

# VIZYON INNOVATIVE INSULATION LTD. MARINE INTERIOR INSULATION PRODUCTS CATALOG

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MARINE - DEFENSE INDUSTRY - OFFSHORE - RAILWAYS - TRANSPORT

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New generation Sound & Vibration control, Condensation and  
Corrosion control, High temperature & Cryogenic Thermal  
Insulation and Passive Fire Protection solutions

Vizyon Innovative Insulation  
Energy and Engineering Ltd. Corp.  
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# PROMARINE<sup>®</sup>-450T

<b>Colour</b>	Off-white		
<b>Surface conditions</b>	Smooth, sanded		
<b>Nominal density (tolerance)</b> (EN 12467)	kg/m <sup>3</sup>	450 (±15%)	
<b>Reaction to fire</b>	Non-combustible Certificate Number: 164.109/1121 /WCL MED 475TE		
<b>Class divisions</b>		A0 Bulkhead	A60 Bulkhead
<b>Panel thickness</b>	mm	19	19+19 with 10mm air gap
<b>Panels joint <sup>1)</sup></b>		Solid spline	Solid Spline
			B15 Bulkhead 19
			Solid spline, "C" spline or Omega joint
<b>Thermal conductivity</b> 20 °C (hot wire method)	W/mK	0.138	
<b>Alkalinity</b>	pH	7-10	
<b>Coefficient of expansion <math>\alpha</math></b>	m/mK	2.4 · 10 <sup>-6</sup>	
<b>Moisture movement</b>	%	< 0.1 (ambient to saturated)	
<b>Moisture content</b>			
Typical	%	< 5 (at despatch)	
Maximum		< 12	
<b>Bending strength</b> (oven dry, EN 12467)	N/mm <sup>2</sup>	> 2.2	
<b>Compressive strength</b> (oven dry, EN 12467)			
5% deformation	N/mm <sup>2</sup>	5	
10% deformation	N/mm <sup>2</sup>	10	
<b>Quality assurance</b>	N/mm <sup>2</sup>	Module D. Certificate WCL MED164.109/1121/0475QA	

## Acoustic properties

<b>Thickness</b>	mm	19	19+19 (+10mm air gap)
<b>R<sub>w</sub> index (ISO 717/1)</b>	dB	27 <sup>2)</sup>	36

## Dimensions (standard)

<b>Thickness (tolerance)</b>	mm	16 (±0.4, double sanded)	19 (±0.4, double sanded)
<b>Width (tolerance)</b>	mm	1220 (±1)	1220 (±1)
<b>Length (tolerance)</b>	mm	2440 (±1)	2440 (±1)

## PROMARINE®-450T

### Areas of application

- A, B & C Class constructions
- Compartmentation
- Linings
- Non-combustible furniture

### Workability

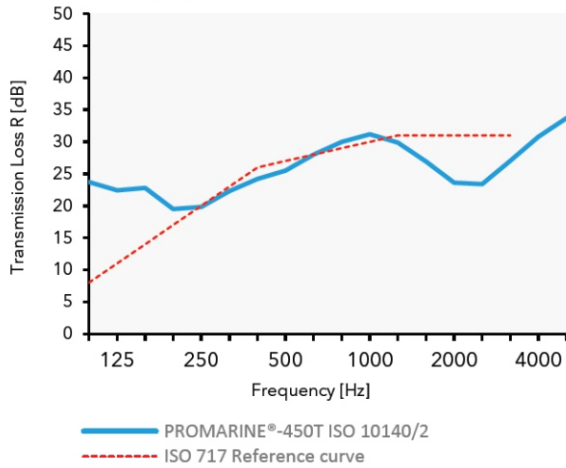
PROMARINE®-450T can be cut using normal woodworking tools or by using circular blades. During cutting operations use personal protective equipment (see below).

### Handling

PROMARINE®-450T should be worked and installed using appropriate personal protective equipment (PPE). Use protective gloves, glasses, suitable respiratory equipment

### Acoustic properties

19mm,  $R_w=27$  [dB]



to avoid health effects, and suit. Use dust extraction when worked inside. After use, thoroughly wash hands and any other parts that could have been in contact with the material. For further information refer to Safety Information Sheet.

### Waste disposal

Refer to local legislation. If not available: The board is not classified as a dangerous substance and so no special provisions are required regarding the carriage and disposal of the product to landfill.

### Storage

Store on a flat surface, in a dry area.

### Class divisions - joint drawings

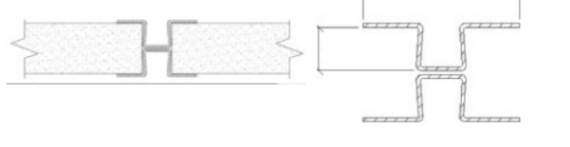
#### Solid spline



#### "C" spline



#### Omega joint





### PROMARINE<sup>®</sup>-640T



#### Product description

PROMARINE<sup>®</sup>-640T is a non-combustible autoclaved calcium silicate board, formulated without asbestos and formaldehyde, with excellent fire performance.

#### Properties

- smooth and consistent surface finish
- suitable for bonding with high pressure laminates
- easy to work, cut and fix
- moisture resistant

Technical data					
Colour	Off-white				
Surface conditions	Smooth, sanded				
Nominal density (tolerance) (EN 12467)	kg/m <sup>3</sup>	640 (±10%)			
Reaction to fire	Non-combustible Certificate Number: 164.109/1121/WCL MED 476TE				
Class divisions		A0 Bulkhead	B0 Bulkhead	B15 Bulkhead	B15 Bulkhead
Panel thickness	mm	12.7	12.7	19	12.7+12.7 with 48 mm air gap
Panels joint <sup>1)</sup>		Solid spline	Solid spline	Solid spline, "C" spline or Omega joint	Omega joint
Thermal conductivity 20 °C (hot wire method)	W/mK	0.194			
Alkalinity	pH	7-10			
Coefficient of expansion $\alpha$	m/mK	3·10 <sup>-6</sup>			
Moisture movement	%	< 0.1 (ambient to saturated)			
Moisture content					
Typical	%	< 5 (at despatch)			
Maximum	%	< 12			
Bending strength (oven dry, EN 12467)	N/mm <sup>2</sup>	> 3			
Compressive strength (oven dry, EN 12467)					
1% deformation	N/mm <sup>2</sup>	2			
5% deformation	N/mm <sup>2</sup>	10			
Quality assurance	N/mm <sup>2</sup>	Module D. Certificate WCL MED164.109/1121/0476QA			

<sup>1)</sup> See specific drawings on page 2.

Acoustic properties				
Thickness	mm	12.7	19	12.7+12.7
R <sub>w</sub> index (ISO 717/1)	dB	29	30 <sup>2)</sup>	36

<sup>2)</sup> See ISO 10140/2 curve on page 2.

Dimensions (standard)				
Thickness (tolerance)	mm	9.5 / 12.7 / 15.9 / 19.1 / 22.2 / 25.4 (±0.4, double sanded)		
Width (tolerance)	mm	1220 (±1)		
Length (tolerance)	mm	2440 (±1)		

Areas of application, workability, handling, waste disposal, storage, acoustic curve, joint drawings:

see page 2.



### PROMARINE<sup>®</sup>-640T

#### Areas of application

- Ideal for installation and application in the marine market for A, B and C Class divisions.

#### Workability

PROMARINE<sup>®</sup>-640T can be cut using normal woodworking tools or by using circular blades. During cutting operations use personal protective equipment (see below).

#### Handling

PROMARINE<sup>®</sup>-640T ISO 10140/2 should be worked and installed using appropriate personal protective equipment (PPE). Use protective gloves, glasses, suitable respiratory equipment to avoid health effects, and suit. Use dust

extraction when worked inside. After use, thoroughly wash hands and any other parts that could have been in contact with the material. For further information refer to Safety Information Sheet.

#### Waste disposal

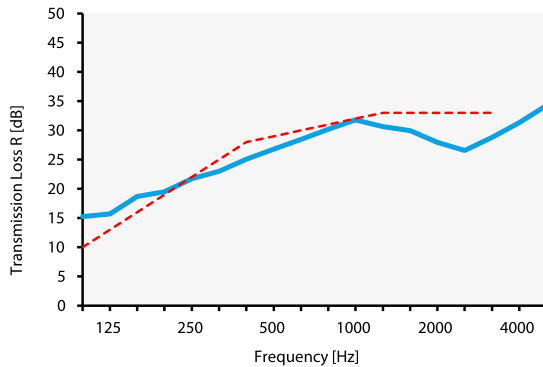
Refer to local legislation. If not available: The board is not classified as a dangerous substance and so no special provisions are required regarding the carriage and disposal of the product to landfill.

#### Storage

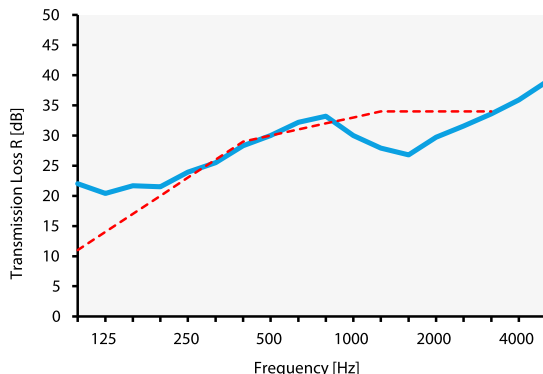
Store on a flat surface, in a dry area.

#### Acoustic properties

12.7mm, R<sub>w</sub>=29 [dB]



#### 19.0mm, R<sub>w</sub>=30 [dB]



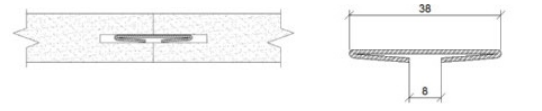
— PROMARINE<sup>®</sup>-640T ISO 10140/2  
 - - - ISO 717 Reference curve

#### Class divisions – joint drawings

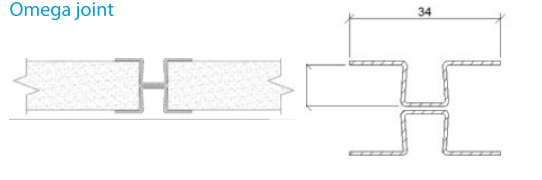
##### Solid spline



##### "C" spline



##### Omega joint



All specified technical data are mean values from the production which are subject to the usual fluctuations and do not represent guaranteed properties in the sense of a guarantee. All information corresponds to the current state of the art and has been presented and described to the best of our knowledge. Changes due to new findings are possible, errors and misprints are not excluded. With regard to any liability, our delivery and payment terms apply exclusively. Request safety datasheet. With the publication of this edition, all previously published datasheets are invalid.  
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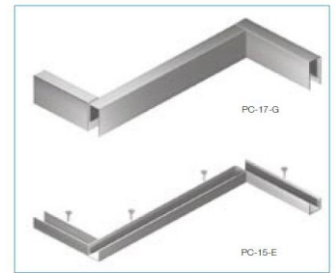
## 'B15' RATED BULKHEAD

As it is not possible to cover every eventuality on every ship, we have based this example on a 'B15' rated partition, using 19.1mm thick Promarine 640 bonded both sides with 0.8mm thick high pressure laminates.

### Bulkhead installation instructions

#### Detail 1 - Top and Bottom Channels

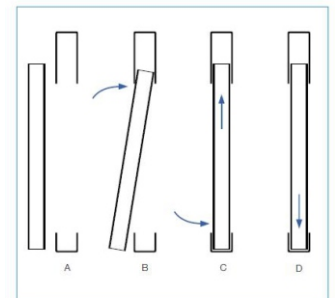
The first step on any installation is the 'marking off' of the positions of the bulkhead or partition. This is usually done with a chalk line marked on the deck. Bottom channels (PC-15-E) are then cut to length and positioned on this line. Bottom channels can be secured to the deck by either tack welding or attached using self tapping screws, dependant on deck surface material. Top channels (PC-17-G) can then be marked off and attached to the deck head, again by either tack welding or self tapping screws. Great care must be taken to align top and bottom channels. Use of 'plumb lines' and/or 'spirit levels' is only recommended if the vessel is in drydock.



Detail 1

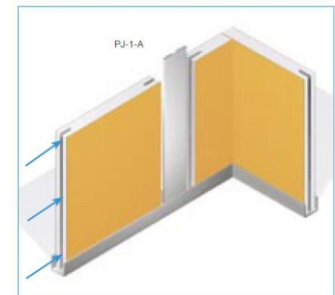
#### Detail 2 - Panel Insertion

PROMARINE<sup>®</sup>-640 panels can now be trimmed to the correct length and width and inserted into the top and bottom channels by following the simple procedure indicated on Detail 2.



#### Detail 3 - 'C' Spline Joint

'C' spline (PJ-1-A) joints are also known as 'secret fix' as only the panel edge can be seen after installation. Panels are supplied with grooves cut into the long edges, together with the necessary 'C' splines. It is recommended that the 'C' splines used are supplied by Promat in order to guarantee correct fit. Starting at a corner, panels are simply pushed together as shown, ensuring that the flat side of the 'C' spline is facing the decorative side of the panels.

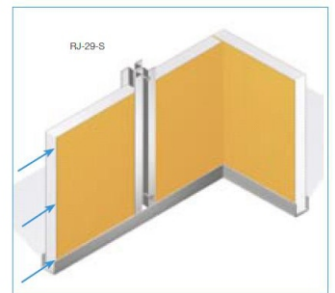


Detail 3

#### Detail 4 - Omega Joint

Omega joints (RJ-29-S) are generally used in complex areas and where panels may have to be removed from time to time.

This method allows an individual panel to be removed without disturbing the adjacent panel. The omegas should be trimmed to the required length and loosely screwed together using the screws supplied, and inserted between the panels as shown. As with the 'C' spline, starting at a corner, panels are pushed together into the omegas, and the screws tightened until a tight fit is achieved.



Detail 4

### **Detail 5 - Corners**

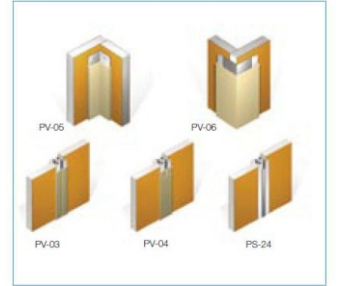
Panel runs usually terminate at either 'T' junctions or corners, and are accommodated by using internal angles (PA-30-B) and external angles (PA-50-B) where appropriate. Both profiles are simply screwed to the panels as shown, using the screws provided. For angles other than 90°, PA-5-B and PA-10-B equal angles are used, although the enclosed angle must be specified. An aesthetic alternative to steel corners would be to employ postformed elements – details available on request.



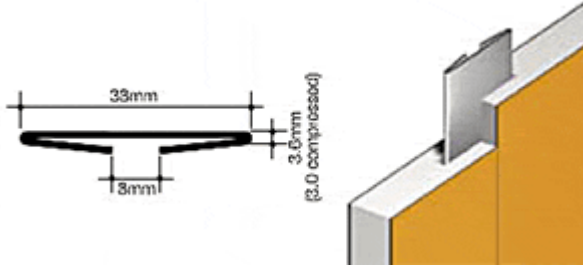
Detail 5

### **Detail 6 - Cover Strips**

The system is complete when the cover strips are introduced to 'hide' profiles. Omegas are concealed with PV-03 or PV-04 cover strips, or highlighted with a PS-24 insert. PA-30-B internal angles are covered with PV-05 cover strips and PA-50-B external angles are concealed with PV-06 cover strips. All cover strips are simply pushed into position.

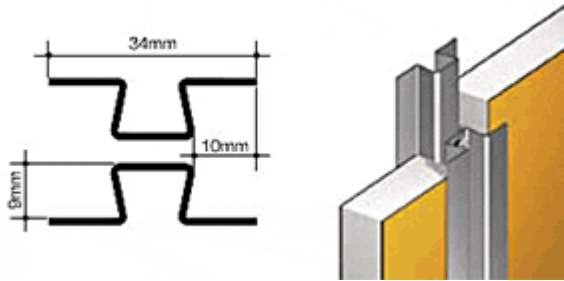


Detail 6



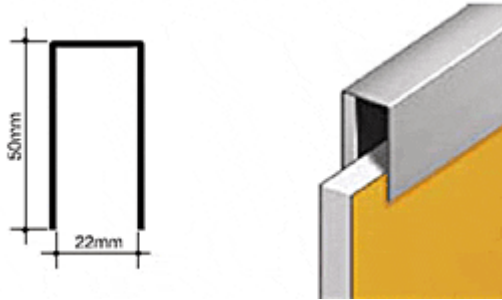
### PJ-1A C Spline

- Length:** 96" or 2440mm  
**Thickness:** 1/32" or 0.8mm  
**Weight:** 2lbs or 0.44kg/m  
**Finish:** Galvanized sheet metal  
**Note:** Install with flat face toward decorative side of panel.



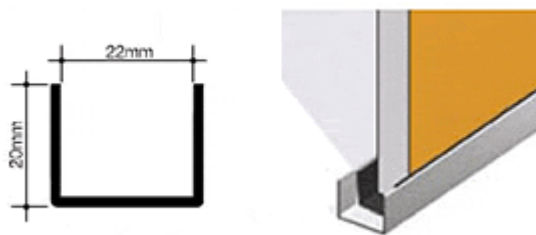
### RJ-29-S Double Omega

- Length:** 96" or 2440mm  
**Thickness:** 1/32" or 0.8mm  
**Weight:** 3lbs or 0.66kg/m  
**Finish:** Galvanized sheet metal  
 Powder coated  
 Stainless steel



### PC-17-G Top Channel

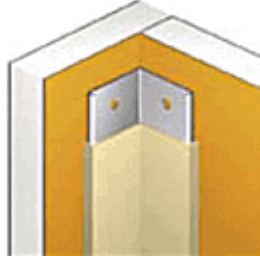
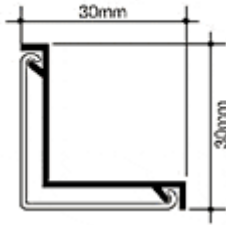
- Length:** 96" or 2440mm  
**Thickness:** 1/16" or 1.5mm  
**Weight:** 7.4lbs or 1.41kg/m  
**Finish:** Galvanized sheet metal  
 Powder coated  
 Stainless steel  
**Note:** Can be installed with self-adhesive anti-vibration gasket.



### PC-15-E Bottom Channel

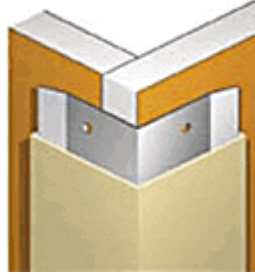
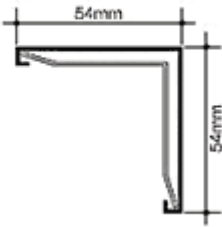
- Length:** 96" or 2440mm  
**Thickness:** 1/16" or 1.5mm  
**Weight:** 3.8lbs or 0.7kg/m  
**Finish:** Galvanized sheet metal  
 Powder coated  
 Stainless steel  
**Note:** Can be installed with self-adhesive anti-vibration gasket.





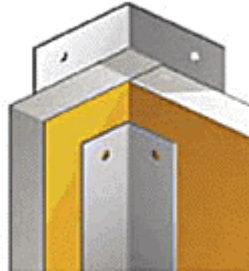
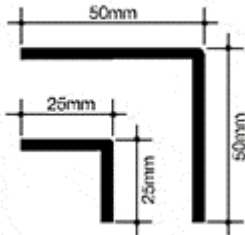
### PA-30-B / PV-05 Internal Angle c/w Cover Strip

- Length:** 96" or 2440mm  
**Thickness:** 1/32" or 0.8mm  
**Weight:** 2.9lbs or 0.51kg/m  
**Finish:** White  
 Beige  
**Note:** Install using only No.6 x 16mm long countersunk screws.



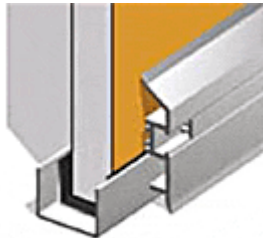
### PA-50-B / PV-06 External Angle c/w Cover Strip

- Length:** 96" or 2440mm  
**Thickness:** 3/64" or 1.2mm  
**Weight:** 1.3lbs or 1.16kg/m  
**Finish:** White  
 Beige  
**Note:** Install using only No.8 x 16mm long panhead screws.



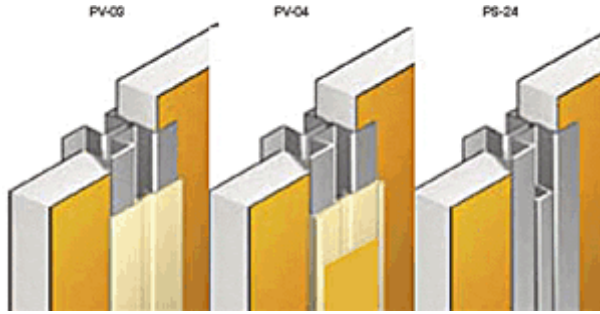
### PA-5-B / PA-10-B Equal Angles

- Length:** 96" or 2440mm  
**Thickness:** 1/16" or 1.5mm  
**Weight:** 2.7lbs or 0.56kg/m PA-5-B  
 5lbs or 1.15kg/m PA-10-B  
**Finish:** Galvanized sheet metal  
 Powder coated  
 Stainless steel  
**Note:** Also available with various lengths and angles.



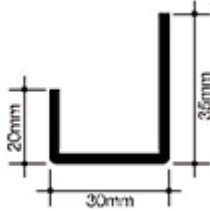
### SK-01 / SK-02 Skirting

- Length:** 96" or 2440mm  
**Thickness:** 1/16" or 1.5mm  
**Weight:** 1lb or 0.2kg/m  
**Finish:** Grey  
**Note:** Other colors available, subject to minimum order quantities for large projects.



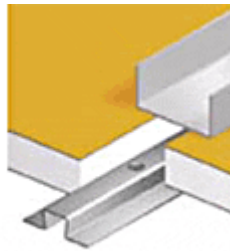
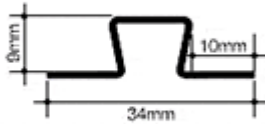
### PV-03 / PV-04 / PS-24 Omega Cover Strips

<b>Length:</b>	96" or 2440mm
<b>Thickness:</b>	3/64" or 1.2mm PV-03/04 1/32" or 0.8mm PS-24
<b>Weight:</b>	0.6lbs or 0.073kg/m PV-03/04 1.2lbs or 0.17kg/m PS-24
<b>Finish:</b>	White / Beige PV-03/04 Galvanized Sheet Metal Powder coated Stainless steel PS-24
<b>Note:</b>	PV-04 supplied with matching laminate insert.



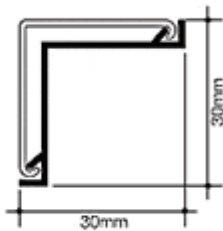
### PC-30 -T Perimeter Channel

<b>Length:</b>	96" or 2440mm
<b>Thickness:</b>	3/64" or 1.2mm
<b>Weight:</b>	4.2lbs or 0.94kg/m
<b>Finish:</b>	Galvanized sheet metal
<b>Note:</b>	Supplied pre-drilled for ease of installation.



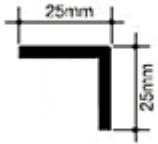
### RJ-28-S Single Omega

<b>Length:</b>	96" or 2440mm
<b>Thickness:</b>	1/32" or 0.8mm
<b>Weight:</b>	1.9lbs or 0.33kg/m
<b>Finish:</b>	Galvanized sheet metal Powder coated Stainless steel
<b>Note:</b>	Omega cover strips PV-03, PV04 or PS-24 should be fitted after installation.



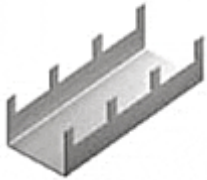
### PA-30 -B / PV-05 Internal Angle c/w cover strip

<b>Length:</b>	96" or 2440mm
<b>Thickness:</b>	1/32" or 0.8mm
<b>Weight:</b>	2.9lbs or 1.51kg/m
<b>Finish:</b>	White Beige
<b>Note:</b>	Install using No.6 x 16mm long (wall), No.6 x 25mm Lg (ceiling) countersunk screws.



### H400 Hanger Angle

- Length:** 9" or 228mm  
**Thickness:** 1/16" or 1.5mm  
**Weight:** 1lb or 0.5kg/m  
**Finish:** Galvanized sheet metal  
**Note:** For voids up to 228mm. Other lengths available to suit various void spaces. Tack weld or bolt to overhead stiffeners.



### CB-2-40 Straight Connector

- Length:** –  
**Thickness:** 1/32" or 0.8mm  
**Weight:** 0.4lb or 0.074kg each  
**Finish:** Galvanized sheet metal  
**Note:** Install using standard pilers.



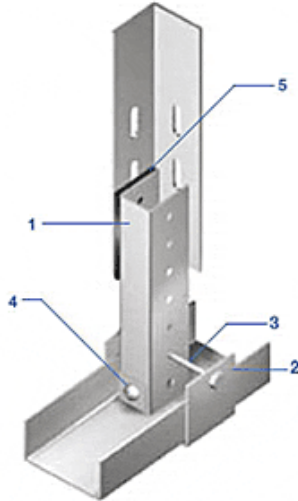
### CB-3-40 Three Way Joint

- Length:** –  
**Thickness:** 1/32" or 0.8mm  
**Weight:** 0.28lb or 0.038kg each  
**Finish:** Galvanized sheet metal  
**Note:** Install with flat face toward decorative side of panel.



### CB-4-40 Four Way Joint

- Length:** –  
**Thickness:** 1/32" or 0.8mm  
**Weight:** 0.35lb or 0.076kg each  
**Finish:** Galvanized sheet metal  
**Note:** Install using standard pilers.



### HA-40 Adjustable Hanger Assembly

<b>Length:</b>	-
<b>Thickness:</b>	-
<b>Weight:</b>	1lb or 0.06kg each
<b>Finish:</b>	Galvanized sheet metal
<b>Note:</b>	5. Anti-vibration gasket can be installed to minimise possible sound transmission. Adjustable hanger comprises:
	1. PC-105 Pre-drilled channel c/w 2 screws
	2. HB-40 Hanger Bracket
	3. SB-55 M6 Spidle Bolt c/w Nyloc Nut
	4. UN-15 'U' -nut c/w locking screw



## EC TYPE EXAMINATION (MODULE B)

CERTIFICATE No. MED467421CS/001

**This is to certify** that RINA Services S.p.A. (Notified Body No. 0474) did undertake the relevant type approval procedures for the equipment identified below, which was found to be in compliance with the Fire Protection requirements of Marine Equipment Directive (MED) 2014/90/EU, including the requirements and testing standards of Regulation (EU) 2021/1158.

<i>MED Item N°</i>	<b>MED/3.11a</b>
<i>USCG Category N°</i>	<b>164.107</b>
<i>Description</i>	<b>'A' and 'B' Class divisions fire integrity: (a) 'A' Class divisions</b>
<i>Type</i>	<b>A-60 class division - 19mm Thick PROMARINE (R)-450T Wall panel system</b>
<i>Applicant</i>	<b>Promat Research and Technology Centre</b> Bormstraat 24 2830 Tiselt BELGIUM
<i>Testing standards</i>	<b>IMO Res. MSC.307(88)-(2010 FTP Code) - IMO MSC.1/Circ. 1435</b>
<i>Reference standards</i>	<b>Chap. II-2 of SOLAS 74 Convention, as amended, RINA Rules for the certification of Marine Equipment</b>

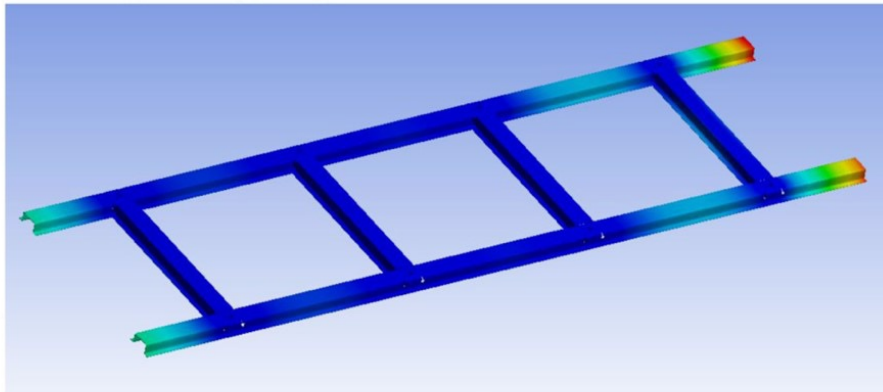
Issued in Genoa on  
August 26, 2021

This Certificate is valid until  
August 25, 2026

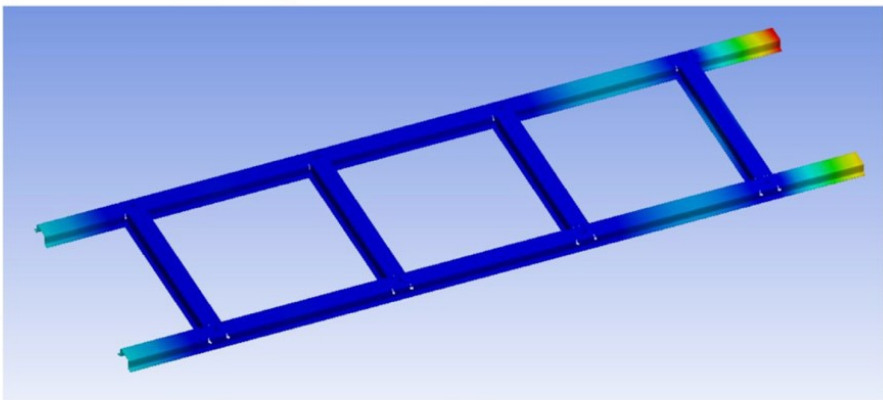
This Certificate consists of this sheet plus an attachment

**Enrico Cabella**  
RINA Services S.p.A.

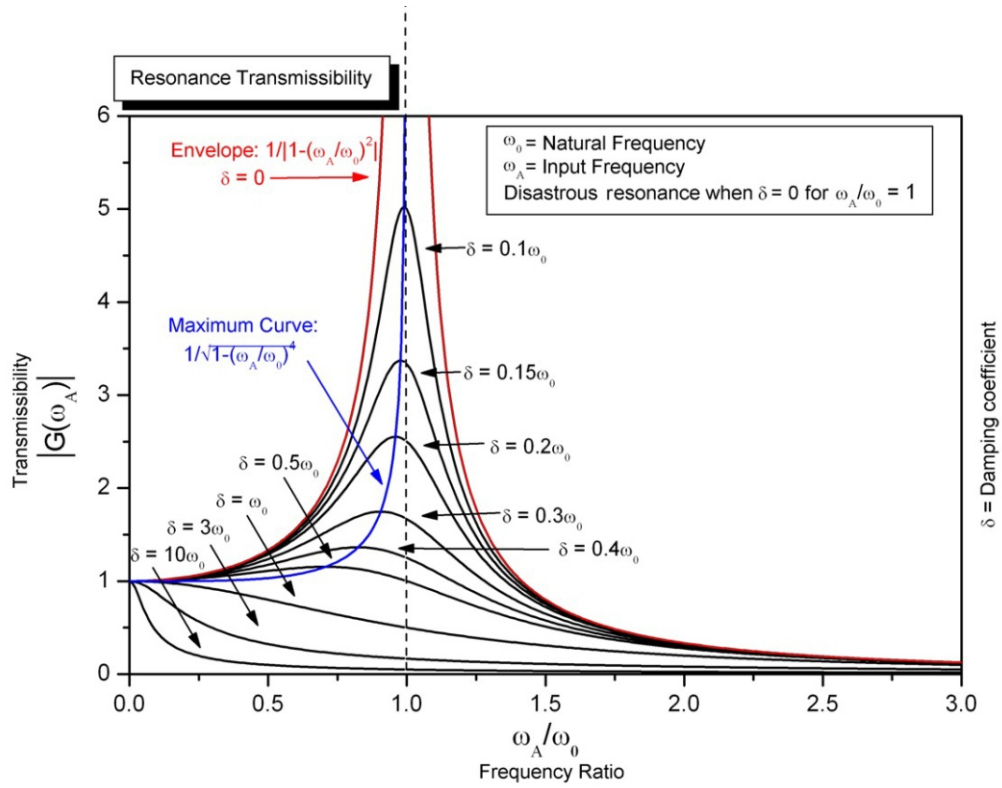
## THE CONCEPT OF A FLOATING FLOOR SYSTEM

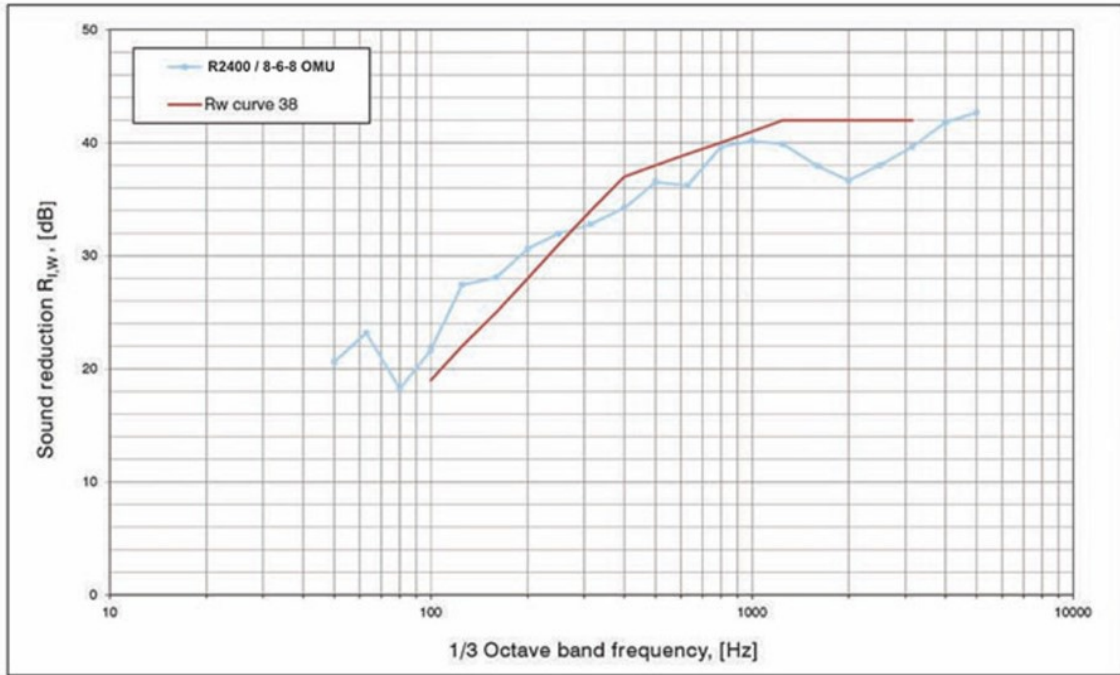


Aluminium first mode shape at 257 Hz



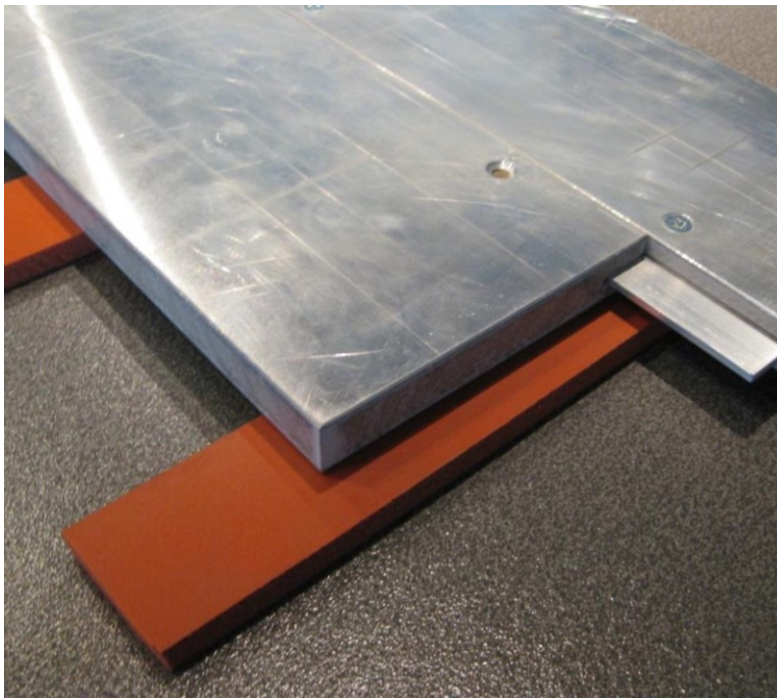
Stainless Steel first mode shape at 270 Hz





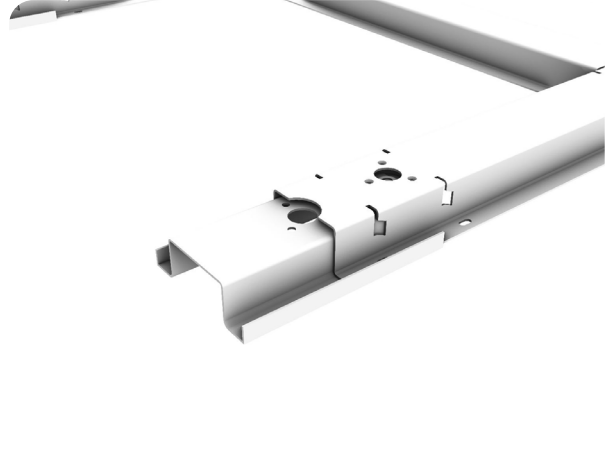
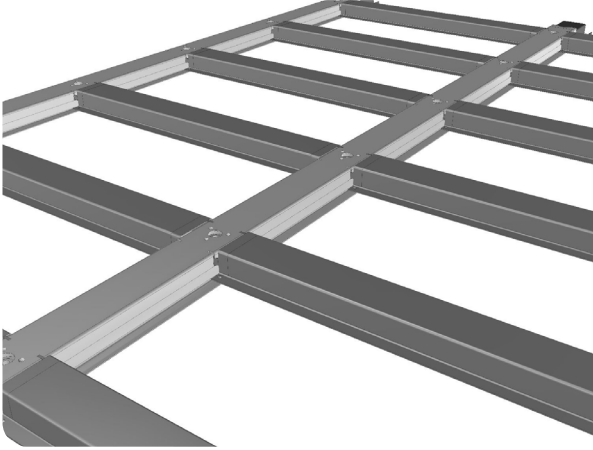
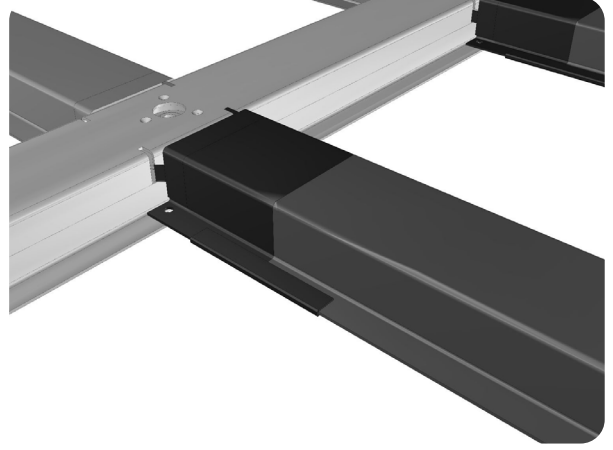
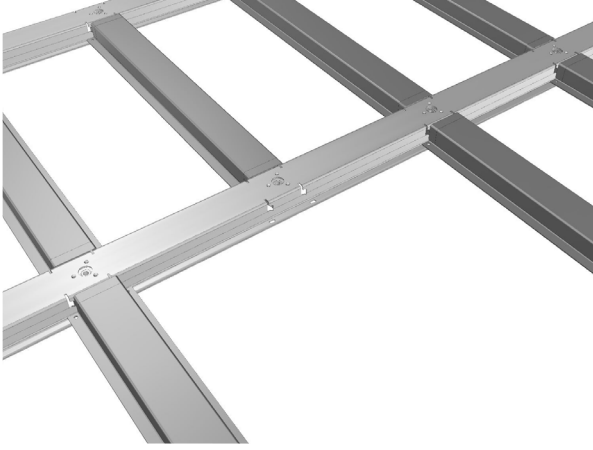
Frequency, f [Hz]	1/3 Octave Band																				
	50	63	80	100	125	160	200	250	315	400	500	630	800	1000	1250	1600	2000	2500	3150	4000	5000
Reduction, [dB]	20.6	23.2	18.2	21.7	27.4	28.1	30.6	32.0	32.8	34.2	36.5	36.2	39.6	40.2	39.9	37.9	36.7	38.0	39.6	41.8	42.7

Drum coustic (composition mm)



Drumarkon S loor panel comined with BS elastomer

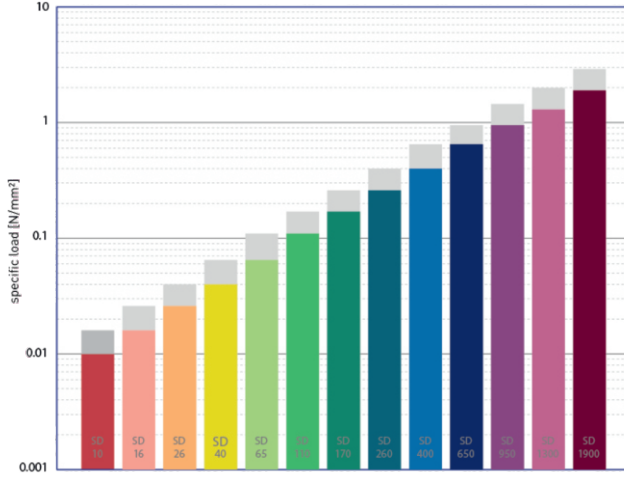
SYSTEM FLOOR  
**GALLERY**







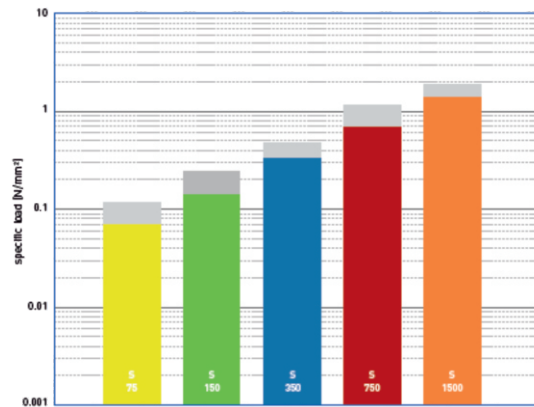
**VIBRATION CONTROL PRODUCT LINE**



**VIBRAFOAM**

This product is a two-component, polyurethane based, vibration damping compound, which is used for floor applications and developed for marine and offshore industries in order to decrease the structural noise and vibration, also for meeting the market demand. It is viscoelastic, light and mostly used for main floor layer or as an under layer in various floor linings.

[www.vizyonendustriyelyalitim.com/uploads/pdf/KRAIBURG\\_PuraSys\\_vibrafoam\\_vibradyn.pdf](http://www.vizyonendustriyelyalitim.com/uploads/pdf/KRAIBURG_PuraSys_vibrafoam_vibradyn.pdf)

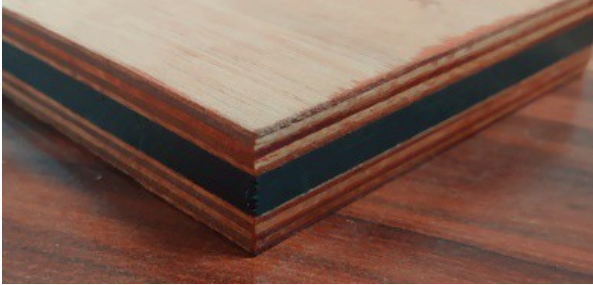


**VIBRADYN**

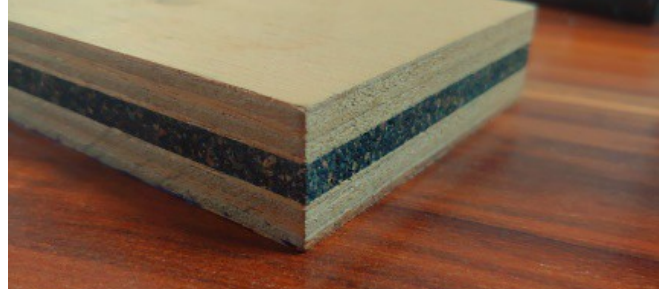
It increases acoustic comfort on leveling floors of ships and comfort boats and prevents transmission of vibrations to the structure. It is defined as Class E in DIN EN ISO 11925-1.

VIBRADYN S-75, VIBRADYN S-150, VIBRADYN S-350, VIBRADYN S-750, VIBRADYN S-1500

**IMPACT SOUND ABSORBENT PLYWOOD COMPOSITE PANELS**



**VSP-HL PANEL**



**ACM-CR PANEL**

**IMPACT SOUND ABSORBENT PLYWOOD COMPOSITE PANELS**

PRODUCT NAME	PANEL	BARRIER MATERIAL	BARRIER MATERIAL DENSITY	PANEL WEIGHT ( KG )	NOISE REDUCTION RW CURVE
PRODUCT NAME	PANEL	BARRIER MATERIAL	BARRIER MATERIAL DENSITY	PANEL WEIGHT ( KG )	NOISE REDUCTION RW CURVE @1/3 125 Hz
VSP HL 12 : VIZYON SOUND PANEL HL ( 4-4-4 ) 1.20 X 2.42 M	12 MM.	MASS LOADED HEAVY LAYER	1778 Kg./m <sup>3</sup>	33 Kg	16.2
VSP HL 18 : VIZYON SOUND PANEL HL ( 6-6-6 ) 1.20 X 2.42 M	18 MM.	MASS LOADED HEAVY LAYER	1778 Kg./m <sup>3</sup>	49 Kg	19.0
VSP HL 22 : VIZYON SOUND PANEL HL ( 8-6-8 ) 1.20 X 2.42 M	22 MM.	MASS LOADED HEAVY LAYER	1778 Kg./m <sup>3</sup>	57 Kg	19.3
ACM 650 CR 12 : VIZYON SOUND PANEL CR ( 4-4-4 ) 1.20 X 2.42 M	12 MM.	CORK RUBBER	650 Kg./m <sup>3</sup>	20,6 Kg	15.5
ACM 950 CR 18 : VIZYON SOUND PANEL CR ( 6-6-6 ) 1.20 X 2.42 M	18 MM.	CORK RUBBER	650 Kg./m <sup>3</sup>	31,50 Kg	18.1
ACM 950 CR 22 : VIZYON SOUND PANEL CR ( 8-6-8 ) 1.20 X 2.42 M	22 MM.	CORK RUBBER	650 Kg./m <sup>3</sup>	39,50 Kg	22.1
ACM 950 CR 26 : VIZYON SOUND PANEL CR ( 10-6-10 ) 1.20 X 2.42 M	26 MM.	CORK RUBBER	650 Kg./m <sup>3</sup>	43,50 Kg	22.1



**FLOATING SYSTEM ACOUSTICAL SEALANT**

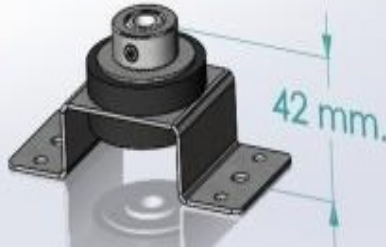
products are used for sound and fire insulation on floating systems and cabin to cabin passages. It blocks fire, gas and smoke transmission for 4 hours and increases sound insulation.

## VIBRATION ISOLATOR SERIES

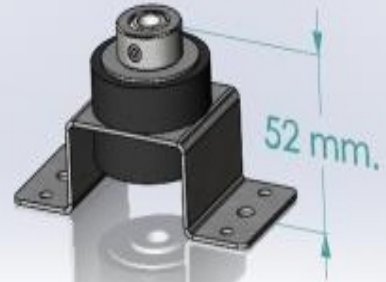
**TYPE VZN 32**



**TYPE VZN 42**



**TYPE VZN 52**



**TYPE Z 95**



**TYPE L 100**



**TYPE U 64**



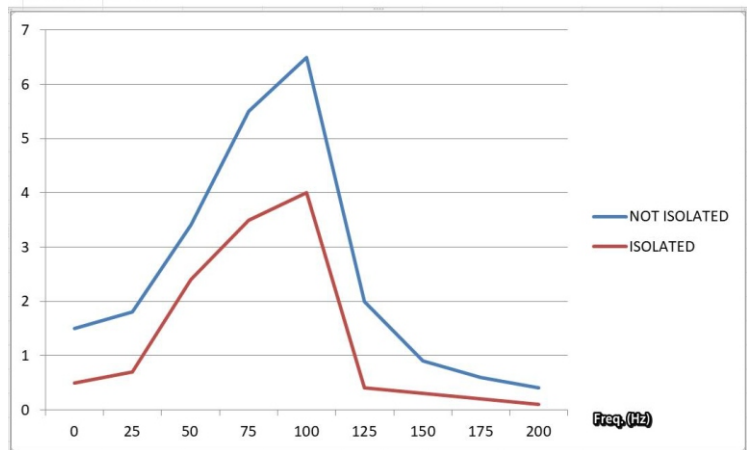
Modüler Internal Gear Stud  
Stainless Steel - A2304

VZN-VIBRATION ISOLATORS / M8  
TYPE : VZN 32, 42, 52, L, Z and U  
Anti vibration mount adjustable,  
for interiors and mechanical rooms

- Structure-borne noise damping
- Effective solutions at short distances
- Possibility to use in many positions
- Non-contact ergonomic structure
- Maximum payload : 25 KG
- Tensile strength: 2000 N

Build status : Galvanized steel ( 2mm )  
Rubber hardness : Standart 50 Shore / Or in  
desired hardness  
Standard Building Heights : 32 42 and 52 MM

Permeability coefficient



Vibration frequency should be less than the natural frequency of the system. An increase in the stiffness of the wedges increases the natural frequency and leads to a decrease in the dimensionless frequency ratio, in addition, an increase in the damping coefficient also reduces the resonance amplitude and reduces the relative position permeability.



**PRODUCT DESCRIPTION**

TEROSON MS 935 provides the following product characteristics:

<b>Technology</b>	Silane-modified polymer
<b>Product Type</b>	Adhesive/Sealant
<b>Components</b>	One-component
<b>Cure</b>	Humidity
<b>Application</b>	Assembly
<b>Appearance</b>	White,Grey,Black
<b>Consistency</b>	Pasty,Thixotropic
<b>Odor</b>	Characteristic

TEROSON MS 935 is a gun-grade, one component sealant based on silane modified polymer, which cures by reaction with moisture to a soft elastic product. The skin formation and curing times are dependent on humidity and temperature, and the curing time also depends on joint depth. By increasing the temperature and moisture these times can be reduced; low temperature as well as low moisture retard the process. . Teroson MS 935 is free of solvents, isocyanates, silicones and PVC, and is odorless. . It demonstrates good adhesion to many substrates and is compatible with suitable paint systems. The sealant also demonstrates good UV resistance and can therefore be used for interior and exterior applications. Teroson MS 935 demonstrates the strength necessary for elastic bonding. Teroson MS 935 is high viscous and sag resistant, creating a high position tack of the parts to be bonded immediately after matching, thus making a fixing of the parts to be bonded in many cases unnecessary. Teroson MS 935 allows accelerated curing as two-component material. See separate data sheets Teroson MS Power & Speed Technology or Teroson MS 2c-Technology.

**Application Areas:**

TEROSON MS 935 can be used for the following applications: Elastic, anti-flutter bonding of metals and plastics (panel stiffeners, roof skins etc)TEROSON MS 935 is used in the photovoltaics industry.Elastic, bonding of wood core plywood to the metal boat deck in ship building industry Elastic, interior and/or exterior seam and joint sealing in the following areas. vehicle body, railway carriage, container and general metal construction; the equipment, electrical, plastics, air- conditioning and ventilation industries

**TECHNICAL DATA**

Density,white,grey,black,g/cm³:	approx.1.5
Sag resistance:	no sagging (DIN profile 15mm)
Skin formation time, min*:	5 to 20
Cure rate, mm/24 hrs:	approx. 3
Shore-A-hardness (ISO 868, Durometer A):	approx. 50
Tensile strength(acc. to ISO 37,)MPa:	2.8
Elongation at break (acc. to ISO 37, speed 200 mm/min),%:	approx. 230
Stress at 100 %elongation (acc .to ISO 37), MPa:	approx.1.5
Volume change (acc. to DIN 52451), %:	<2
Paint compatibility:	can be painted (see painting properties)
UV resistance:	no signif. changes
UV source:	Osram Vitalux 300W, dry UV
Distance to the specimen, cm:	25
Test period, weeks:	6
Application temperature, °C:	5 to 40
In service temperature range, °C:	-40 to + 100
Short exposure (up to 1 h), °C:	120
*ISO 291 standard climate:	23°C, 50% relative air humidity

**DIRECTIONS OF USE**

**Preliminary Statement:**

Prior to application it is necessary to read the **Material Safety Data Sheet** for information about precautionary measures and safety recommendations. Also, for chemical products exempt from compulsory labeling, the relevant precautions should always be observed.

**Pre-Treatment:**

The substrates must be clean, dry, oil- and grease free. Depending on the surface it can be necessary to roughen the surface or to use a primer/adhesion promoter to provide best adhesion. . When manufacturing plastics, external release agents are often used; these agents must be accurately removed prior to starting bonding or sealing. Due to the different compositions of paints, especially powder paints and the large number of different substrates, application trials before use are necessary. For cleaning, Cleaner + Diluent A, FL or Teroson SB 450 from the Henkel portfolio are suitable. When bonding and sealing PMMA, e.g. Plexiglas®, and polycarbonate, e.g. Makrolon® or Lexan®, under tension, stress corrosion cracking may occur. Application trials before use are necessary. There is no adhesion to polyethylene, polypropylene and PTFE. Substrates not mentioned above should be subject to trials.



# VIZYON<sup>®</sup>

## ENDÜSTRİYEL



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**SILENCE FOR SAFETY AND COMFORD**