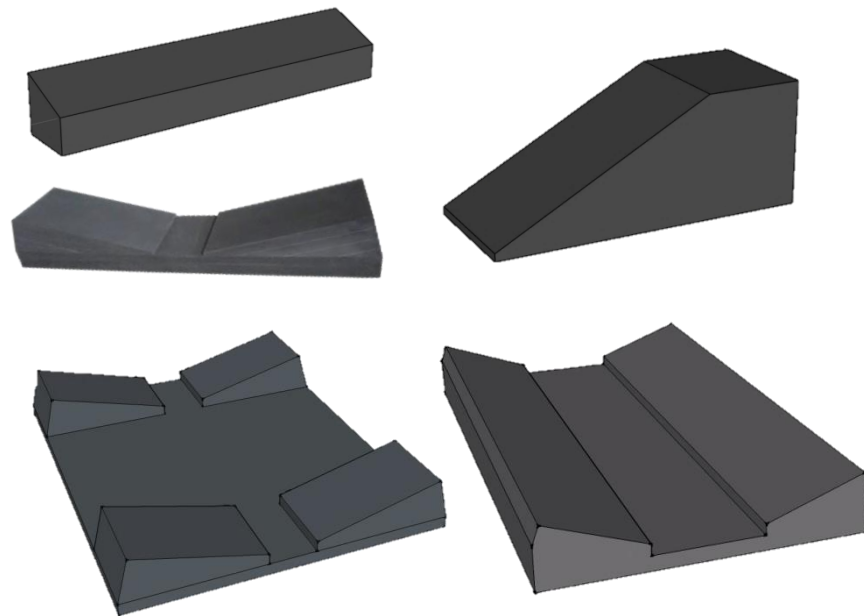


Coil Seat Pad

High-Tech Resin Foam



Safer & more economical solution

CK CHOKO CO., LTD.

Coil Seat Pad – High-Tech Resin Foam

The product is made of composite EVA resin foam.

Economical

- Eliminate commercial losses resulted from transportation and storage.
- Long lifetime, reduce the cost of warehousing.

Safety

- Non-toxic. Eight heavy metals none detected.

High-performance

- Impact resistant, weather resistance, oil resistant difficult to crack
- Fully cladded to steel coil curvature, evenly stressed for the contact surface.

High-loading

- Carries up to 3 layers of steel coils.

Eco-material

- No generation of dioxin after burning.

Specification – size adjustable¹

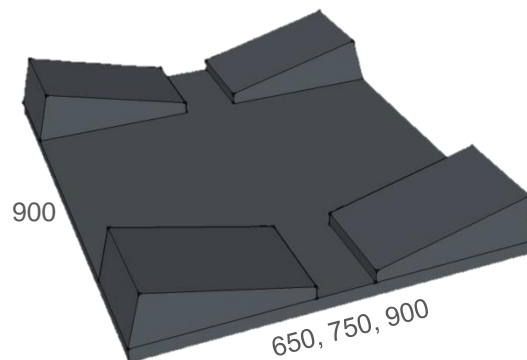


V series



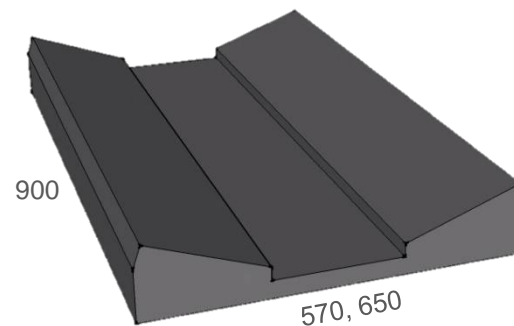
Model	angle	weight ² (kg)	size ³ (mm)
V-750	15°	5	750x153x155
V-900	15°	7	900x190x155
V-750H	18°	5.2	750x153x175
V-900H	18°	7.2	900x190x175

VL series



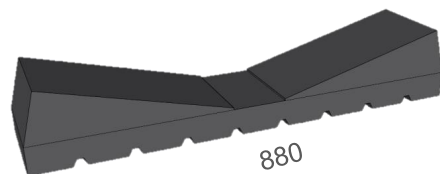
Model	angle	weight ² (kg)	size ³ (mm)
VL-650	15°	12	650x900x125
VL-750	15°	14	750x900x125
VL-900	15°	20	900x900x155
VL-650H	18°	12.4	650x900x148
VL-750H	18°	14.4	750x900x148
VL-900H	18°	20.4	900x900x175

DL series



Model	angle	weight ² (kg)	size ³ (mm)
DL-570	18°	13	570x900x110
DL-650	18°	14	650x900x110

V type with groove



Model	angle	weight ² (kg)	size ³ (mm)
V-880	15°	7	880x153x182

*1 Customized size: 1400x1400x500 (mm)

*2 Average weight for reference only.

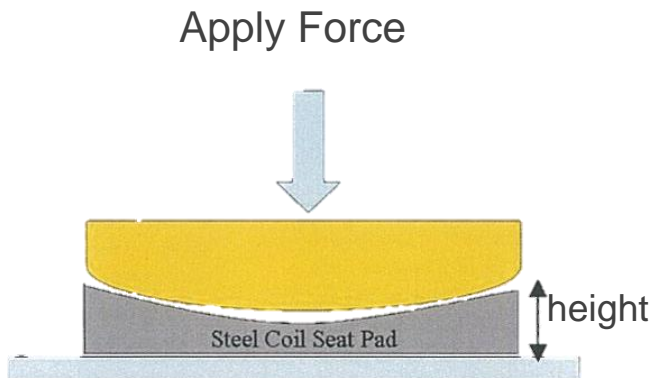
*3 Flexible material, tolerance ±5mm

SGS Inspection – High-load Recoverability

Loading Test

*This inspection is for VL-900.

Apply uniform loading (80,120,160 tons) by the actuator and measure the height of VL-900 Coil Seat Pad.



Sample name	Test loading (Ton)	Height upon loading (mm)	Height remove loading (mm)
VL-900 Coil Seat Pad	100	147.78	-
	120	144.62	-
	160	139.70	145.70
	Appearance check after loading 200 tons		
	No damage		

SGS Inspection–

Evenly-forced

High-load

Contact Area Test

*This inspection is for VL-900.

Apply red lead past on the curved surface of the coil simulator. Then set each load pressure at 20t, 40t, 60t, 80t and 100t respectively and set the pressure holding time for 5 seconds on each press.

After that, measure the length and width of contact area marked by the red lead paste on VL-900 coil seat pad.



Pressure & Coil Surface Contact area No.(mm)	Contact Area No.1		Contact Area No. 2		Contact Area No. 3		Contact Area No. 4		Total Contact Area (mm ²)
	L	W	L	W	L	W	L	W	
Load : 20t (time: 5 sec.)	317	202	372	202	349	205	368	204	285,978
Load : 40t (time: 5 sec.)	366	204	374	205	374	206	375	207	304,878
Load : 60t (time: 5 sec.)	376	205	376	207	376	206	377	207	310,407
Load : 80t (time: 5 sec.)	377	206	378	208	377	207	378	207	312,571
Load : 100t (time: 5 sec.)	378	207	378	209	378	207	379	208	313,947

SGS Inspection—

High Durability

long lifetime

Durability Test

5,000 counts of presses of the Durability Test of VL-900 Coil Seat Pad which employed the hydraulic press machine set at load pressure 60 tons. Each press cycle is 17 seconds.

*This inspection is for VL-900.



Contact Area (mm)/ Test counts & Load	Contact Area height No. 1	Contact Area height No. 2	Contact Area height No. 3	Contact Area height No. 4
The height before test	151.30	150.57	151.82	152.94
Press counts: 1000 60t / 5 sec.	144.27	142.29	145.13	142.65
Press counts: 2000 60t / 5 sec.	144.64	142.49	143.42	141.14
Press counts: 3000 60t / 5 sec.	143.78	138.39	143.37	138.55
Press counts: 4000 60t / 5 sec.	144.01	142.02	144.39	137.46
Press counts: 5000 60t / 5 sec.	143.47	141.36	143.19	136.88

Certificate of Analysis

Ingredient Inspection

None detected 8 heavy metals and Plasticizer.

*This analysis is for EVA foam resin.

Heavy Metals	Test Method	Unit	MDL	Test Result
As	EN71 Part 3	ppm	1	None detected
Ba	EN71 Part 3	ppm	1	None detected
Cr	EN71 Part 3	ppm	1	None detected
Se	EN71 Part 3	ppm	2	None detected
Sb	EN71 Part 3	ppm	2	None detected
Cd	EN71 Part 3	ppm	1	None detected
Hg	EN71 Part 3	ppm	2	None detected
Pb	EN71 Part 3	ppm	1	None detected

Plasticizer	Test Method	Unit	MDL	Test Result
BBP	CNS 1513S &347S	%	1	None detected
DEHP	CNS 1513S &347S	%	1	None detected
DBP	CNS 1513S &347S	%	1	None detected
DIDP	CNS 1513S &347S	%	2	None detected
DNOP	CNS 1513S &347S	%	2	None detected
DINP	CNS 1513S &347S	%	1	None detected

*ppm = mg/kg

*MDL = Method Detection Limit

SGS - Physical Property Analysis

These are average value for EVA foam resin and shall not use as guaranteed specification.

	Test Method	Test Condition/Equipment		Result	
Hardness	JIS K 7312 Type C (Asker C)	Durometer Tecklock GS-701N		85~88 degree*	
Cold hardness	/	/		$-20 \pm 1^{\circ}\text{C}$	
temperature tolerance	/	/		$80 \pm 2^{\circ}\text{C}$	
Bond Strength	/	INSTRON 3369 Tensile Testing Machine Speed: 50mm/min		15 kgf/cm ²	
Compressible Strength	ASTM D1056-07	25% Distortion		34.5 kgf/cm ²	
Water Absorption	ASTM D1056-07	23°C passing 24hr.		0.13%	
Tensile Strength	ASTM D412-06a	Temp. : 23°C \pm 2°C Humidity : 50 \pm 5% Speed : 500mm/min		Average 14.75kgf/cm ²	
Extensibility				Average 304.63%	
Coefficient of Friction	ASTM D1894-08	Speed : 150mm/min Wet : splash Load : 217.62g Surface : unglazed tile		Coefficient of Static Friction	Dry: 0.92 Wet: 0.89
				Coefficient of Kinetic Friction	Dry: 0.89 Wet: 0.83

*Hardness may vary slightly accordingly to different temperature of the warehouse.

Wood V.S. Coil Seat Pad

Traditional Method: Wood



Materials	Wood	Resin foam (EVA)
Quality	Unstable	Stable good quality
Flexibility	Low	High
Cracking	Easy to crack	No
Safety	Low	High
Weather resistance	Poor	OK
Waterproof	Poor	OK
Oil resistance	Poor	OK
Cold resistance	Poor	OK
Mothproof	Poor, needs regular fumigation	OK
Reuse	no	yes

Storage Method Comparison

	Resin Foam (EVA)	Rubber	Polyurethane
Cost			
Material Cost	High Initial cost but good performance	Depend on global natural resource	Low Unstable Quality
Storage Cost	lowest	Highest	Medium to high
Safety			
Load coefficient	Best	Not evaluable	OK
Recoverability	Best	Vulnerable to aging & fatigue	Vulnerable to aging & fatigue
Water Resistance	Good	OK	Poor
Anti-Collide	Best	OK	OK
Heat Resistance	80°C	Poor	Poor
Oil Resistance	Good	Vulnerable to hardening	OK
Environmental Protection			
Noxious Chemical	Non-toxic synthetic material	Non-toxic Need numerous rubber	Some may contain noxious materials

Product Application

Convenient Design

We offer various kinds of coil seat pad for Customer to choose according to their requirement and coil size.



V series
(use an angle iron to fix)



VL series

Product Application

High loading capacity

The seat pad can load at most three layers of coil.

*The weight of coil loaded and the number of stacked layers need to be evaluated according to each product model.

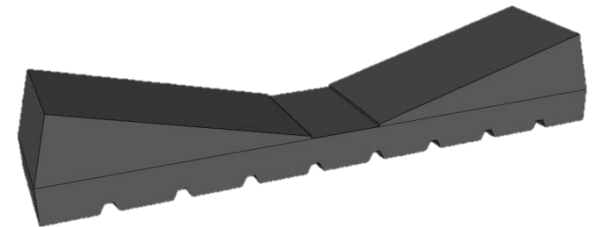


Product Application

Customized Product

We offer customized product to fit in the iron shelf or iron rail.

*The size of the customized product and the conditions of use must be evaluated before use.



V-880

(V type with groove)

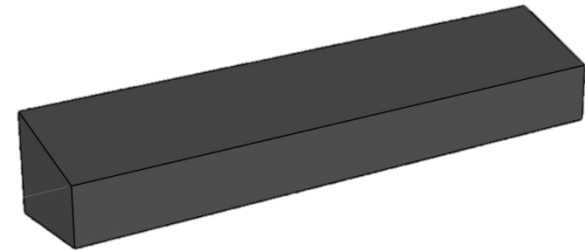
880Lx153Wx182H

Product Application

Customized Product

We offer customized product to fit in the iron shelf or iron rail.

*The size of the customized product and the conditions of use must be evaluated before use.



L-900

(long type)

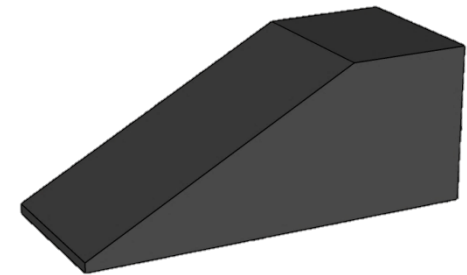
90h x150w x150H x900L

Product Application

Customized Product

We offer customized product to fit in the iron shelf or iron rail.

*The size of the customized product and the conditions of use must be evaluated before use.



V-405

(block type)

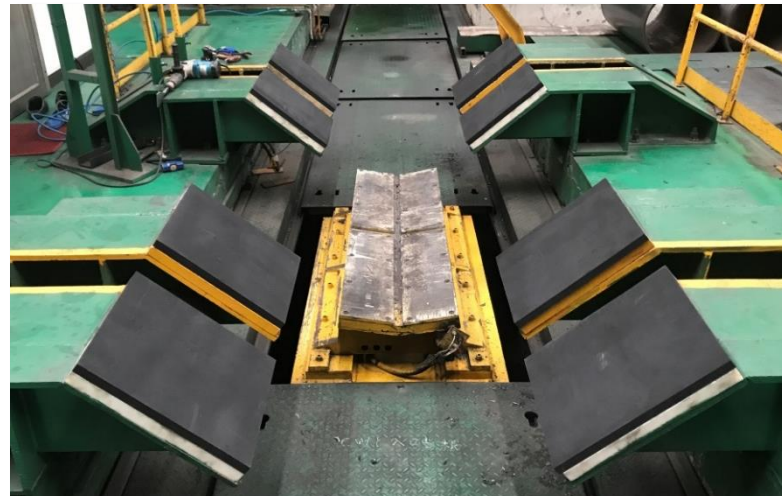
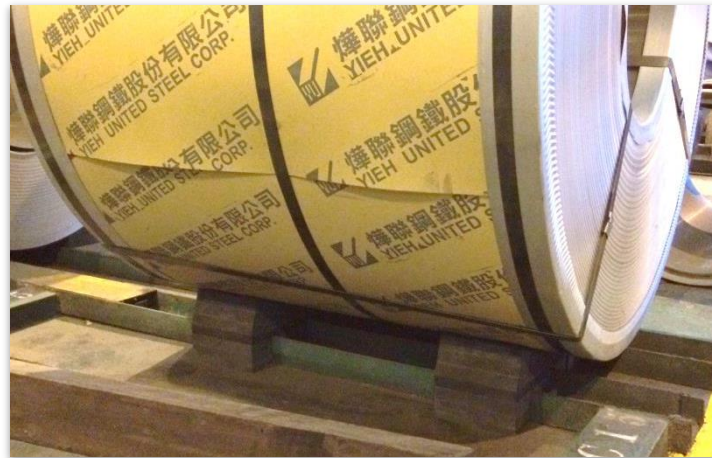
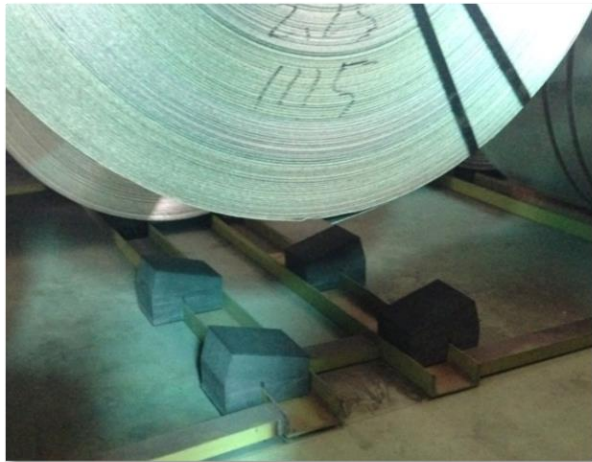
405Lx165Wx160H

Product Application

Customized Product

We offer customized product to fit in the iron shelf or iron rail.

*The size of the customized product and the conditions of use must be evaluated before use.



Sales Performance



Sales Performance

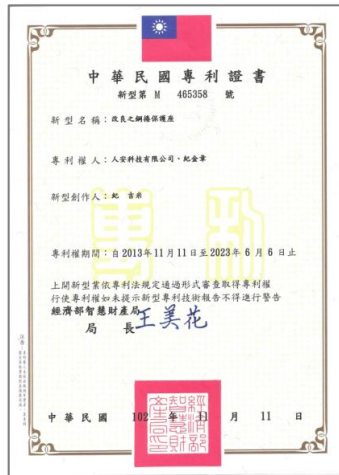


Sales Performance



C.S. Aluminium Corporation
Chung Hung Steel Corporation
Special Steel Co., Ltd.
Yieh United Steel Corporation
Shye Maw Steel Co., Ltd.
Lien Kuo Metal Industrial Co., Ltd.
Shang Hsing Steel Industries Co., Ltd.
Yu-Ting Industrial Co., Ltd.
Jaw Kuen Enterprise Co., Ltd.
Ursine Steel Co., Ltd.
Uangyih-Tech Industrial Co., Ltd.
CKM Applied Materials Corp.
Walsin Linwa Corporation
Nippon Steel Trading Corporation
Towa Steel Fabrication, Inc.
Yodogawa Steel Works, Ltd.
NST Coil Center (Thailand) Ltd.
JFE Meranti Myanmar Co., Ltd.
Dong Yang Express Industry Co., Ltd.
Bahru Stainless Sdn Bhd.
Puxin Metal Products Co., Ltd.
Tangshan Iron and Steel Group High-strength Car Plate

Worldwide Patented



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