two weeks from the delivery of the products to the site. The packs must be stored so that they facilitate water drainage, especially when they must be store outside.

(see fig. 2)

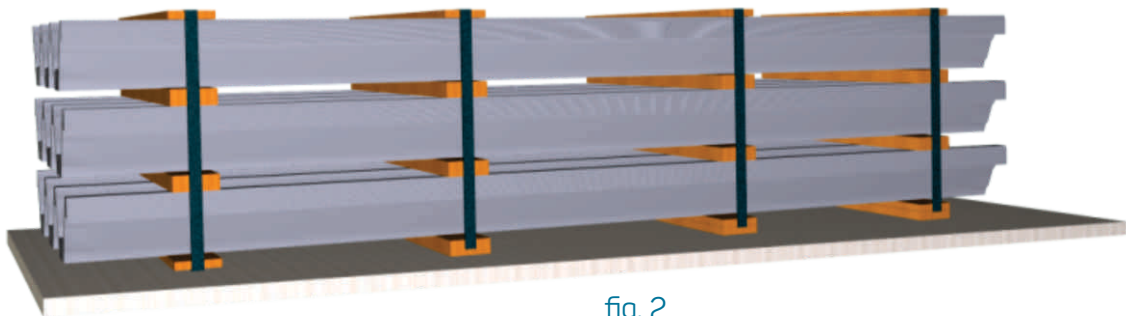


fig. 2

After opening the package, if the assembly is not immediately performed, we recommend to protect the panels with a protection foil or sheet.

The storage in a closed space more than 90 days is not recommended, and in open space it must not exceed 15 days from the manufacturing date.

The packages stored at height must always be anchored from the structure.

If the products are carried by container, they must be unloaded in 15 days from the loading date, in order to prevent the deterioration of the metallic support or the organic cover.

# INSTRUCTIONS - LOAD BEARING PROFILE LG153-840

## PANELS HANDLING

The panels must be handled according to the occupational safety standards, using the adequate protection means (gloves, protection clothes, coveralls etc.). The manual handling of a panel must be performed by lifting the panel from the package towards its side, avoiding the contact with the panel underneath. Avoid translation movements in case of a contact between panels (as a result of these movements, the panel surface can be scratched). (see fig. 3)



The fixing equipment, as well as the gloves must be cleaned, so that they do not damage the panel surface.

## INSTALLATION

The staff in charge with the panels installation must be qualified and must have the correct technical knowledge in order to perform the mounting operations. Upon the request of the customer, the supplier can provide adequate counselling and instruction for the mounting teams.

The staff in charge with the mounting must have adequate equipment, which does not damage the panel.

For the cutting operations, at the site, adequate equipment must be used (jigsaw, cutting machine etc.).

The use of devices with abrasive discs is not recommended. For panels fixing, we recommend the use of accessories recommended by the supplier. These accessories can be ordered also from Isopan.

For screws tightening, we recommend the use of a tool provided with a load limiter, so that the screws will be tightened as much as needed for an optimum fixing of the panels.

During panels mounting (especially during roof mounting), it is necessary to mount very carefully all accessories and especially to remove extremely carefully the metallic residues, which, by oxidation, can cause damages to the panels surface.

## PREPAINTED STEEL AND THE PANELS MADE FROM IT

For the panels explicitly requested with no protection film, it is necessary to take more strict protection measures for the products and to be more careful when handling and installing them.

## MAINTENANCE

The main maintenance activity is the panels cleaning. The surfaces of the panels found visibly dirty during the inspection can be washed with water and soap, using a soft brush. The pressure of the water used during cleaning must not exceed 50 bars. The water jet must not be too close or perpendicular to the surface. Near joints, the water jet must be inclined, so that it does not imperil the panels joint.

## ANNUAL CONTROLS OF ISOPAN PANELS

WHAT TO INSPECT	CORRECTIVE ACTIONS
Conditions of the painted surfaces	Evaluation of the surface status Repaint if possible
Traces of impacts and scratches	Repaint and repair the traces of impacts
Screws	Take out a screw and check for oxidation Tighten the screws, if necessary
Delivery areas, especially in case of accessories directly exposed to external factors	Control the oxidation level Clean and repaint

Dear customer, please read carefully the handling, storage and installation instructions.  
Thank you for choosing Isopan products.



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# ISOPAN

INSULATING DESIGN

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