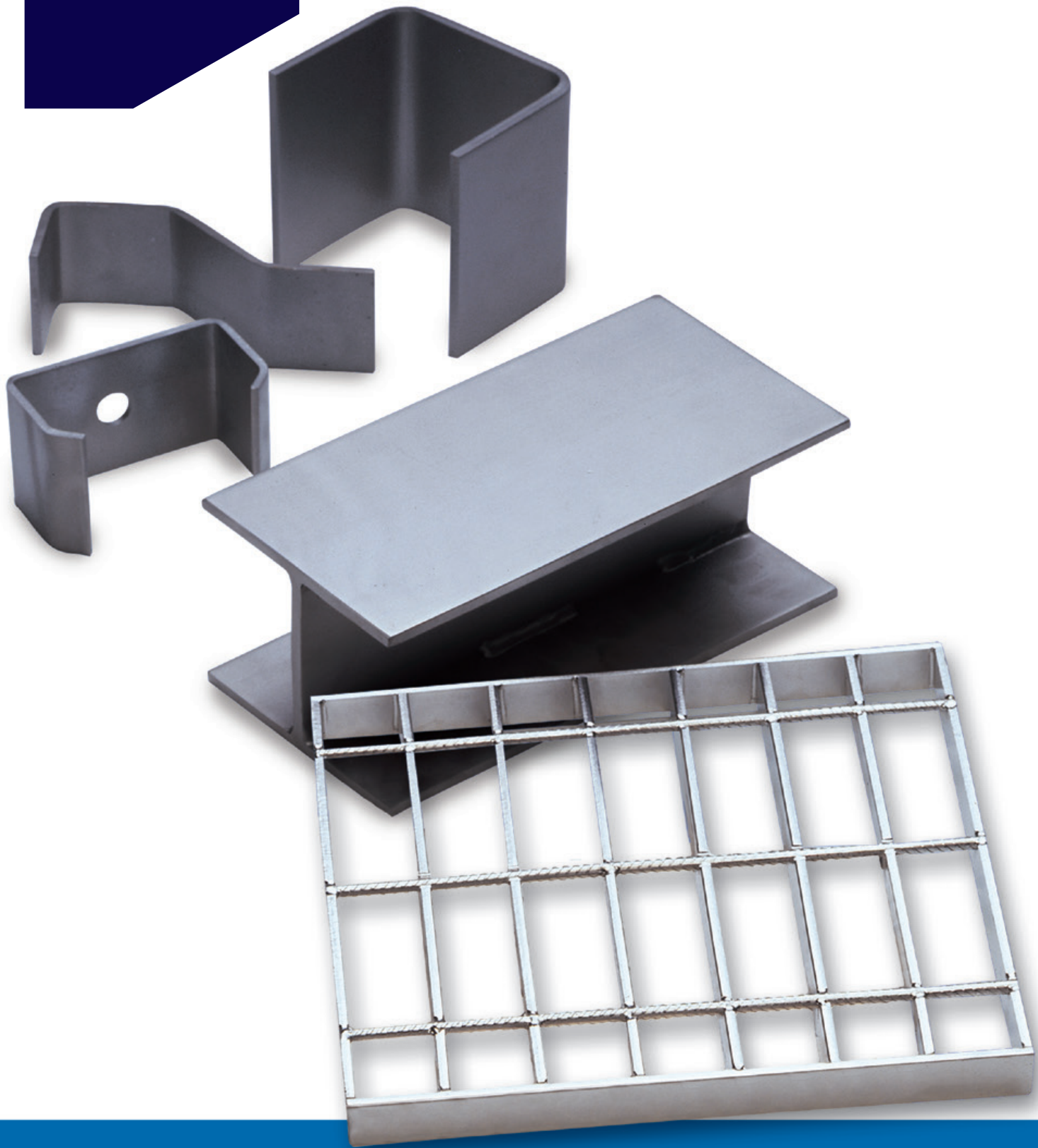


Leviat®



Ancon®
Stainless Steel
Sections & Flooring
for the Engineering Industry

November 2020

Leviat

We imagine, model and make engineered products and innovative construction solutions that help turn architectural visions into reality and enable our construction partners to build better, safer, stronger and faster.

Leviat is a world leader in connecting, fixing, lifting and anchoring technology.

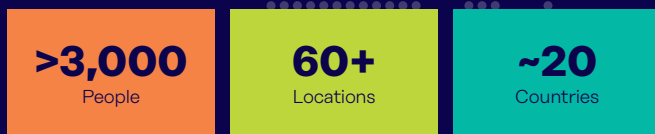
From the build of new schools, hospitals, homes and infrastructure, to the repair and maintenance of heritage structures, our engineering skills are making a difference around the world.

We provide technical design assistance at every stage of a project, from initial planning to installation and beyond.

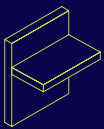
Our technical support services range from simple product selection through to the development of a fully customised project-specific design solution.

Every promise we make locally, has the commitment and dedication of our global team behind it. We employ almost 3,000 people at 60 locations across North America, Europe and Asia-Pacific, providing an agile and responsive service worldwide.



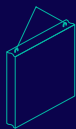


Our areas of expertise:



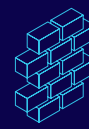
Structural Connections

Systems to form robust, efficient connections, and continuity of concrete reinforcement as necessary, between walls, slabs, columns, beams and balconies, providing structural integrity as well as enhanced thermal and acoustic performance.



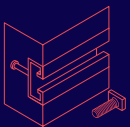
Lifting & Bracing

Systems for the safe and efficient transportation, lifting and temporary bracing of cast concrete elements and tilt-up panels before permanent structural connections are made.



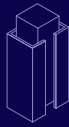
Façade Support & Restraint

Systems for the safe and thermally-efficient fixing of the external building envelope, including brick and natural stone, insulated sandwich panels, curtain walling and suspended concrete façades, and also the repair and strengthening of existing masonry installations.



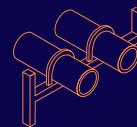
Anchoring & Fixing

Systems for fixing secondary fixtures to concrete, including anchor channels, bolts and inserts; also tension rod systems for roofs and canopies.



Formwork & Site Accessories

Non-structural accessories that complement our engineered solutions and help keep your construction environment operating safely and efficiently, including moulds for casting standard and special concrete elements and construction essentials such as reinforcing bar spacers.



Industrial Technology

Mounting channels, pipe clamps and other versatile framing systems that provide safe fixing in a wide range of industrial applications.

Leviat product ranges:

Ancon | Aschwanden | Connolly | Halfen | Helifix | Isedio | Meadow Burke | Modersohn | Moment | Plaka | Scaldex | Thermomass

Stainless Steel Sections & Flooring

Company Overview

Leviat designs and manufactures high integrity steel components for a wide range of industries. Primarily, products are manufactured from stainless steel.

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Austenitic Stainless Steel

Austenitic Stainless Steels are high in chromium and therefore offer excellent resistance to corrosion. They are ductile and strong, and can be readily formed and welded.

Leviat holds considerable stocks of standard grade Austenitic stainless steel in order to meet urgent delivery deadlines.

Grade 1.4301 (304) is the most commonly used and is suitable for a broad range of applications. Grade 1.4401 (316) is recommended for highly corrosive environments such as marine locations.

Material can be supplied fully certificated if required.



Section Forming

Cold Formed Sections

Leviat manufactures a diverse range of stainless steel cold formed sections using the latest high capacity computer controlled machinery.

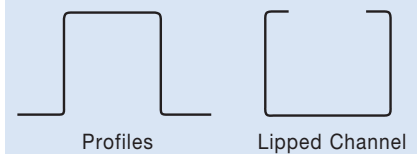


Computer controlled press brakes, which are among the most advanced in the industry, enable the company to produce a wide range of section shapes up to 5m in length and from 2mm to 20mm in thickness.

Typical Section Properties

As an aid to the selection of appropriate cold formed sections the following page shows a small sample of section properties. A full list of properties is available on request.

Other typical section shapes include:



Ancillary Operations

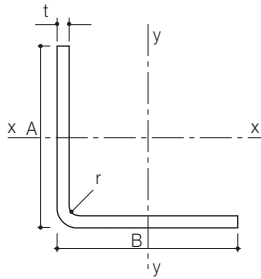
Sections can be offered with a range of ancillary operations including laser profiling, welded stiffeners, punched holes or slots and curves.

Products can be supplied with a specific surface finish to suit the requirements of the application. Services available include electro-polishing and bead blasting.



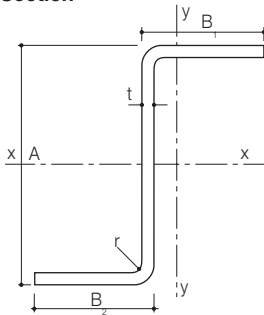
Punching

Angle Section



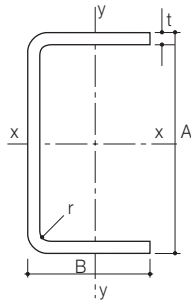
Angle Size A x B mm	Thickness t mm	Radius r mm	Moment of Inertia I (cm ⁴)		Section Modulus Z (cm ³)		Weight kg/m
			xx	yy	xx	yy	
25 x 25	3	3	0.79	0.79	0.46	0.46	1.07
50 x 50	3	3	1.42	1.42	0.67	0.67	1.31
130 x 120	5	8	208.03	171.27	22.21	19.29	9.50
100 x 120	6	16	117.69	183.12	15.90	21.89	9.76
150 x 140	6	16	380.64	322.12	35.33	31.31	13.08
140 x 120	8	15	389.54	267.49	39.75	30.28	15.41
190 x 200	8	15	1075.07	1217.56	76.97	84.22	23.63
110 x 100	10	21	223.70	177.20	29.59	25.00	14.92
140 x 130	10	21	484.83	404.66	49.36	43.30	19.66
140 x 200	10	21	559.31	1334.58	52.62	98.68	25.19
180 x 180	10	21	1092.62	1092.62	84.25	84.25	26.77
120 x 110	12	20	346.68	279.90	42.07	36.03	19.61
170 x 140	12	20	1005.93	625.14	85.98	60.94	27.19
130 x 100	15	20	502.51	262.08	58.84	36.77	24.08
150 x 130	15	20	835.59	586.74	81.71	63.27	30.00

Zed Section



Zed Size A x B ₁ x B ₂ mm	Thickness t mm	Radius r mm	Moment of Inertia I (cm ⁴)		Section Modulus Z (cm ³)		Weight kg/m
			xx	yy	xx	yy	
50 x 25 x 25	3	3	9.73	10.90	3.89	3.47	2.14
140 x 70 x 35	4	4	251.28	123.46	31.31	17.50	7.33
70 x 35 x 35	5	4	42.83	48.04	12.24	11.08	4.91
110 x 50 x 50	6	8	153.15	163.11	30.63	26.17	8.46
160 x 80 x 40	8	8	674.19	289.95	73.30	37.84	16.03
200 x 100 x 100	10	15	2125.48	2302.29	212.55	181.97	28.66
150 x 75 x 75	12	15	943.93	948.66	125.86	105.16	24.46
190 x 95 x 95	15	10	2078.96	2216.59	218.84	187.89	32.04

Equal Channel Section

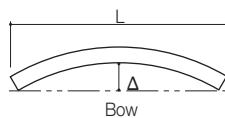


Channel Size A x B mm	Thickness t mm	Radius r mm	Moment of Inertia I (cm ⁴)		Section Modulus Z (cm ³)			Weight kg/m
			xx	yy	xx	yy max	yy min	
50 x 25	3	3	9.70	1.56	3.88	2.04	0.90	2.14
100 x 50	4	4	113.00	18.06	22.60	12.58	5.07	5.90
160 x 80	5	4	603.40	95.76	75.42	43.04	16.58	12.02
110 x 55	6	8	208.39	33.67	37.89	20.16	8.79	9.41
80 x 40	8	8	87.34	14.17	21.83	10.23	5.42	8.45
200 x 100	10	15	2118.70	342.27	211.87	113.98	48.92	28.66
150 x 75	12	15	935.18	151.80	124.69	61.47	30.18	24.46
190 x 95	15	20	2372.83	385.13	249.77	123.11	60.44	38.68

Note: Properties listed vary from those for rolled sections due to cold forming and the effect of the formed radius.

Tolerances

Unless otherwise agreed the tolerances applicable to cold formed sections are as below:



Element		Tolerance
Overall length (up to and including 4000mm)	L	±5mm
Leg Length - Angle	A/B	±3mm
Leg Length - Channel/Zed	A	±5mm
	B	±3mm
Thickness	t	±7.5%
Included Angle	α	±2°
Hole or Slot Centres	c	±5mm
Bow, on both axis	Δ	±3mm per metre length

Notes: 1 The manufacturing tolerances set out in the table will meet most applications. Should closer tolerances be required, please provide a drawing indicating your requirements. 2 The tolerances are not applicable to curved members.

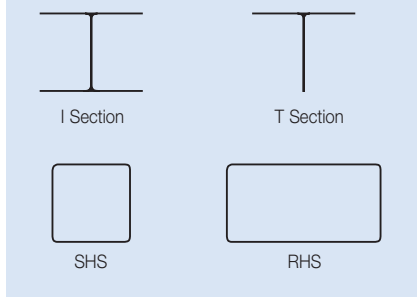
Stainless Steel Sections & Flooring

Fabricated Sections

In addition to cold formed sections, we produce stainless steel fabricated sections.

Our fabrication personnel are routinely coded to BS4872 and in addition are regularly approved to BS EN 287 to weld to the procedures specific to BS EN 288.

Sections available include:

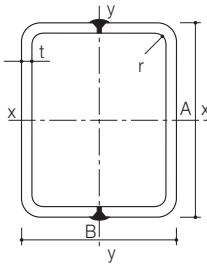


Typical Fabricated Section Properties

As an aid to the selection of appropriate fabricated sections the following is a small sample of section properties. A full list of properties is available on request.

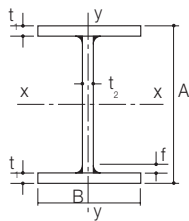


Fabricated Hollow Section



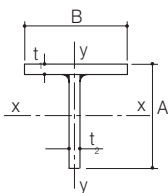
Box Section Size A x B	Thickness t	Radius r	Moment of Inertia I (cm ⁴)		Section Modulus Z (cm ³)		Weight kg/m
			xx	yy	xx	yy	
70 x 50	4	4	54.44	32.01	15.56	12.80	6.75
130 x 130	5	4	628.43	628.43	96.68	96.68	19.31
150 x 100	6	8	821.26	437.42	109.50	87.48	21.67
110 x 80	8	8	394.26	236.88	71.68	59.22	20.69
170 x 150	10	15	2232.86	1837.29	262.69	244.97	44.69
150 x 130	12	15	1641.79	1307.74	218.91	201.19	45.12
200 x 200	15	20	5650.88	5650.88	565.09	565.09	82.09

Fabricated I Section



I Section Size B x A	Size of Fillet f	Thickness		Moment of Inertia I _{xx} (cm ⁴)	Section Modulus Z _{xx} (cm ³)	Radius of Gyration about yy axis		Weight kg/m
		t ₁	t ₂			R _y (cm)	A/t ₁	
130 x 200	6	8	6	2229.5	223.0	3.03	25.0	25.72
150 x 300	6	10	6	7407.6	493.8	3.47	30.0	37.54
200 x 300	6	10	6	9510.9	634.1	4.85	30.0	45.44
250 x 450	10	16	10	43774.0	1946.0	5.85	28.1	97.80

Fabricated T Section



T Section Size B x A	Size of Fillet f	Thickness		Moment of Inertia I _{xx} (cm ⁴)	Section Modulus Z _{xx} (cm ³)		Radius of Gyration about yy axis R _y (cm)	Weight kg/m
		t ₁	t ₂		Max.	Min.		
75 x 100	8	8	8	134.87	42.75	19.70	1.46	11.06
100 x 120	10	10	8	258.08	78.00	29.69	2.11	15.64
150 x 150	10	10	10	637.24	154.65	58.57	3.12	23.70
200 x 250	12	12	10	2992.47	438.68	164.69	4.10	38.90

Staigrig Open Grid Flooring

Staigrig stainless steel grid is a lightweight, corrosion resistant open grid flooring, ideal for use where hygiene, low maintenance and assured long life are required.

The combination of durability and high strength means Staigrig is a very cost-effective alternative to galvanised steel and aluminium grid floors. It is available in mill finish, pickled and passivated or electropolished finish.

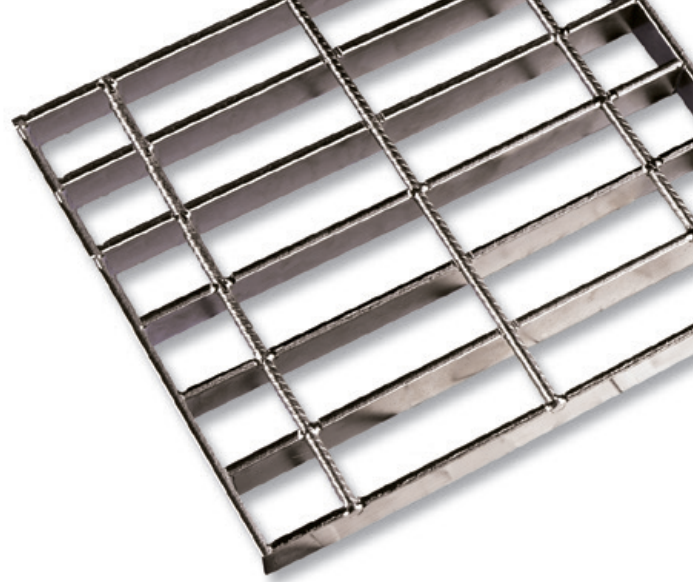
Stainless Steel Staigrig open grid flooring is available in either grade 304 or 316 and manufactured in standard sized panels of 1000mm max span x 989mm max width for ease of site handling. Panels can be produced to customers' specific requirements within these dimensions using our universal tooling.

Each panel consists of 25mm x 5mm bearer bars at 41mm centres and 6mm rebar restraints at 100mm centres.

Staigrig panels are supplied fully bound and full mill certification is available if required.

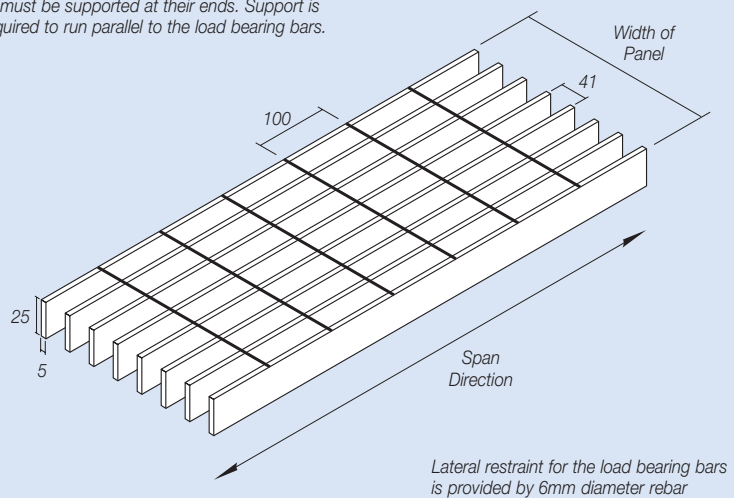
When ordering please specify:

1. Grade of stainless steel required
2. Span, width and quantity of panels



Load Bearing Bar 25 x 5mm

Load bearing bars run in the direction of the span. These must be supported at their ends. Support is not required to run parallel to the load bearing bars.



Clear Span (mm)	25 x 5 bars at 41 c/c Uniformly Distributed Load		25 x 5 bars at 41 c/c Load Concentrated on 150mm Square		25 x 5 bars at 41 c/c Load Concentrated on 300mm Square	
	Permissible Load (kN/m ²)	Deflection (mm/kN/m ²)	Permissible Load (kN)	Deflection (mm/kN)	Permissible Load (kN)	Deflection (mm/kN)
300	163.731	0.003	4.028	0.128	14.097	0.039
350	120.292	0.006	3.295	0.210	10.573	0.070
400	92.099	0.010	2.788	0.320	8.458	0.110
450	72.769	0.017	2.417	0.461	7.049	0.170
500	58.943	0.026	2.132	0.639	6.042	0.242
550	48.713	0.038	1.908	0.857	5.286	0.331
600	40.933	0.053	1.726	1.118	4.699	0.440
650	34.878	0.073	1.576	1.428	4.229	0.569
700	30.073	0.098	1.450	1.790	3.845	0.720
750	26.197	0.130	1.343	2.207	3.524	0.895
800	23.025	0.168	1.250	2.685	3.253	1.096
850	20.396	0.214	1.169	3.227	3.021	1.324
900	18.192	0.269	1.098	3.836	2.819	1.581
950	16.328	0.334	1.036	4.518	2.643	1.870
1000	14.736	0.410	0.980	5.276	2.488	2.191

Note: All loads listed are limited to: Bending Stress $\leq 145\text{N/mm}^2$, Shear Stress $\leq 96.67\text{N/mm}^2$, Deflection $\leq \text{Span}/100$

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