

MARINE NOISE & HEAT CONTROL



CELSUS 
we deliver enjoyment



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WHO WE ARE

OUR STORY

Dynamat, Inc. is a privately held corporation located in Hamilton, Ohio, USA. Established in 1989, the company markets acoustic environmental solutions for Automotive, Marine, Architectural and Commercial applications.

OUR PRODUCTS

Dynamat's patented formulas offer unmatched performance across multiple industries, backed by independent testing. Dynamat solutions are designed to eliminate unwanted noise and heat to deliver a more enjoyable experience.

Dedicated to absolute product quality, overseeing every aspect from their U.S. headquarters for "better sound everywhere".



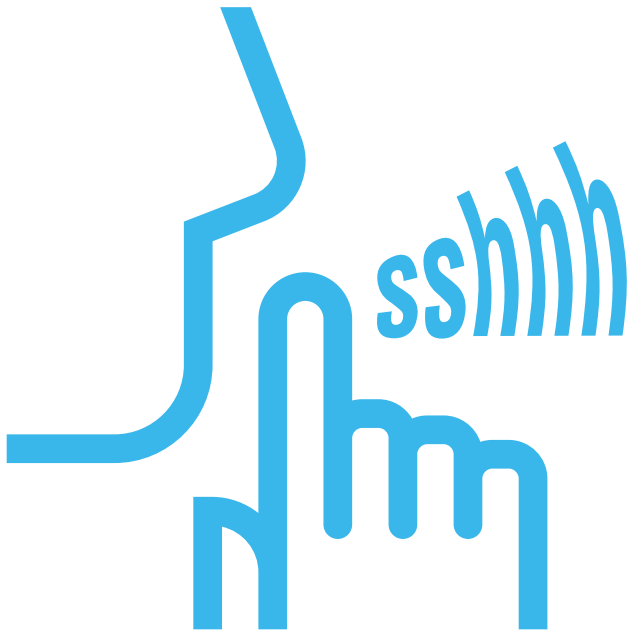
OUR NETWORK

In 2010, Celsus UK Limited became Dynamat's European distributor, expanding the expert sales network. Established in 2003, Celsus UK is a trusted UK-based distribution specialist known for their service-focused approach and deep product knowledge. Since 2014, Dynamat products have gained prominence in the European marine sector.



OUR MISSION

THE PURPOSE



REDUCE UNWANTED NOISE & VIBRATION

CREATE A NEUTRAL &
COMFORTABLE ACOUSTIC
ENVIRONMENT ONBOARD



GUARANTEE ENJOYMENT ONBOARD, EXCEED EXPECTATION

MANAGE WHAT CANNOT BE ELIMINATED, FOCUS ON COMFORT

CRAFT THE BEST POSSIBLE EXPERIENCE FOR BOAT ENTHUSIASTS

FINEST BOATING ADVENTURES, IMPROVED ENTERTAINMENT

DID YOU KNOW

The World Health Organisation (WHO) defines health as "a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity". Acoustic comfort ensures undisturbed activity, safeguards hearing, promotes mental well-being, and enhances productivity and focus by minimizing noise-related disruptions and psychological stress.

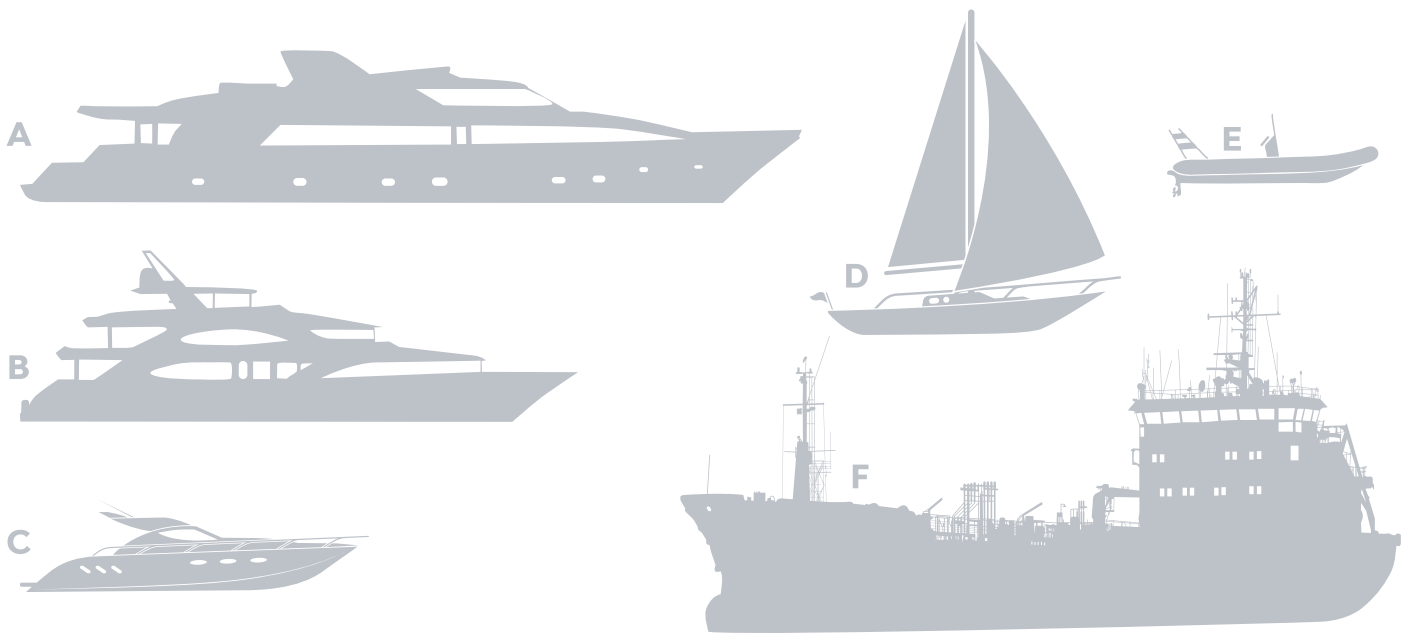
APPLICATIONS

EUROPEAN STYLE BOATS

TACKLING NOISE ON A DIVERSE RANGE OF VESSELS
REQUIRES A MIX OF SOLUTIONS

LEISURE & COMMERCIAL

AT WORK OR ENTERTAINING ONBOARD, BOATER
SAFETY & ENJOYMENT IS VITAL



- (A) MEGA YACHTS
- (B) SUPER YACHTS
- (C) MOTORBOATS

- (D) POWERED SAIL BOATS
- (E) RIGID INFLATABLES
- (F) COMMERCIAL VESSELS

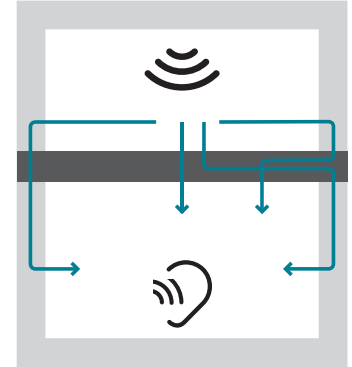
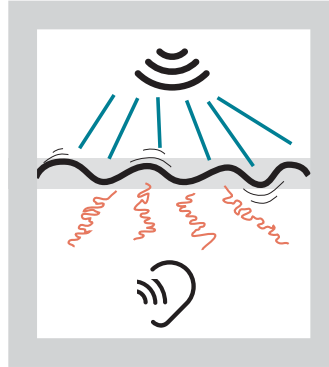
**EXPERTISE
ON HAND**

NOISE SOURCE, LOCATION & SOLUTION WILL
DIFFER BY VESSEL STYLE OR SIZE. OUR EXPERT
TEAM ARE ON HAND TO CONSULT & ADVISE
THE BEST SOLUTION FOR YOUR APPLICATION.

NOISE SOURCES

NOISE (NOUN)

A sound, especially one that is loud or unpleasant or that causes disturbance



NOISE FROM VIBRATION



ONBOARD CONDUCTED NOISE



AUDIO / SOUND MIGRATION

COMMON SOURCES

ENGINE ROOMS & COMPARTMENTS

GENERATORS

THRUSTERS

PUMPS & EQUIPMENT

DECK / CABIN AREAS

WAVE SLAP



"ANNOYING UNDESIRABLE SOUND"

SCIENCE OF SOUND

SOUND OR NOISE?

SOUND IS WHAT WE HEAR. NOISE IS UNWANTED SOUND

SOUND

When this pressure wave reaches our ear, the signal is translated through a complex series of organs into a nervous stimulus. This finally becomes the feeling of sound we experience every day.



NOISE

Related to the subjective judgement of a listening experience; it is commonly defined as an unwanted sound that disturbs the ongoing activities in our daily lives.

AIRBORNE NOISE: the medium carrying the sound energy is air.

STRUCTURAL NOISE: the sound crosses the structure carrying the vibrations from room to room, even when not adjoining

130dB	PLANE TAKE-OFF	140dB	PAIN, DAMAGE TO HUMANS
120dB	AMBULANCE SIREN	130dB	INTENSE DISCOMFORT PAIN
110dB	CLUB, CONCERT	120dB	STRONG DISCOMFORT
95-100dB	TRAIN PASSING	100dB	DISCOMFORT
85-90dB	HEAVY TRAFFIC	80dB	MODERATE DISCOMFORT
60-70dB	NOISY OFFICE	40dB	LACK OF CONCENTRATION
50dB	HOUSEHOLD	20dB	QUIET, SILENCE
35-40dB	FAN	0dB	AUDIBLE THRESHOLD
25-30dB	LIBRARY		
10-15dB	WHISPERING		

TERMINOLOGY

IMPORTANT TERMS

UNDERSTANDING HOW WE TACKLE THE NOISE

DAMPING	A reduction in the amplitude of a vibration as a result of energy being dissipated as molecular level heat, changing one form of energy into another
DECOUPLING	To separate or dissociate (something) from something else to make it harder for sound to pass through
BLOCKING	Reduction in the transmission of unwanted direct sound waves from the source to an involuntary listener through the use of intervening objects in the sound path
ISOLATION	The property of blocking off outside sound through use of materials that reduce sound transmission from the exterior environment into the interior environment
ABSORPTION	Refers to the process by which a material, structure, or object takes in sound energy when sound waves are encountered, acting as a 'sound wave sponge'
DIFFUSION	Process of using a material that scatters sound in different directions eliminating pockets of noise
REFLECTION	The repetition of a sound resulting from reflection of the sound waves against a medium
ATTENUATION	Is a measure of the energy loss of sound transmission in a medium

OUR SOLUTIONS

DYNAMAT XTREME

CONSTRAINED-LAYER DAMPING MATERIAL

PATENTED FORMULA BUTYL WITH AN ALUMINIUM TOP LAYER
1.7MM THICKNESS WITH A WEIGHT OF 2.2 KG/M²

COMBATS: Vibration

CONTROL METHOD: Damping

APPLY TO: Glass reinforced plastic (GRP), metal & solid substrates
Full coverage optimal, 30% upwards sufficient

FIXING METHOD: Self-adhesive (peel and stick) & roller tool.
Always install Xtreme first, direct to substrate

APPLICABLE TO VESSEL TYPES: A-F (see pages 6 & 7)

PERFORMANCE: Acoustic loss factor 0.417 @ +20°C
(Using astm method E756 @ 200 Hz)
[Theoretical maximum loss factor is 1 (no vibration)
undamped 1mm thick steel panel loss factor is 0.001]



STANDARDS:

Meets FMVSS302 (ISO3795)
Meets Salt fog corrosion ASTM B117

PACK TYPE(S) & SKU DETAIL:

Industrial Pack (DYN-ID1001)

9 sheets at 609mm x 1219mm
Total Coverage: 6.68 M²

Utility Pack (DYN50400)

24 pcs at 100mm x 254mm
Total Coverage: 0.62 M²



OUR SOLUTIONS

DYNAMAT DYNACORE

BLACK CORE THERMO-ACOUSTIC FIBER

PROPRIETARY FIRE-RESISTANT FIBER BLEND WITH PET SCRIM FACING.
RESISTANT TO MOISTURE, UV & FUEL - LIGHTWEIGHT & COMPRESSABLE

COMBATS:

Sound transmission, thermal transfer

CONTROL METHOD:

Blocking, isolation, absorption & insulation

APPLY TO:

On top of Xtreme – or direct to any solid substrate
Full coverage required

FIXING METHOD:

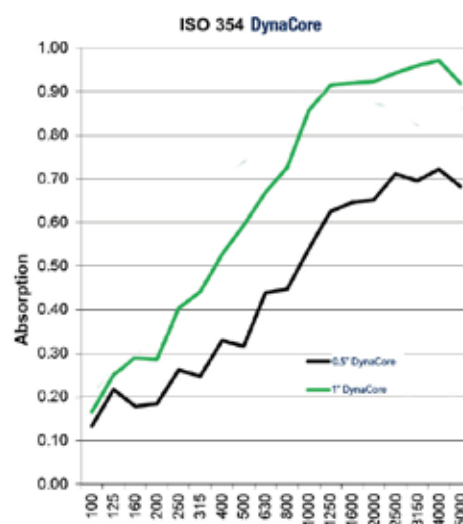
Self-adhesive (peel and stick) & roller tool.
Always install Xtreme first, direct to substrate

APPLICABLE TO VESSEL TYPES:

A-F
(see pages 6 & 7)

PERFORMANCE:

Absorption coefficient
0.97 @ 4KHz
(To ISO354,
1" Dynacore)



STANDARDS:

Meets FMVSS302 (ISO3795), UL94,
UL HF1, UL HBF standards.
Meets Salt fog corrosion ASTM B117.

PACK TYPE(S) & SKU DETAIL:

1/2" Dynacore (DYN11901)

1" Dynacore (DYN11902)

1 sheet at 810mm x 1370mm

Total Coverage: 1.12 M²

DYNAPAD

HEAVY-DUTY 4 LAYER COMPOSITE BARRIER

TWO LAYERS OF SOUND-SOAKER ACOUSTIC FOAM, A VINYL BARRIER & WATERPROOF POLYURETHANE FACING
9.53MM THICK WITH A WEIGHT OF 6.49 KG/M²

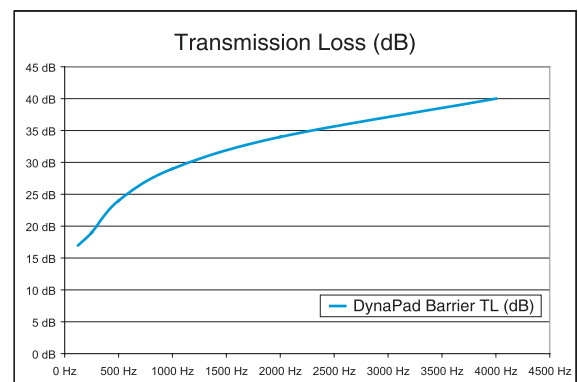
COMBATS: Conducted noise, low frequency sound transmission, heat transfer

CONTROL METHOD: Decoupling, blocking, attenuation, isolation, absorption & dissimilar layer insulating

APPLY TO: On top of Xtreme – any solid substrate
Full coverage required

FIXING METHOD: Spray adhesive and /or mechanical fix

APPLICABLE TO VESSEL TYPES: A - F (see pages 6 & 7)



PERFORMANCE:

Sound transmission class (STC) rating 28

STANDARDS:

Meets FMVSS302 (ISO3795),
UL94-V0 (barrier) & UL94HF (foam)

PACK TYPE(S) & SKU DETAIL:

Dynapad (DYN21100)

1 sheet at 813mm x 1372mm

Total Coverage: 1.11 M²

OUR SOLUTIONS

DYNALINER

ULTRA-LIGHTWEIGHT CLOSED CELL SYNTHETIC RUBBER

THERMAL INSULATOR, ACOUSTIC ABSORBER & ISOLATOR
AVAILABLE IN 3 THICKNESSES

COMBATS:	Sound transmission, thermal transfer
CONTROL METHOD:	Acoustic isolation, absorption, insulation
APPLY TO:	On top of Xtreme – any solid substrate Full coverage required
FIXING METHOD:	Self adhesive with high temp acrylic adhesive
APPLICABLE TO VESSEL TYPES:	A - F (see pages 6 & 7)
PERFORMANCE:	R-value (thermal resistance) 0.07KM ² hr/w, 0.15KM ² hr/w & 0.3KM ² hr/w respectively
STANDARDS:	Meets FMVSS302 (ISO3795), UL 94 HF-1 (DYN11101 & DYN11102), UL 94 HBF (DYN11103)



PACK TYPE(S) & SKU DETAIL:

1/8 (DYN11101) 1 sheet 813mm x 1372mm
Total Coverage: 1.11 M²
3.18mm thick & 0.21KG/M² weight

1/4 (DYN11102) 1 sheet 813mm x 1372mm
Total Coverage: 1.11 M²
6.35mm thick & 0.41KG/M² weight

1/2 (DYN11103) 1 sheet 813mm x 1372mm
Total Coverage: 1.11 M²
12.7mm thick & 0.82KG/M² weight

DYNABOX

A UNIQUE RETROFIT-ABLE CEILING SPEAKER ENCLOSURE

ACOUSTIC BARRIER, SOUND SNAKE & BACK-WAVE FOAM

COMBATS: Audio migration, back-wave distortion, moisture ingress

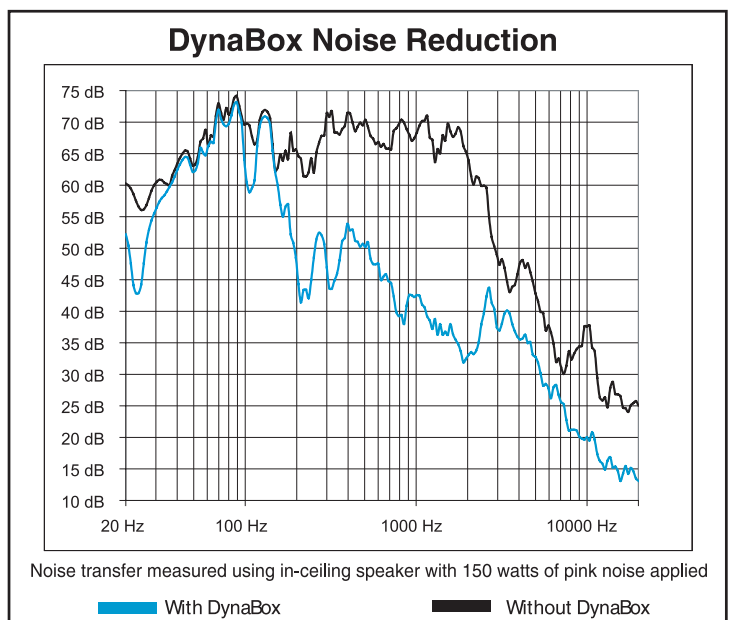
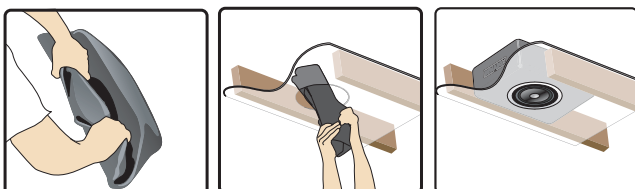
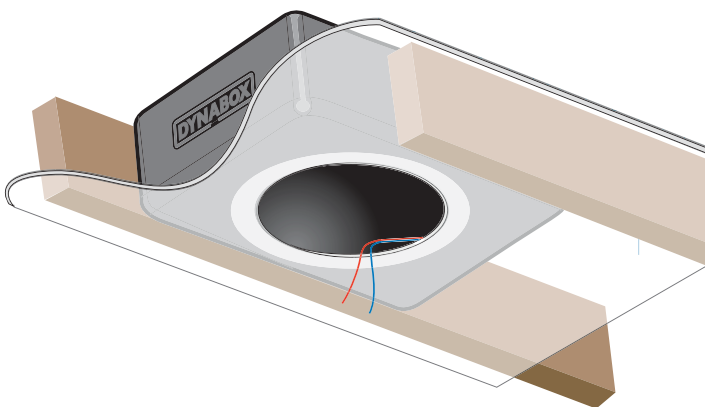
CONTROL METHOD: Blocking, decoupling, absorption, diffusion

INSTALL: In-ceiling behind loudspeakers (space permitting)

FIXING METHOD: Gravity & adhesive (not supplied)

APPLICABLE TO VESSEL TYPES: A & B
(see pages 6 & 7)

PERFORMANCE: STC 28
(Vinyl Enclosure & Dynil)



STANDARDS:

Meets UL94 HF-1

(Sound snake & back-wave foam)

Meets UL94-V0 (Dynil in sound snake)

SKU DETAIL:

Dynabox (DYN50306)

Including: barrier enclosure,
sound snake & back-wave foam

Dimensions 438 x 311 x 165mm

Weight 3.7KG

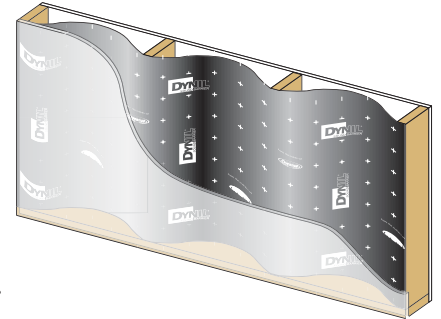


FURTHER MATERIALS

DYNIL (DYN50100)

BLOCK NOISE BETWEEN ROOMS & FLOORS

Reduce noise, isolate listening spaces and maximise sonic privacy. Dynil is a dense, ultra-pliable acoustic barrier that works over a broad frequency range reducing sound transmission.



HOODLINER (DYN11905)

SOUND ABSORPTION & HEAT REFLECTION

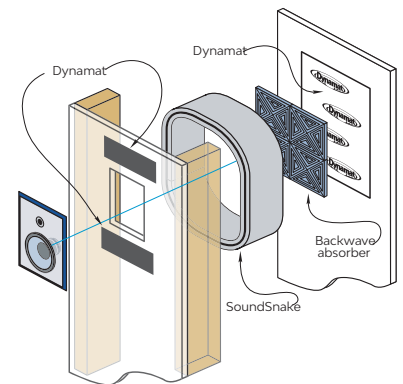
19mm thick polyether urethane based thermo-acoustic foam with a reinforced aluminized facing and pressure sensitive adhesive. Open & closed cell foam with effective sound absorption and 97% heat reflection.



EN-WALL (DYN50504, 50506)

IN-WALL SPEAKER ENCLOSURE

En-wall enclosure systems combine Xtreme, back-wave foam and the sound snake to damp, diffuse and decouple in-wall speakers. Significantly reduces wall vibration, unwanted noise transfer & improves loudspeaker audio quality.



DYNADECK (DYN21200, -03, -06, -09, -12)

ULTRA-DURABLE WEATHERPROOF MAT

A weatherproof and waterproof floor covering pad. The 3.2mm embossed vinyl layer with the 6.35mm dynaliner layer combine to stop noise and heat transfer through the floor. The durable, deep twist, embossed dynadeck mat is water, oil & wear resistant.



MATERIAL COMBINATIONS

BETTER TOGETHER

PAIR OUR MATERIALS TO TACKLE MULTIPLE NOISE CONCERNS ONBOARD, FOR THE ULTIMATE SOLUTION



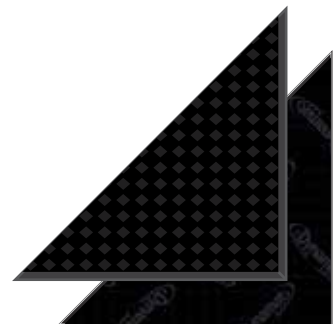
XTREME & DYNAPAD

Heavy-duty pairing to tackle three complaints; structure-borne vibration, conducted noise and low frequency sound transmission



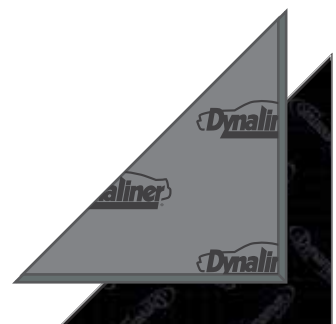
XTREME & DYNACORE

Dynacore has the unique structure needed to dissipate sound waves and absorb heat. A lightweight, flexible, compressible and thermally insulating solution for noise & heat



XTREME & DYNALINER

Combine Xtreme with Dynaliner and benefit from damping, acoustic absorption & isolation whilst also insulating against heat



COMBO KIT

MARINE COMBO KIT

ALL-IN-ONE COMBO KIT FOR BOAT OWNERS

Marine noise can be extremely annoying and reduce the enjoyment of any voyage. Some of the many applications: engine cover soundproofing, generator housing, outboard engine cowl, wave slap, thrusters and noise migration into cabin areas. As well as, vibration from the hull, decks and other structures

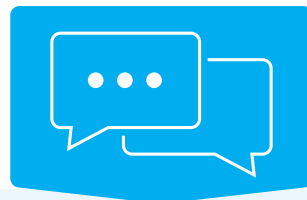
INCLUDES:

1.1 M² (12sqFt) Xtreme (3 sheets)
1.1 M² (12sqFt) 1/2" Dynacore (1 sheet)
Pro 2" application tool

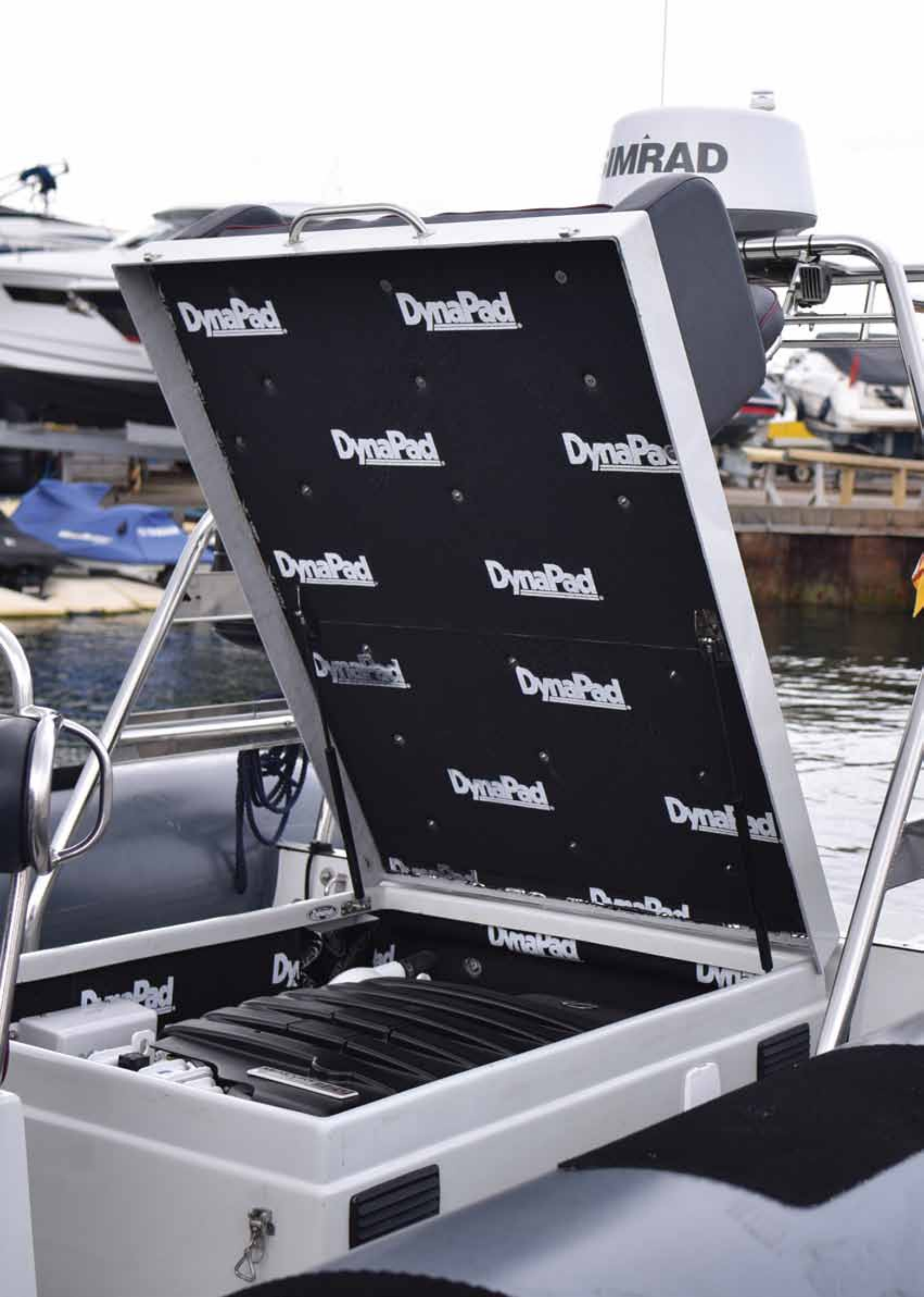


CUSTOMISATION AVAILABLE

Need custom parts to speed up installation?
Contact us about our bespoke precision CNC service



**WE ARE ON HAND TO OFFER HELP & CONSULT
ON YOUR SPECIFIC APPLICATION. OUR EXPERTS
WORK WITH YOU TO DEFINE THE BEST SOLUTION**



OUR CUSTOMERS



BOAT BUILDERS & SHIPYARDS



N.V.H CONSULTANTS & ENGINEERS



OWNERS & RETRO-FIT SPECIALISTS

FREQUENTLY ASKED QUESTIONS

"A silver faced insulation matting is already used"

This type of material is an industry favourite but its primary function is heat reflection not noise control. Using this material is not an effective way of managing noise. It will simply mask vibration and conducted noise, which will travel to another area.

"Your product is much thinner, it can't work better"

Thicker, inefficient 'deadeners' use weight (mass loading) to change the noise to a frequency less offensive to the human ear. Our Xtreme material is optimum thickness for leading performance (independently tested) & easy installation.

"What level of noise reduction can be expected?"

This depends on factors including the substrate, noise source and environment. Assessment of sea trials before and after treatment are the best way to gain accurate data for your specific project. Material performance is noted on our spec sheets.

"Dynapad is an open cell foam, will water ingress?"

The poly-urethane facing of Dynapad is waterproof but the edges will need to be sealed at any joins. This can be achieved by using an approved adhesive or tape specific for marine environments.

This image shows a blank sheet of white paper with horizontal ruling lines. The lines are evenly spaced and extend across the width of the page. There are no margins, text, or other markings on the paper.

**ENQUIRE
NOW**

Our team is on hand to
advise on product selection,
consult on specific applications
and guide you towards the best
solution for your specific needs.

Trade & international
enquiries are welcome.



DYNAMATEUROPE.COM



ENQUIRIES@DYNAMATEUROPE.COM



+44 (0) 1202 664 390



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