

CERTIFIED FIRE
PROTECTION
FOR PEACE OF MIND



HIGH-QUALITY
FIPRO[®] CORE
**MARINE
NONCOMBUSTIBLE
PANEL SYSTEMS**

PSI⁺
PANEL SPECIALISTS, Inc.

Quality, Beauty and Safety in Every Panel

Marine Bulkhead Panels from PSI

PSI has consistently gained recognition for our high-quality, **FIPRO® core Marine Panels**. Through the **highest production standards** and attention to detail, we harmoniously blend function and aesthetics into each of our **noncombustible panels**. Our large selection of surfaces satisfies even the most discerning naval architects, engineers and designers. **You'll find high-pressure laminates, custom high-pressure laminates, veneers, galvanized steel, stainless steel and marker boards**. Because our top-grade, noncombustible laminated FIPRO® marine panels are suitable for more than just walls, they are frequently requested for **doors, joiner panels, linings, ceilings, floors, furniture and fixtures in living quarters and public spaces**. Marine Panels from PSI are the solution that delivers all the practicalities you need with the **beauty and elegance you expect from the leaders in wall panel systems**.



Certified Fire Protection for Peace of Mind

When protecting crew and passengers is the top priority, our fire-rated marine wall panels offer invaluable peace of mind, offering an **essential fire prevention precaution for watercraft**.



PSI marine wall panels with a FIPRO® core meet all relevant regulations for fire prevention, according to SOLAS, fulfilling the requirements of **noncombustible construction materials in accordance with the FTP Code** for interior outfitting

and furniture in certain areas. Our materials also meet certification requirements with MED, Transport Canada and USCG. Additionally, **they pass the highest toxicity safety measurement: the University of Pittsburgh Toxicity Test**.

**The PSI Marine Panel
with FIPRO® Core
Manufacturing Process**

Our panel cores are made from vermiculite (aluminum-iron-magnesium-silicate), a natural mineral belonging to the mica-minerals group, by exfoliating raw vermiculite with a high temperature heat treatment. The vermiculite expands to a lightweight aggregate through the process, which is then blended with inorganic binders and pressed to form boards. Free of asbestos and other dangerous mineral fibers, our marine panels are nontoxic and safe for any marine environment.

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**How Can PSI
Help You?
800-947-9422**

**Unparalleled
Quality
to the Core**





Fipro® Fire Protection Boards

FIPRO® is a noncombustible vermiculite board with smooth surface and in large sizes. It is particularly **easy and clean for processing**. The surface of FIPRO® can be covered with **many finishing materials**.



Fipro®

TECHNICAL SPECIFICATIONS*

Reaction to fire (IMO Res. MSC 307(88) FTP(2010))	Noncombustible
Standard dimension (mm) or on request	1245 x 2464, 1245 x 3074
Density	800 kg/m ³ (± 10%)
Thickness (mm) or on request	10, 12, 16, 19, 22, 25, 30, 32, 40, 50
Tolerance in thickness	+0.3 / -0.2 mm
Tolerance in dimension	± 1.0 mm
Bending strength (EN 310)	4 MPa
Screw extraction surface and edge** (EN 320)	250 N
Tensile strength (EN 319)	0.3 MPa
Delamination strength (EN 311)	0.8 MPa
Residual moisture (ex works) (EN 322)	2 – 7 %

WEIGHT LIST

Thickness (mm)	Weight kg/m ²
10	8.30
12	9.84
16	12.64
19	15.01
22	17.16
25	19.50
30	23.10
32	24.64
40	29.60
50	37.00

* The shown values are always dependent on the particular density and provide minimum or average values of the production. Safety data sheet and manual are available on request. All technical data are due to changes and supplements.

** From thickness 15 mm on.

Add for laminate: **1.76**
 Add for galvanized or stainless steel: **9.39**

Application Areas

FIPRO® noncombustible fire protection boards are used for A, B and C class constructions: bulkheads, ceilings, linings, floating floors, doors and furniture for ships and offshore platforms.

If certain characteristics are essential for certain applications, it is best to contact us. **We are constantly expanding our construction program.**



Fipro® MS Fire Protection Boards

FIPRO® MS is a noncombustible vermiculite board with smooth surface and in large sizes. It is particularly **easy and clean for processing**. The surface of FIPRO® MS can be covered with **many finishing materials**.



Fipro® MS

TECHNICAL SPECIFICATIONS*

Reaction to fire (IMO Res. MSC 307(88) FTP(2010))	Noncombustible
Standard dimension (mm) or on request	1245 x 2464, 1245 x 3074
Density	650 kg/m ³ (± 10%)
Thickness (mm) or on request	10, 12, 16, 19, 22, 25, 30, 32, 40, 50
Tolerance in thickness	+0.3 / -0.2 mm
Tolerance in dimension	± 1.0 mm
Bending strength (EN 310)	3.5 MPa
Screw extraction surface and edge** (EN 320)	200 N
Tensile strength (EN 319)	0.3 MPa
Delamination strength (EN 311)	0.8 MPa
Residual moisture (ex works) (EN 322)	2 – 7 %

WEIGHT LIST

Thickness (mm)	Weight kg/m ²
10	6.90
12	8.28
16	10.72
19	12.73
22	14.30
25	16.25
30	19.50
32	20.80
40	26.00
50	32.50

* The shown values are always dependent on the particular density and provide minimum or average values of the production. Safety data sheet and manual are available on request. All technical data are due to changes and supplements.

** From thickness 15 mm on.

Add for laminate: **1.76**
 Add for galvanized or stainless steel: **9.39**

Application Areas

FIPRO® MS noncombustible fire protection boards are used for A, B and C class constructions: bulkheads, ceilings, linings, floating floors, doors and furniture for ships and offshore platforms.

If certain characteristics are essential for certain applications, it is best to contact us. **We are constantly expanding our construction program.**





Approved Construction

Noncombustibility is one of the requirements for the use of interior construction panels in shipbuilding. This is tested in accordance with Marine Equipment Directive. **FIPRO® is approved by marine safety authorities.** Extensive tests of bulkheads, ceilings and floating floor have been performed with FIPRO®. **Detailed certificates are available on request.**

Bulkheads

B-0 Steel Spline Joint & Omega Profile Joints



Steel spline

SPECIFICATIONS:

Material: FIPRO®/FIPRO® MS

Thickness: 16 mm

Junction: Steel spline

Construction: Freestanding

Sound reduction: 29 dB (estimated value)

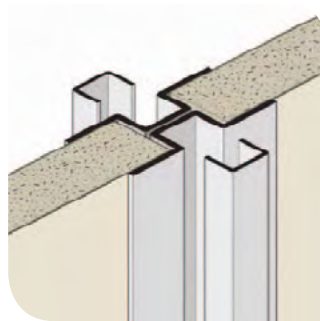
APPROVED BY:

Bureau Veritas, MED EC, USCG, Transport Canada

B-15 Steel Spline Joint



Steel spline



OMEGA-steel profile with metal cover section

SPECIFICATIONS:

Material: FIPRO®/FIPRO® MS

Thickness: 19 mm

Junction: Steel spline

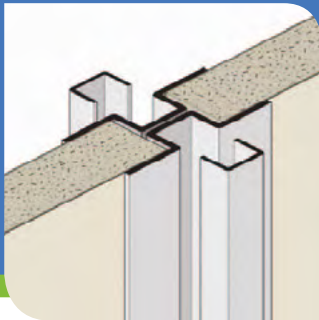
Construction: Freestanding

Sound reduction: 32 dB (estimated value)

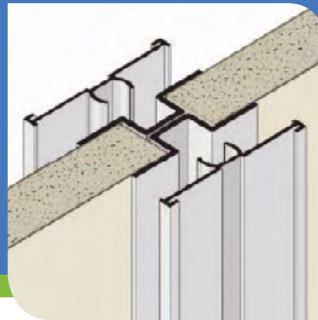
APPROVED BY:

Bureau Veritas, MED EC, USCG
Transport Canada,
Lloyd's Register of Shipping
Germanischer Lloyd

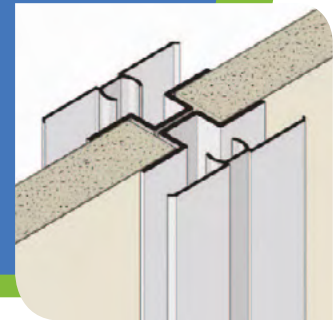
B-15 Omega-Steel Profiles



OMEGA-steel profile with screw cover strip



OMEGA-steel profile with PVC cover section and HPL strips



OMEGA-steel profile with PVC cover section

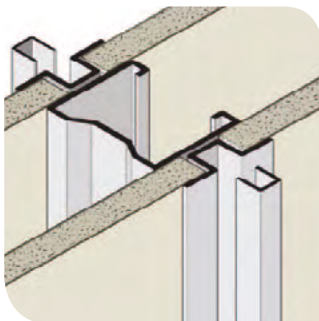
SPECIFICATIONS:

Material: FIPRO®/FIPRO® MS
Thickness: 19 mm
Junction: OMEGA-steel profiles
Construction: Freestanding
Sound reduction: 32 dB (estimated value)

APPROVED BY:

Bureau Veritas
 MED EC
 USCG
 Transport Canada
 Lloyd's Register of Shipping
 Germanischer Lloyd

B-15 Double Shell Partitions



Thickness: 10 mm or 12 mm

SPECIFICATIONS:

Material: FIPRO®
Thickness: 10 mm or 12 mm
Junction: OMEGA-steel profiles
Wall connection: 20 Ga. Clark Steel Studs
Sound reduction: 37 dB (estimated value)

APPROVED BY:

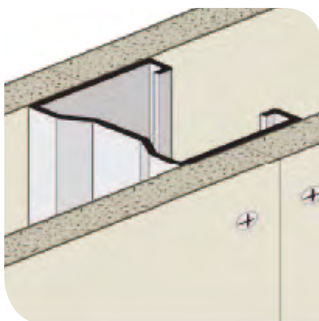
Bureau Veritas
 MED EC
 USCG

SPECIFICATIONS:

Material: FIPRO® MS
Thickness: 12 mm
Junction: OMEGA-steel profiles
Wall connection: 20 Ga. Clark Steel Studs
Sound reduction: 37 dB (estimated value)

APPROVED BY:

Bureau Veritas
 MED EC
 USCG



Alternative joint



A-15 Steel Spline Joint



Steel spline

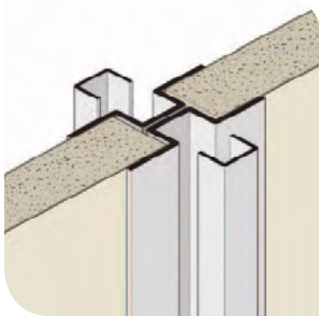
SPECIFICATIONS:

Material: FIPRO®/FIPRO® MS
Thickness: 19 mm
Junction: Steel spline
Construction: Freestanding
Sound reduction: 32 dB (estimated value)

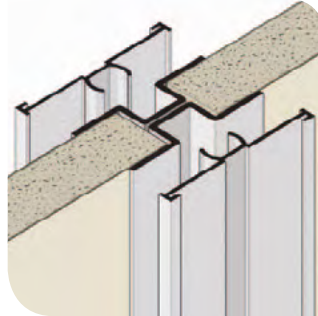
APPROVED BY:

Bureau Veritas
 MED EC
 USCG
 Transport Canada
 Lloyd's Register of Shipping
 Germanischer Lloyd

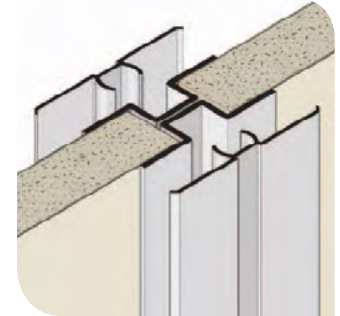
A-15 Omega Steel Profiles



OMEGA-steel profile with screw cover strip



OMEGA-steel profile with PVC cover section and HPL strips



OMEGA-steel profile with PVC cover section

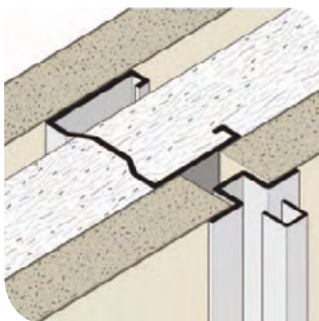
SPECIFICATIONS:

Material: FIPRO®/FIPRO® MS
Thickness: 19 mm
Junction: OMEGA-steel profiles
Construction: Freestanding
Sound reduction: 32 dB (estimated value)

APPROVED BY:

Bureau Veritas
 MED EC
 USCG
 Transport Canada
 Lloyd's Register of Shipping
 Germanischer Lloyd

A-60 Double Shell Partition



Thickness: 19 mm

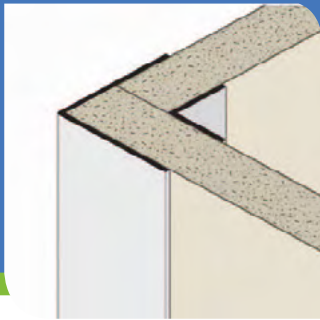
SPECIFICATIONS:

Material: FIPRO®/ FIPRO® MS
Thickness: 19 mm
Insulation: Approved noncombustible mineral wool, 30 mm, density 70 kg/m³
Junction: OMEGA-steel profiles
Wall connection: 20 Ga. Steel Studs
Sound reduction: 43 dB (estimated value)

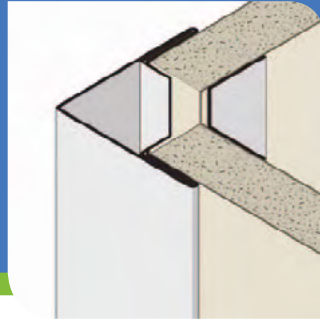
APPROVED BY:

Bureau Veritas
 MED EC
 USCG
 Transport Canada
 Lloyd's Register of Shipping
 Germanischer Lloyd

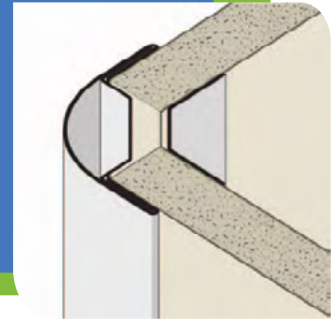
Freestanding Corners



Outside and inside corner

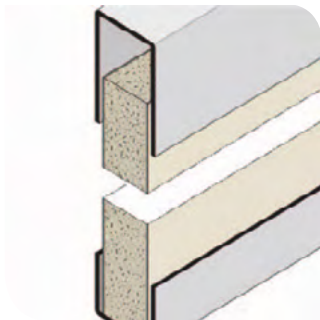


Steel corner section type 90-E



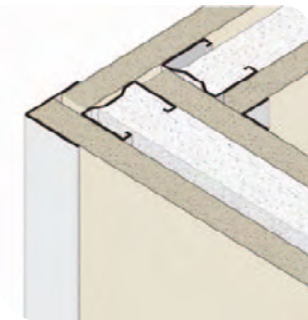
Steel corner section type 90-R

Freestanding Top And Bottom Connections



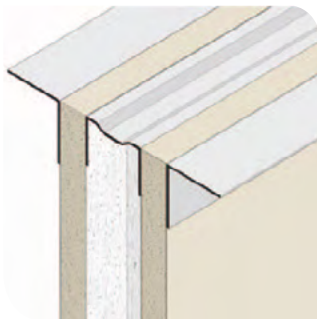
Bottom U-profile and Top profile 1

Double Shell Corner

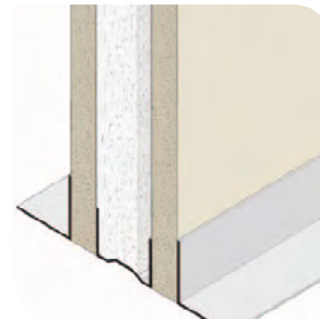


Double shell corner

Double Shell Top & Bottom



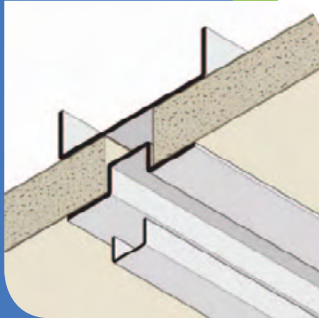
Double shell top



Double shell bottom

Ceilings

B-0 Classification



SPECIFICATIONS:

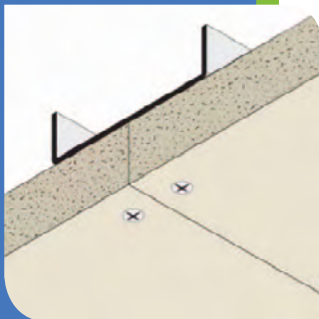
Material: FIPRO®
Thickness: 10 mm
Junction: Deckhead mounting section
Construction: Detached steel construction
Sound reduction: 28 dB (estimated value)

APPROVED BY:

Bureau Veritas
MED EC
USCG
Transport Canada
Germanischer Lloyd

*#316 OMEGA profile with
screw cover strip*

B-0 Classification



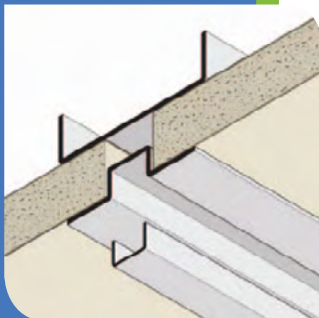
SPECIFICATIONS:

Material: FIPRO®/FIPRO® MS
Thickness: 16 mm
Junction: Screwed every 300 mm with
self-tapping screws 4.2x25 mm
Sound reduction: 29 dB (estimated value)

APPROVED BY:

Bureau Veritas
MED EC
USCG
Transport Canada

B-15 Classification



SPECIFICATIONS:

Material: FIPRO® MS
Thickness: 19 mm
Junction: Deckhead mounting section
Construction: Detached steel construction
Sound reduction: 31 dB (estimated value)

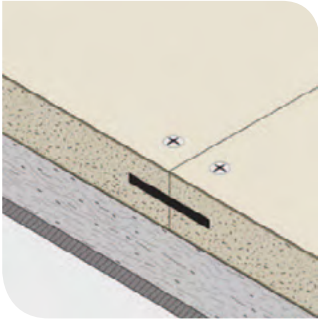
APPROVED BY:

Bureau Veritas
MED EC
USCG
Transport Canada
Det Norske Veritas
Germanischer Lloyd

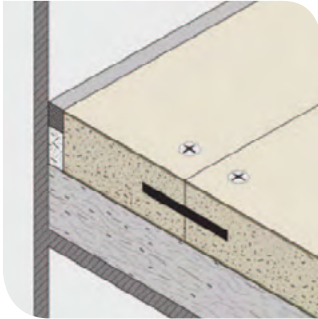
*#316 OMEGA profile with
screw cover strip*

Floating Floor

A-60 Classification



Standard joint



Floor side connection with mastic sealant and mineral wool

SPECIFICATIONS:

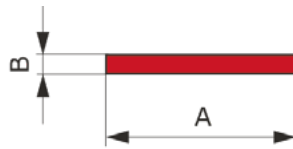
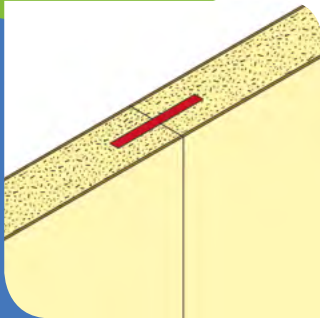
Material:	FIPRO®
Thickness:	19 mm
Laminate:	Approved HPL
Junction:	Steel spline
Insulation:	Approved mineral wool 30 mm
Sound reduction:	50 dB (estimated value)

APPROVED BY:

Bureau Veritas, MED EC, USCG, Transport Canada, Lloyd's Register of Shipping



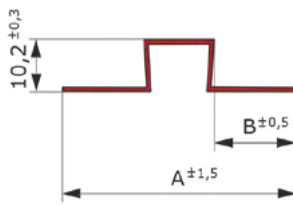
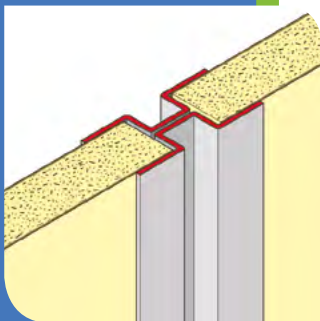
Metal Profiles - Bulkhead Jointing Sections



Steel spline, deburred and straightened

No.	Thickness (mm)	A (mm)	B (mm)	Weight (lbs/ft)
S01	.12	25	3	.37

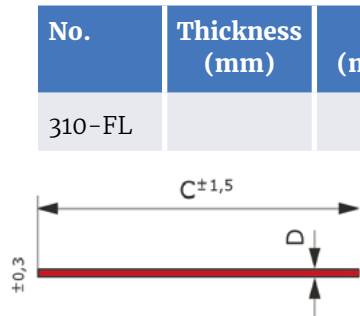
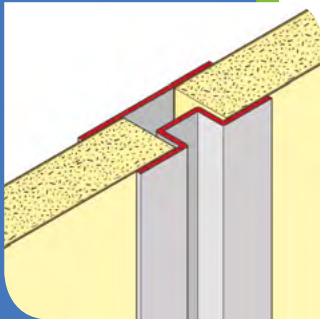
Material: galvanized steel.
Standard length: 96" and 120".
 Other lengths **available on request.**



Omega-steel profile

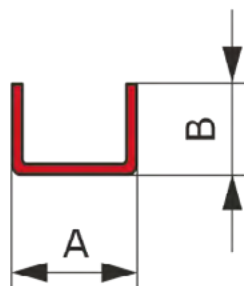
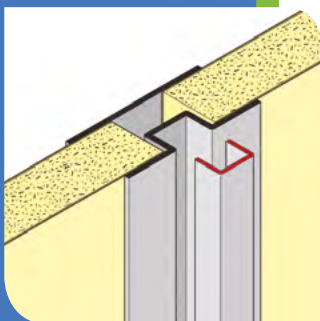
No.	Thickness (mm)	A (mm)	B (mm)	Weight (lbs/ft)
310	.8	30	10	.39
*316	.8	46	16	.60

Material: galvanized or stainless steel.
 Powder-coated finishes available on request.
Standard length: 96" and 120".
 Other lengths **available on request.**
 Screwed every 12 inches.
 *Non-stock – **Custom Order.**



Flat bar for omega profile

Material: galvanized steel.
Standard length: 96" and 120".
 Other lengths **available on request.**
 Screwed every 12 inches.

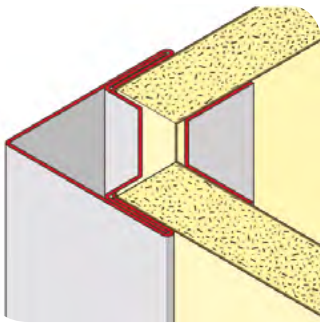


Screw cover strip for 310/316

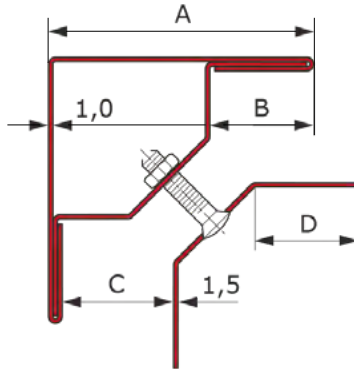
No.	Thickness (mm)	A (mm)	B (mm)	Weight (lbs/ft)
U10	.5	7.6	9	0.7
*U20	.5	12.2	9	0.8

Material: galvanized or stainless steel.
 Powder-coated finishes available on request.
Standard length: 96" and 120".
 Other lengths **available on request.**
 *Non-stock – **Custom Order.**

Metal Profiles - Corner Jointing Sections

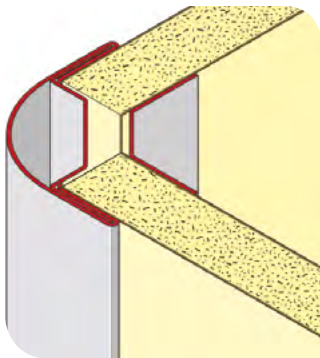


No.	Thickness (mm)	A (mm)	B (mm)	C (mm)	D (mm)	Weight (lbs/ft)
*90-E	-	51	20	16-25	20	1.57

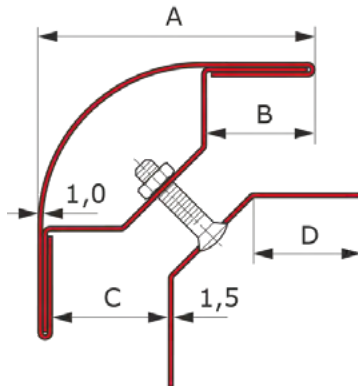


Material: galvanized or stainless steel.
 Powder-coated finishes **available on request.**
Standard length: 96" and 120".
 *Non-stock - **Custom Order.**

Outside and inside corner, square



No.	Thickness (mm)	A (mm)	B (mm)	C (mm)	D (mm)	Weight (lbs/ft)
*90-R	-	51	20	16-25	20	1.57

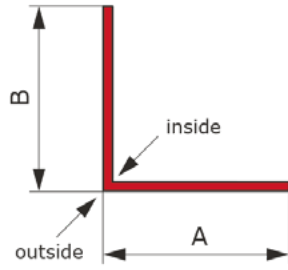
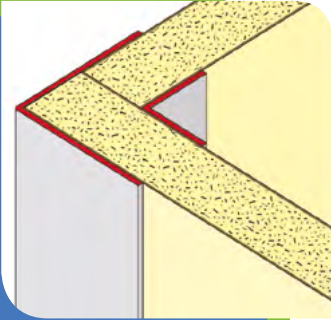


Material: galvanized or stainless steel.
 Powder-coated finishes **available on request.**
Standard length: 96" and 120".
 *Non-stock - **Custom Order.**

Outside and inside corner, rounded



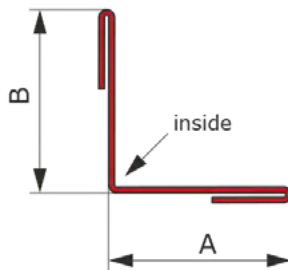
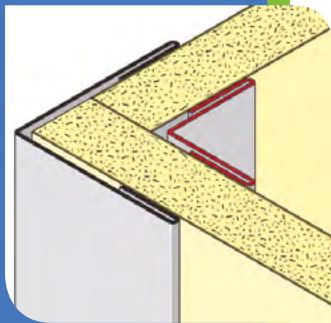
Metal Profiles - Corner Jointing Sections



Outside and inside corner

No.	Thickness (mm)	A (mm)	B (mm)	Weight (lbs/ft)
530	1.5	30	30	.45
545	1.5	45	45	.67

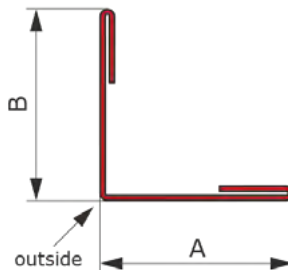
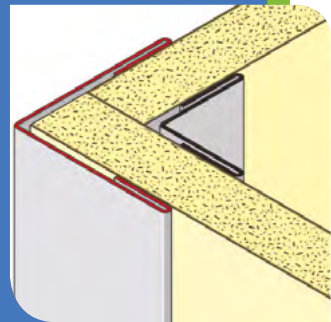
Material: galvanized or stainless steel.
 Powder-coated finishes **available on request.**
Standard length: 96" and 120".
 Other lengths and flange widths **available on request.**



Inside corner - hemmed edge

No.	Thickness (mm)	A (mm)	B (mm)	Weight (lbs/ft)
*501	.8	Specialty sizes		-

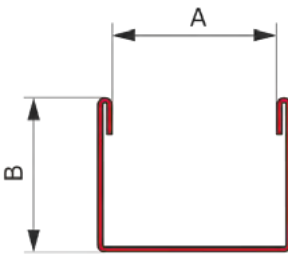
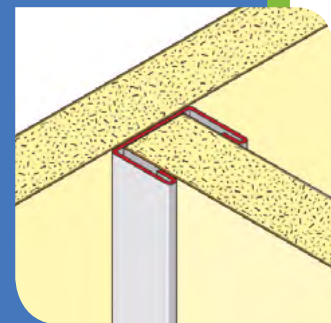
Material: galvanized or stainless steel.
 Powder-coated finishes **available on request.**
 *Non-stock - **Custom Order.**



Outside corner - hemmed edge

No.	Thickness (mm)	A (mm)	B (mm)	Weight (lbs/ft)
*502	.8	Specialty sizes		-

Material: galvanized or stainless steel.
 Powder-coated finishes **available on request.**
 Non-stock - **custom order.**

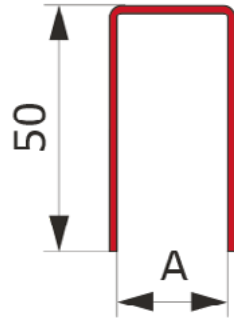
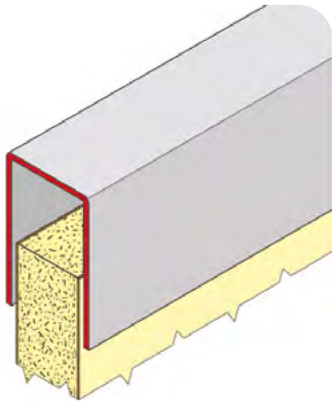


U-section - hemmed edge

No.	Thickness (mm)	A (mm)	B (mm)	Weight (lbs/ft)
*503-10	.8	12	25	0.50
*503-12	.8	14	25	0.51
*503-16	.8	18	25	0.54
*503-19	.8	21	25	0.56

Material: galvanized or stainless steel.
 Powder-coated finishes **available on request.**
Standard length: 96" and 120".
 Other lengths **available on request.**
 *Non-stock - **Custom Order.**

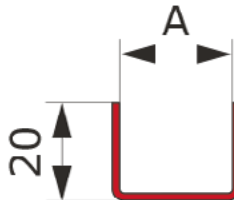
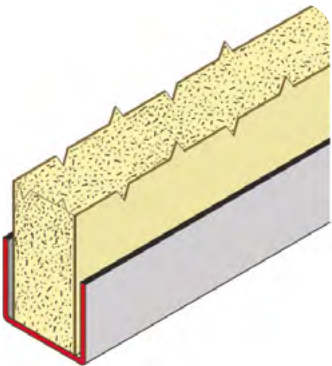
Metal Profiles - Top And Bottom Jointing Sections



Top U-profile

No.	Thickness (mm)	A (mm)	Weight (lbs/ft)
50/13	1.5	13	-
50/15	1.5	15	-
50/19	1.5	19	-
50/22	1.5	22	.94

Material: galvanized or stainless steel.
 Powder - **coated finishes available.**
Standard length: 96".

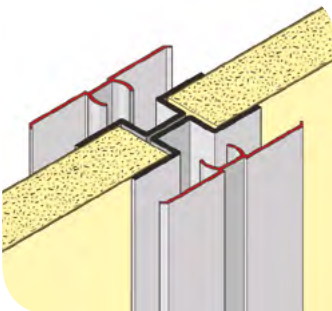


Bottom U-profile

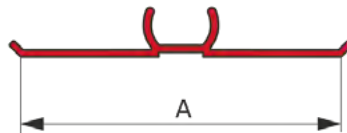
No.	Thickness (mm)	A (mm)	Weight (lbs/ft)
113/20	1.5	13	-
115/20	1.5	15	-
119/20	1.5	19	-
122/20	1.5	22	.48

Material: galvanized or stainless steel.
 Powder - **coated finishes available.**
Standard length: 96".

PVC profiles – PVC Cover Profile

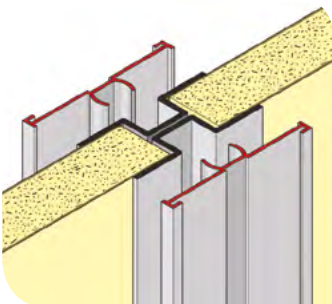


Cover profile

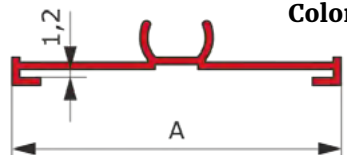


No.	Thickness (mm)	A (mm)	Weight (lbs/ft)
1496	1.0	32.5	0.05

Colors: white, almond, gray.
Length: 96".



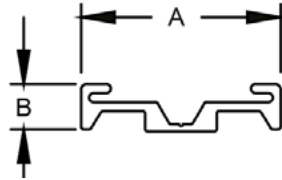
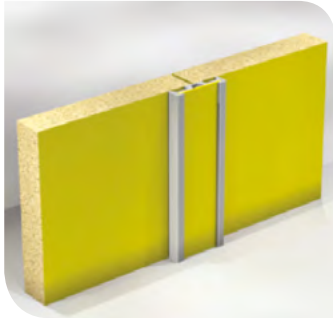
Cover profile for HPL inserts



No.	Thickness (mm)	A (mm)	Weight (lbs/ft)
6476	1.0	34.5	0.05

Colors: white, almond. **Length:** 96".

Aluminum Profiles



Batten with HPL insert

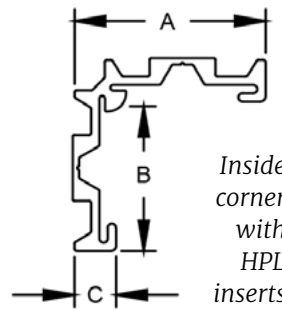
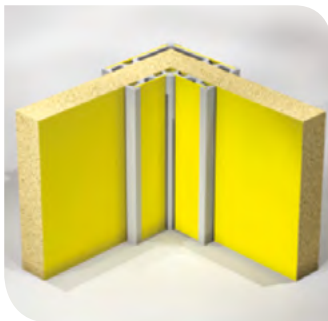
No.	A (mm)	B (mm)	Weight (lbs/ft)
*700-125	34.9	8.0	0.2

Material: Anodized Aluminum.
Powder-coated finish **available on request.**

Standard length: 96" and 120".

Choose color of HPL inserts.

*Non-stock – **Custom Order.**



Inside corner with HPL inserts

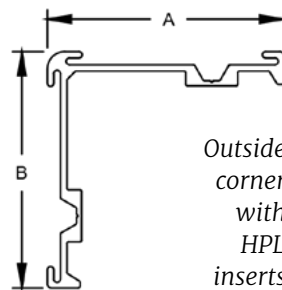
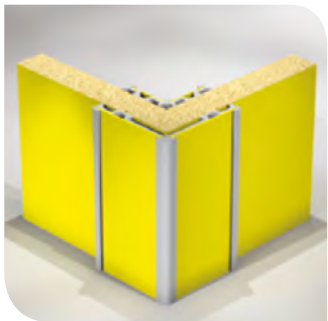
No.	Thickness (mm)	A (mm)	B (mm)	Weight (lbs/ft)
*700-250	8.0	41	32	0.4

Material: Anodized Aluminum.
Powder-coated finish **available on request.**

Standard length: 96" and 120".

Choose color of HPL inserts.

*Non-stock – **Custom Order.**



Outside corner with HPL inserts

No.	Thickness (mm)	A (mm)	B (mm)	Weight (lbs/ft)
*700-375	8.0	57	57	0.4

Material: Anodized Aluminum.
Powder-coated finish **available on request.**

Standard length: 96" and 120".

Choose color of HPL inserts.

*Non-stock – **Custom Order.**





PSI offers high-pressure laminates, custom high-pressure laminates, veneers, galvanized steel, stainless steel, and marker boards. And because our top-grade, noncombustible laminated FIPRO® marine panels are suitable for more than just walls, they are frequently requested for doors, joiner panels, linings, ceilings, floors, furniture and fixtures in living quarters and public spaces.



**Noncombustible, Solas-approved
Protection Crafted Into Every Panel**

Technical specifications

Manufacturing

FIPRO® fire protection panels are based on a **natural mineral called Vermiculite**. FIPRO® fire protection panels are manufactured by pressing exfoliated vermiculite into inorganic, nonflammable binding agents, a **special technology which was developed using modern technical processes**. FIPRO® fire protection panels do not need fiber reinforcement, since the panels remain compact due to adhesion of the vermiculite to the bonding agents.

Monitoring and Quality control

Internal and external control systems, as well as **periodic quality monitoring through authorized institutes**, guarantee consistent high-quality FIPRO® panels. Strict monitoring surveillance guarantees compliance with the specified technical parameters.

Approved Constructions

Detailed information of the different approvals can be checked under Certificates. Any questions? **Please do not hesitate to contact us.**

Occupational Medicine and Health

FIPRO® boards **do not contain asbestos or silicate fibers, cement or gypsum components, or other types of mineral fibers**. Due to the inorganic binders in the panels, no smoke or toxic fumes are released in case of fire. Adhere to permissible limits for dust generation when processing. Waste originating from the panels can be disposed of as normal construction waste. Additional information can be found in the material safety data sheets.

Special characteristics

- A variety of sizes are available
- Flexibility of formats
- Clean and smooth surfaces
- Very low variation in the thickness of the panels
- Perfect edges
- Easy to work with using basic carpenter tools
- Simple installation
- FIPRO® boards are intended for interior applications only

Storage

FIPRO® panels **have to be protected from wet conditions**, and should be stored in dry and enclosed storage areas. The humidity of the air should be between 50 and 60%, with temperatures of 18 to 22° C.

Stacking

FIPRO® boards **must be stacked on pallets or storage lumber at a span of about 30 cm**. Storing the panels upright, without good contact on a supporting surface, will lead to deformation. No more than two original pallets shall be stacked. Pallets in use shall be covered by a panel (e.g., thin particle board) and an additional loose film.

Internal Transport

For transport with forklift, a fork size of more than 80 cm is recommended. In any case, a sufficiently thick underlying surface shall be used. **Single panels have to be carried vertically, meaning upright, by two people.**

Tools and Machines

FIPRO® panels **can be safely processed with conventional tools and machines**, and without any issues regarding work hygiene or environmental impact (drilling, milling, sawing, grinding, etc.).

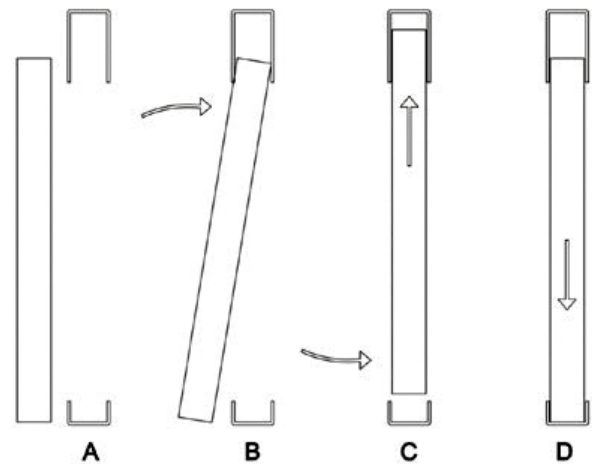
— For cutting panels, wood-cutting machines with cutters that have typical carbide teeth.

— Edge work for large quantities can be done with a double-end profiler. The machining equipment is similar to those used for chip boards. The feed rate should be slightly reduced.

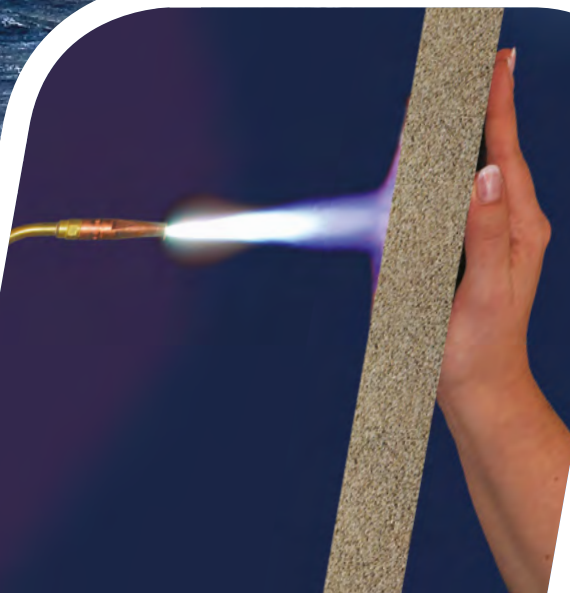
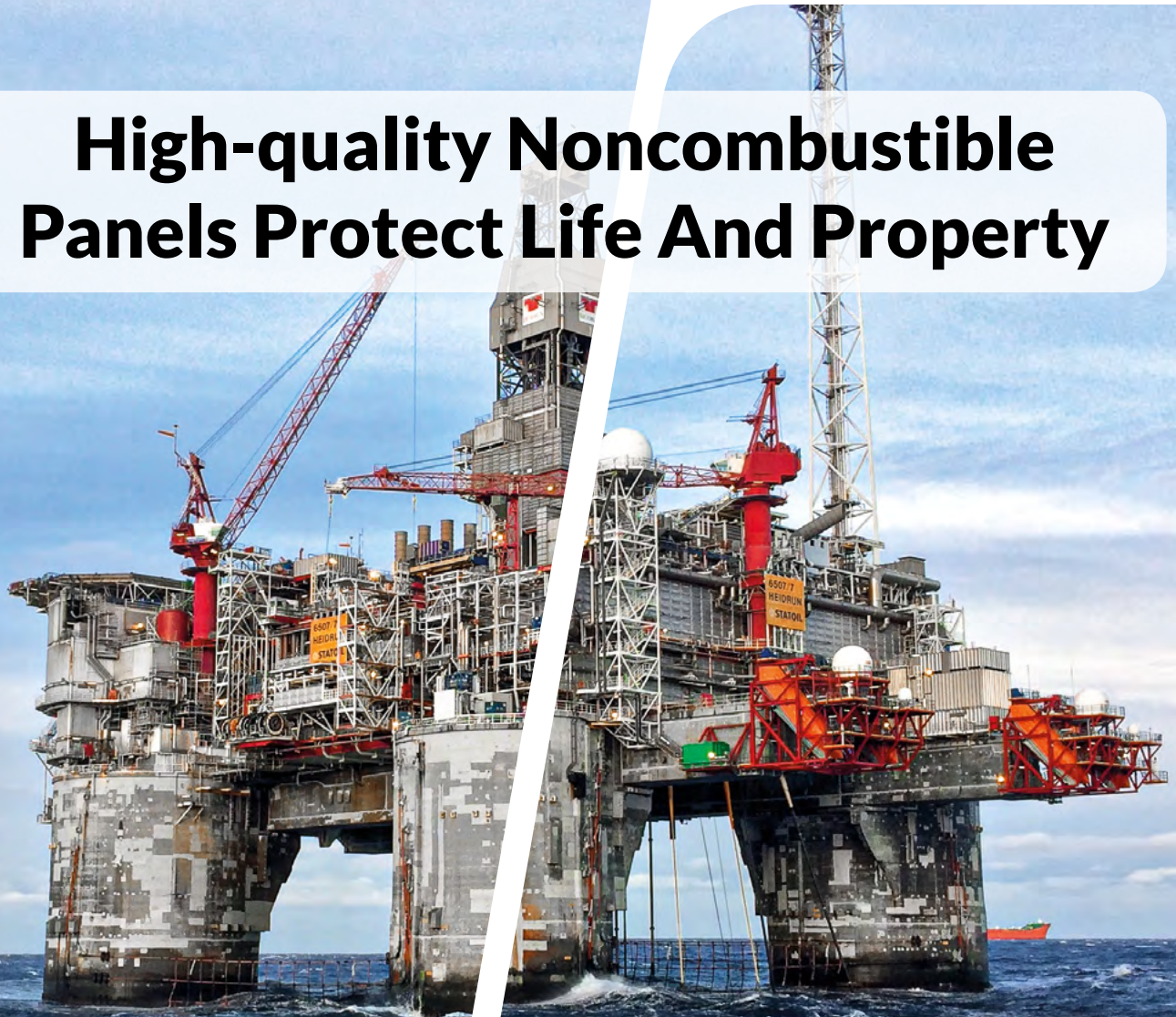
How Can PSI Help You? 800-947-9422

Panel Installation

1. Begin by determining your perimeter wall placement by **marking lines where the bottom and top tracks are to be installed**. In the event there are no metal studded walls, you would place the tracks against the insulation.
2. **Install the bottom track by securing to the deck plate** with screws or welding along the length of the perimeter interior bulkhead.
3. **Install top track after determining placement** by level and plumbness with the bottom track and securing to top deck or ceiling joist with screws along the length of the interior perimeter bulkhead.
4. Before installing panels, a **measurement should be taken by extending your tape measure from inside the top track to the top lip of the bottom track -1/8"**. This should be repeated on each perimeter wall to determine any measurement changes.
5. Once a measurement has been determined, the panels would then be **cut to size to be installed**.
6. After cutting panel, starting at the beginning of a wall section in a corner, the panel would then be **installed into tracks by inserting and lifting the top of the panel into the top track until the bottom of the panel can be inserted** and lowered into the bottom channel.
7. Next you would **insert the metal spline into the provided groove cut into the edge of the panel**. **The next panel would be cut to size and installed with the same procedure as the first panel** and slid over to insert the metal spline into the provided groove cut into the edge of the panel until both panels touch.
8. This process would **continue until all perimeter walls have been covered with wall panels**.
9. Once completed, **corner trim profiles would then be installed by screws or a thin double-stick adhesive** not showing any screws.



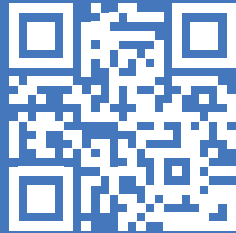
High-quality Noncombustible Panels Protect Life And Property



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Since 1990, **Panel Specialists, Inc. (PSI)** has earned an unparalleled reputation for craftsmanship and industry expertise in **developing furniture and interior building products** that exceed expectation for **design, durability and quality**. Dedicated to transforming the visions of architects and designers into beautiful realities, **we provide unmatched quality and selection while being mindful of sustainability** – all wrapped in a promise for outstanding customer service in all facets of our business. Each and every day, **we proudly bring distinct, enduring visual appeal that enhances today's demanding interior environments** in which people live, learn, heal, work and play.