

## SUBDUE® SSAL / DSAL

### aluminium faced damping barrier for rail and marine industry

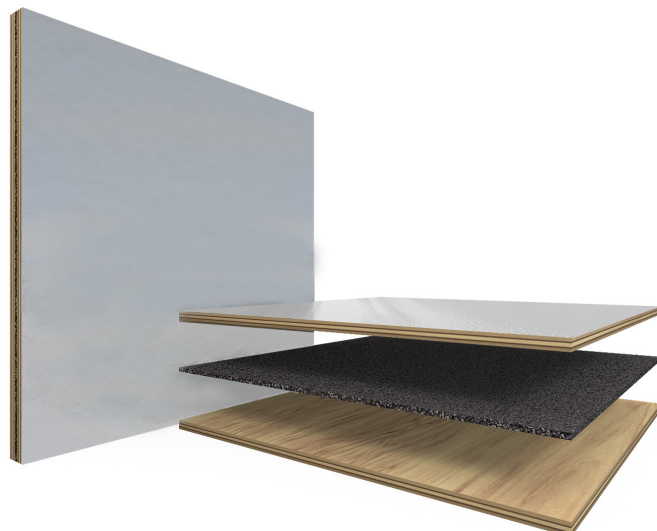
Subdue SSAL / DSAL is a multi-layered acoustic panel developed by Pyrotek to meet noise reduction requirements in the marine, commercial, and rail industry. The product is available with a single (SSAL) or double (DSAL) sided powdered coated aluminium facing for improved fire resistance.

The unique panel system consists of two lightweight hardwood outer layers which sandwich a damped viscoelastic inner core, bonded with WBP (water boiled proof) adhesive. The aluminium layer is applied to the surface of the hardwood.

The viscoelastic core is made from a special polymer, developed to provide excellent damping properties that reduce structural vibration, resulting in lower airborne noise.

The inner core layer shifts the coincidence dip to frequencies limiting its impact, thereby maintaining the performance of the acoustic panels at optimum, across the frequency range.

Subdue's SSAL / DSAL unique properties offers a high-performance composite panel with fire safety requirement in mind.



### applications

- Flooring systems in the rail and motor coach industry to reduce road and track noise
- Extensively specified for interior marine construction e.g. bulkheads, cabin partitions, floating floors
- Floor, partition walls and lining panels
- High quality speaker enclosures in audio industry
- Fabrication of acoustic doors
- Used in conjunction with an isolation mount to create floating wall, floor and ceiling systems

### features

- Approved for rail use / meets ASTM E 162, E 662, E 800, and E 648
- Lightweight, marine grade plywood, tested to BS1088 bonded using water resistant glues.
- Tested to EN717-2 and AS/NZS 2098.11 for low Formaldehyde emission
- Available in various constructions (offering weight savings) to suit different designs and acoustic requirements and configurations - aluminium facing
- Superior damping properties over standard plywood and similar panels
- High noise reduction properties
- Low installation cost - easily cut, shaped, fabricated and installed
- Available in preformed cut panels and cut kits

### SPECIFICATIONS

Colour	Aluminium faced maple toned plywood DSAL Aluminium facing (double sided) SSAL Aluminium facing (single sided)
Available	2.4 m x 1.2 m sheets 12, 14, 16, 18, 22 or 24 mm thickness
	Custom sizes and thicknesses available depending on MOQ



### PRODUCT SPECIFICATIONS

Grade	Total Thickness (mm)	Panel construction Ply/Core/Ply (mm)					Weight (kg/m²)	Sheet size (mm x mm)
		alu	ply	core	ply	alu		
Subdue M20/1500 DSAL	22	0.9	9	2	9	0.9	17	2400 x 1200*
Subdue M20/1500 SSAL	21	-	9	2	9	0.9	15	
Subdue X22/2000 DSAL	24	0.9	9	4	9	0.9	19	
Subdue X22/2000 SSAL	23	-	9	4	9	0.9	21	

Tolerances: Dimensions +5%; Weight: ±10%; \*Product supplied untrimmed - means some layers may overhang the usable width.

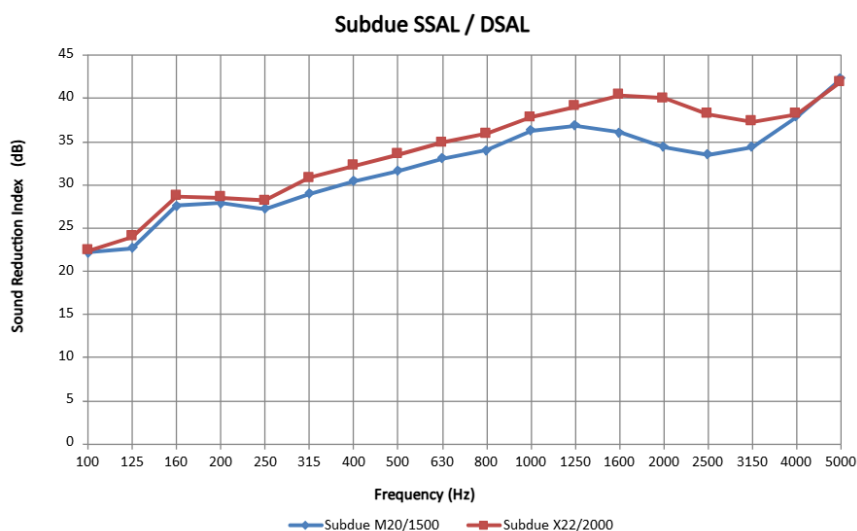
Other thicknesses available. Please contact your local Pyrotek representative for more information.

### MATERIAL PROPERTIES

Test method	Property	Report no.	Results
ASTM E 162	Surface flammability	102546340-mid-001a 102546340-mid-001b	Complies for US (FRA) Federal railroad administration requirements and requirements of NFPA 130 wall, ceiling panels and floor covering Complies for US (DOT) Department of transportation requirements for acoustic insulation of transit bus and vans (Docket 90A) Results apply for Subdue M20/1500 DSAL and SSAL
ASTM E 662	Optical density of smoke generated	102546340-mid-002a 102546340-mid-002b	
ASTM E 800 (SMP-800C)	Gases present or generated during fires	102546340-mid-003a 102546340-mid-003b	
ASTM E 648	Critical radiant flux of floor-covering systems	102546340SAT-004A 102546340SAT-004B	
EN 45545-2 (ISO 9239-1)	Reaction to fire tests for floorings	0108-23-F	R10 HL3 for Subdue X22/2000 SSAL
EN 45545-2 (EN 17084 (1): 50 kWm-2)	Gas Toxicity		
EN 45545-2 (ISO 5659-2: 25 kWm-2)	Smoke generation (optical density)		

### ACOUSTIC PERFORMANCE

Frequency (Hz)	Subdue M20/1500 (dB)	Subdue X22/2000 (dB)
100	22.2	22.4
125	22.7	24.0
160	27.6	28.7
200	27.9	28.5
250	27.2	28.2
315	29.0	30.8
400	30.4	32.2
500	31.6	33.5
630	33.1	34.9
800	34.0	35.9
1000	36.3	37.8
1250	36.9	39.1
1600	36.1	40.4
2000	34.4	40.0
2500	33.5	38.2
3150	34.4	37.3
4000	37.9	38.2
5000	42.3	41.9
Rw	34	37
STC	34	36



Tested to ISO 15186-1:2003 & 10140-4:2010 at University of Canterbury, New Zealand

Report Number: 222a

Results are for core Subdue materials as noted, tested without aluminium layer.

For further information  
and contact details,  
please visit our website  
[pyroteknc.com](http://pyroteknc.com)

Caveats: Specifications are subject to change without notice. The data in this document is typical of average values based on tests by independent laboratories or by the manufacturer and are indicative only. Materials must be tested under intended service conditions to determine their suitability for purpose. The conclusions drawn from acoustic test results are as interpreted by qualified independent testing authorities. Nothing here releases the purchaser/user from responsibility to determine the suitability of the product for their project needs. Always seek the opinion of your acoustic, mechanical and fire engineer on data presented by the manufacturer. Due to the wide variety of individual projects, Pyrotek is not responsible for differing outcomes from using their products. Pyrotek disclaims any liability for damages or consequential loss as a result of reliance solely on the information presented. No warranty is made that the use of this information or of the products, processes or equipment to which this Information Page refers will not infringe any third party's patents or rights.

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