ELEPHANT
Proline

Concealed Ceiling Metal Profile

The Siam Gypsum Industry (Saraburi) Co., Ltd.
A member of USG Boral Building Products

ELEPHANT
Gypsum Board

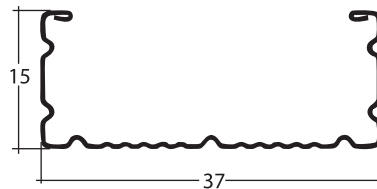# Proline Drywall Ceiling Metal Profile

Proline Drywall Ceiling Metal Profiles, new metal frame innovation by Elephant Brand, solves various problems including.

- Uneven finished ceiling levels (sagging).
- Weak metal frames, risking collapsed ceilings.
- Poor aesthetics of sophisticated designs, such as step–ceilings (bulkheads)
- Problematic installation of accessories (lighting fixture, access panel, etc.) such as accessories become loose, fall or cause the ceiling to sag.
- Uncertainty of proper installation, affecting strength, durability, safety and aesthetic.
- It is suitable to use with regular tapered–edge and SYNIA board by Elephant Gypsum board (4 tapered edge)

Applications

- High quality metal profile for installation of gypsum boards for interior concealed–grid ceiling.
- For usage with wall lining brackets to install gypsum boards for interior wall lining system.

Specifications

Gauge	0.52 mm.
Dimension	15 x 37 mm.
Length	4 m (per piece)
Weight	1.2 kg (per piece)

Features

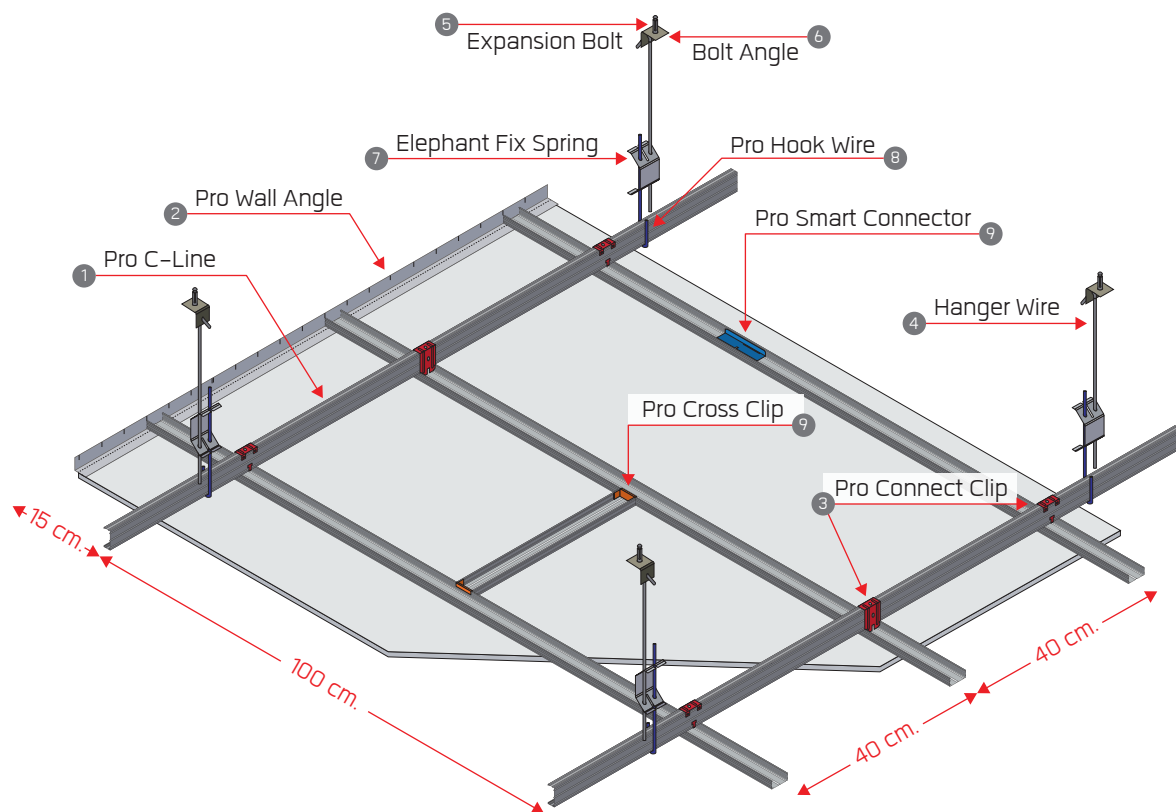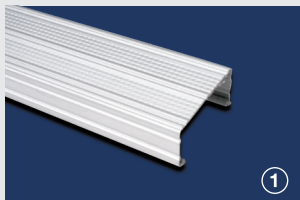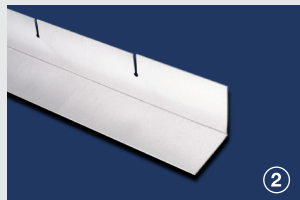|	
• **Strong & safe**	Manufactured from high quality, certified cold–rolled galvanized steel of **0.52** mm. gauge. Specially designed profile increases system strength. All component parts (accessories) were specially designed and tested for safety. Elephant Fix Spring is manufactured from high quality stainless steel with high loading capacity and is rust–proof.
• **Certified**	Thai Industrial Standard **863–2532** certified.
• **Easy & Fast Installation**	Easier and faster installation than traditional systems, Easy to verify correct installation after completion. Printed distance–marking on C–Line ensures component parts are attached at correct location. Modern manufacturing technique ensure high manufacturing precision. No special equipments needed for installation.
• **Flexible Installation**	Multiple component parts to allow for easy installation of various ceiling designs.
• **Lightweight**	Lighter than wood frames and does not twist.
• **Durable**	**Hot–dipped galvanized steed** of **JIS G3302** standard galvanized with **220** g/m² of zinc is suitable for humid climates, decrease rust problem.
• **Insect–Free**	Free from termites and other insects.

Proline Drywall Ceiling Metal Profile

5 Expansion Bolt
6 Bolt Angle
7 Elephant Fix Spring
8 Pro Hook Wire
2 Pro Wall Angle
1 Pro C-Line
9 Pro Smart Connector
4 Hanger Wire
9 Pro Cross Clip
3 Pro Connect Clip

15 cm.
100 cm.
40 cm.
40 cm.

Component Parts :

Pro C-Line *
15x37x0.52 mm. Length 4 m
①

Pro Wall Angle
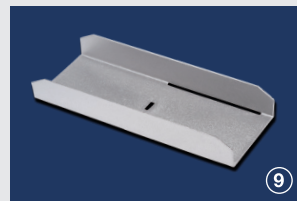25x24x0.52 mm. Length 2.4 m
②

Pro Connect Clip *
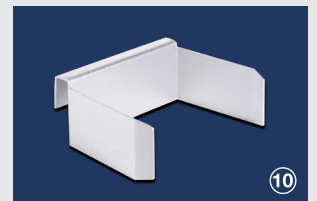Gauge 0.8 mm.
③

Hanger wire Ø4 mm. *
Length 0.6 m, 1.1 m, 2.1 m
④

Expansion Bolt
⑤

Bolt Angle
⑥

Pro Smart Connector
Gauge 0.50 mm.
⑨

Pro Cross Clip
Gauge 0.50 mm.
⑩

Adjustable Hanger Set – Lower Part

Elephant fix spring *
⑦

Pro Hook wire *
⑧

*PATENT PENDING
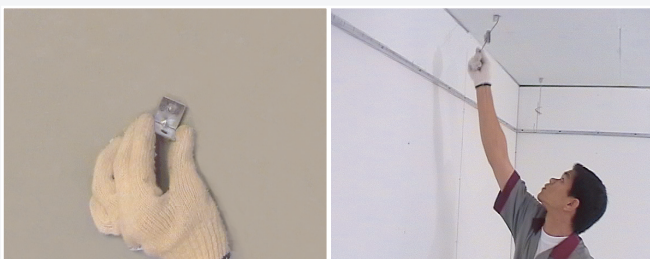
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Installation Method

1. Mark ceiling level around perimeter and screw in wall angles.

2. Assemble hanging set and adjust length of Hanger Wire and Pro Hook Wire to the distance of the upper floor and the main runner.
(Warning: For safety reason, use only Elephant brand 4 mm. diameter Hanger Wires and Hook Wires).
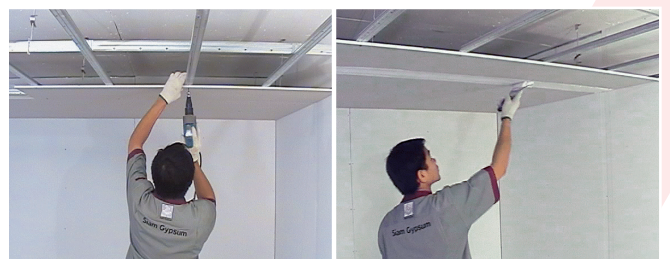

3. Securely attach Bolt Angles to upper floor in a 1.00 x 1.20 meter or 1.20 x 1.20 meter grid. Hang the assembled hanging set to the Bolt Angles.

4. Attach Pro C-Line vertically into adjustable hanging set. Make sure that each hanging set (Pro Hook Wire) is attached on switching side. Connect main runners by using either Pro Smart Connector or Pro H Connector. Ensure that connection points are not all parallel across the ceiling. Re-adjust height of the hanging set again if necessary.

5. Click in Pro Connect Clip to Pro C-Line main runners at every 40 cm. intervals (on every 4th arrow printed on C-Lines. Wrap tail of Pro Connect Clip around Pro C-Line main runners. Lock Pro C-Line cross-runners into Pro Connect Clips. Verify that assembled metal frame is on level. Make sure that each Pro Connect Clip is attached on switching side.
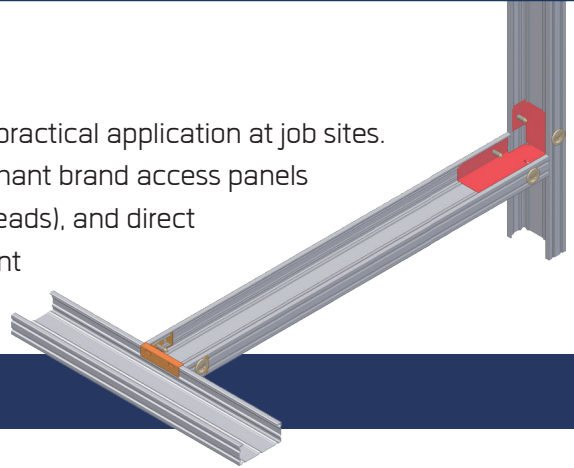

6. Screw onto Elephant Gypsum Board tapered edges with 25 mm. Black Screws at every 30 cm. interval and 20 cm. interval at the edge of the board.

7. Coat the gypsum board joint with Elephant Easy Joint 120 following the compound instruction.

Proline Drywall Ceiling Metal Profile

Multiple Applications

Pro C-Line component parts have been designed by experts for practical application at job sites. Features include safer loading capacity, easy installation of Elephant brand access panels (Zerveboard), lighting panels, lighting fixtures, step ceiling (bulkheads), and direct fixing to wooden frames. Pro C-Lines can also be used in Elephant brand wall lining systems.
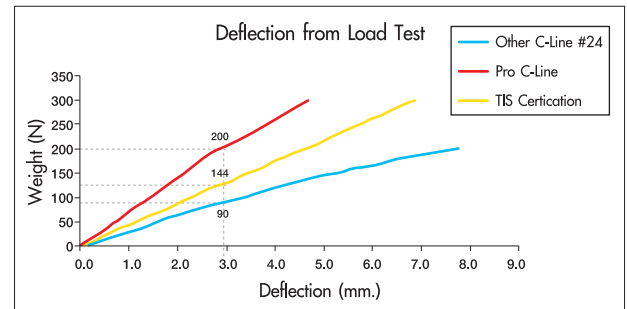
Component Parts	Application
(1) Pro Cross Clip	For assembly of Pro C-Line at one level to support installation and loading of lighting panels, lighting fixtures and Zerveboard (access panels)
(2) Pro Smart Connector	For connecting Pro C-Lines at the same level. For connecting Pro C-Lines at the horizontal and vertical levels (cut out sides of Pro Smart Connector at the pre-punched slots, bend the connector to a 90° angle, insert Pro C-Lines and screw connector and C-Line together
(3) Pro Connect Clip	In addition to the traditional assembly of connecting main and cross runners, Pro Connect Clip can also be used to direct-fix C-Lines to wooden tresses for one-level assembly. Direct-fix Pro Connect Clip to wooden tress by screwing clip into tress through pre-punched hole, Adjust height of clip before fastening clip to tress with screw through second pre-punched hole.
(4) Pro Wall Angle	Pre-punched slots at every 5 cm. interval allows bending of the slot for tight lock of C-Lines. Also used for wall lining system application.

Safety Assurance

In addition to superior profile design, manufacturing process and TIS certification 863–2532, Pro C–Line increase confidence with:

- Advanced manufacturing process increases profile loading capacity with a **5 times minimum safety factor.**
- All component parts use superior raw material quality than other similar products in the market.
- Carefully designed component part to ensure installers safety from finished ceiling and reduce chance of incorrect installation.
- Easy to verify correct installation after completed
- Corrosion–resistant with minimum (zinc coat) galvanizing of 220 g/m^2 which is thicker than 80% of similar profiles affecting suspended ceiling safety. As metal profiles are not seen after completion of ceiling work, there is no warning of insecure ceiling.

Deflection from Load Test

	Before Test	After Test
Comparison of Pro C–Line and other C–Line#24 in the market.		
Pro C–Line		
Other C–Line#24 in the market		

Ceiling with superior Corrosion–resistant.

Figure shows the Salt Sprey Test (following ASTM B117–97) result after 300 continuous hours, comparing Pro C–Line with other C–Line#24 in the market.

Comparison of Elephant Fix Spring and other spring in the market.

- Elephant Fix Spring manufactured from High Quality Stainless Steel for spring, pass the **Salt Spray Test (following ASTM B117–97)** more than **300** continuous hours, compared with other spring in the market.
- Elephant Fix Spring especially designed to hold tight the rod wire for high loading capacity. The assembled hanging sets pass more than 120 kg tension test. (safety factor = 4)
- Elephant Fix Spring pass 1,000 times of continuous passing test without detormation.

Elephant Fix Spring

Other spring in the market

The testing result from "Technical Development Center" in France shows that Metal Profiles (C–Line) in the market, manufactured from second grade or lower quality galvanized steel, have less than 50% number of screw fastened between gypsum board and C–Line (only 4 out of 10 pieces of screw that are fastened while the others are loose) which can cause the ceiling to collapse.

Specification

Elephant Brand–Drywall Ceiling System

Gypsum Boards: Use Elephant Brand (**Standard** for general use, **HeatBloc** for Heat-resistant ceiling under the roof, **MoistBloc** for Moisture-resistant ceiling in the bathroom/toilet or kitchen) certified by **TIS 219–2524**, **ASTM C 1396**, **BS 1230**, tapered edge, 9 mm. thickness, size 1200x2400 mm.

Metal Frame: Use Proline System (Elephant Brand); size **37x15 mm.** **0.52 mm.** thickness, **4 m.** length, certified by **TIS 863–2532**. Material made from Hot-dipped Galvanized Steel certified by **JIS G 3302–1987**. System hangs with stainless steel spring hanging set and all other components (clipping and connector sets) that have sufficient strength for all ceiling weight following standard of **The Siam Gypsum Industry (Saraburi) Co,. Ltd.**

Question & Answer

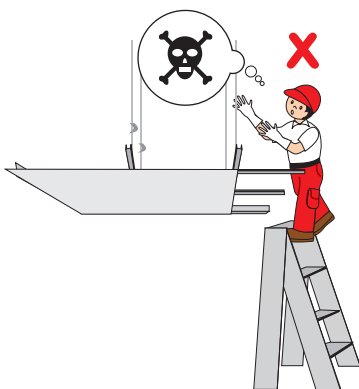**Q** How does reduced thickness of metal profile (C–Line) affect the finished ceiling?

A

Thinner gauge C–Line is lighter and costs less, however, most C–Line profiles in Thailand have such reduced thicknesses that they do not conform to safety standards. In many cases, we find ceiling deformed, sagged and distorted edges. Aside from being unsightly, this cause the ceiling to collapse and may harm anyone inhabit in the building and as there is no visible warning signs, it is difficult to avoid this accident. Therefore, it is important to select quality C–Lines that meet safety standards.

Q What is the required thickness of C–Lines that can support human weight? (i.e. make the system traficable)
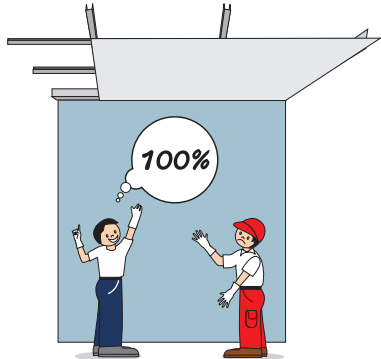
A

In Thailand, drywall ceiling systems that are trafficable are nor readily available. Such a system would have to be tailor-designed for the application. In any case, the loading capacity of a drywall ceiling system does not depend only on the C–Line gauge, but also on the other component parts and the type of installation.
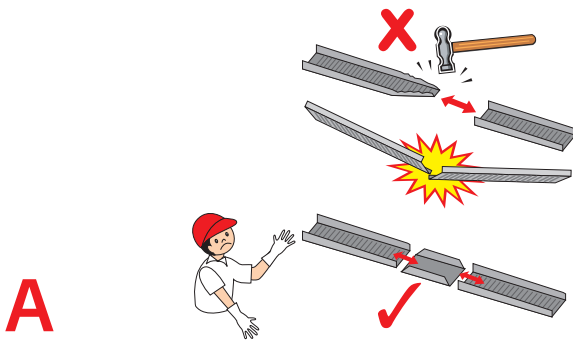
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Q What factors affect the ceiling's loading capacity?

A
- Quality metal profiles and other component parts that meet standard and are certified by reliable institutions.
- Thickness of metal profile and other component parts.
- Thickness of zinc coating on galvanized steel of metal profile.
- Spacing of hanging sets, main runner and cross runner of metal profile following designing and testing standard of manufacturer.
- Spacing of each screw affixing gypsum board.
- Quantity of screws that can fasten gypsum board and metal profile together.
- Gross weight of ceiling system and other components.
- Affixing of additional components on ceiling system following standard of manufacturer.

Q Is it correct to connect metal profiles (C–Lines) together by jamming them into each other and riveting?

A

It is an incorrect method since this will create the weakest point of the ceiling system. The correct method is to use a connecting clip designed to connect C–Lines together safety.

Q Why should we be concerned that metal profiles may rust since it is an internal structure of the ceiling and not exposed?

A

Moisture above the ceiling can easily increase from higher temperature than the room temperature, from hot–water pipes, from smoke absorber and from water leakages. Moisture can cause rusting easier and faster if the metal profiles do not meet corrosion–resistance standards.

Drywall Ceiling Metal Profile range Elephant Brand		Drywall Partition Metal Profile ranges Elephant Brand	
– Galvanized steel of 0.40 mm. gauge (no.26) – 3–time minimum safety factor – Corrosion–resistant – Easy to install and verify correct installation	Loading capacity maximum at 100 kg/point of 120x120 cm. grid or maximum span at 3 Meters for installing with large service system	– Metal profile of galvanized steel 0.52 mm. gauge. – Strong and durable – Corrosion–resistant	– Economic metal profile of galvanized steel 0.40 mm. gauge. – Strong and durable – Corrosion–resistant
Plusline	**Proline Max**	**Prowall**	**Pluswall**

Siam Gypsum Policy

- We commit to develop an offer adapted to key market segments answering customer's expectations.
- We commit to constantly produce and deliver in full the products, solutions and services expected by our customers.
- We commit to communicate regularly our customers our quality performance.