



High Performance Damped Noise Barrier



Subdue® X is a multi-layered acoustic panel constructed from two outer layers of marine grade Okoume ply, compliant to **BS 1088**, with inner core comprising a dense, damped viscoelastic layer offering excellent noise transmission loss. **Subdue** was developed to meet noise reduction requirements in marine, commercial and rail construction.

The viscoelastic core is made from a special polymer, developed to provide excellent damping properties that reduce structural vibration, resulting in lower airborne noise. This unique property makes **Subdue X** the highest performing composite panel in the product range. The product is suited to high privacy areas such as Master State Rooms, boardrooms, VIP lounges and interrogation rooms.

The 'X' category of '**Subdue**' panels includes inner cores with densities ranging from 2000kg/m³ up to 2400kg/m³, and can be offered in weights ranging from 6kg/m² up to 14kg/m².

Coincidence dip is a common phenomenon in lightweight panels, that adversely impacts the sound transmission loss performance in materials such as timber, plywood, sheet metal, low density rigid foams and hollow core walls. However, **Subdue's** unique multi layered composition with its inner core layer, shifts the coincidence dip to frequencies limiting its impact, thereby maintaining the performance of panels.

Pyrotek endorses forest sustainability and the preservation of natural environment. We procure highest quality materials from suppliers who hold FSC Certification (Forest Stewardship Council) and PEFC (Programme for the Endorsement of Forestry Certification) amongst other certification programmes.

Subdue 'Okoume' ply is tested to **AS/NZS 2098.11** and classifies as '**E-0**' for low Formaldehyde emission.

FEATURES

- Available in a range of lightweight marine grade plywood, tested to BS1088
- Tested to **EN717-2** and **AS/NZS 2098.11** for low Formaldehyde emission
- All panels have been tested to provide differing acoustic properties to suit differing designs
- Simple to saw-cut, fabricate and install using conventional woodworking tools
- Tested and proven to have superior damping properties over standard plywood and similar panels
- Thin panels possess high noise reduction properties
- Bonded using water resistant glues, Weather and Boil Proof (WBP) tested, according to BS1088
- Available in preformed cut panels and varying constructions (offering weight savings) to suit differing designs
- **Subdue X**: Product category with core layer densities ranging from 2000 up to 2400kg/m³

APPLICATIONS

- Used to construct floor, partition walls and lining panels
- Particularly suited for high privacy areas such as interrogation rooms, Master State Rooms, boardrooms
- Extensively specified for interior marine construction e.g. bulkheads, cabin partitions, floating floors
- Flooring systems in the rail and motor coach industry to reduce road and track noise
- Used in the audio industry to construct high quality speaker enclosures
- Fabrication of acoustic doors
- Used in conjunction with an isolation mount to create floating wall, floor and ceiling systems

(Please refer to Information pages '325P' and '335IP' for choice of ply)

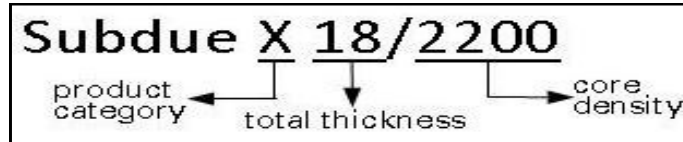
PRODUCT SPECIFICATIONS

SERIES	PRODUCT CODE	TOTAL THICKNESS (mm)	PANEL CONSTRUCTION Ply / Core / Ply (mm)	TOTAL WEIGHT (kg/m ²)	¹ FLEXURAL STRENGTH (Mpa)	² DECAY RATE (dB/s)	SHEET SIZES (mm X mm)
SUBDUE X	X12/2000	12	4/4/4	11.5	22.5	792	2440 X 1220 (Untrimmed)*
	X16/2000	16	6/4/6	13.7	39.7	1496	
	X22/2000	22	9/4/9	16.7	31.4	2660	
	X14/2200	14	4/6/4	17.7	23.4	801	1200 x 2400 (Trimmed)
	X18/2200	18	6/6/6	19.7	32.0	1674	
	X24/2200	24	9/6/9	22.7	26.2	2227	

Tolerances: Dimensions +5%; Weight: +/- 10%; *Untrimmed means some layers may overhang the usable width. Other grades of plywood can be used upon request.

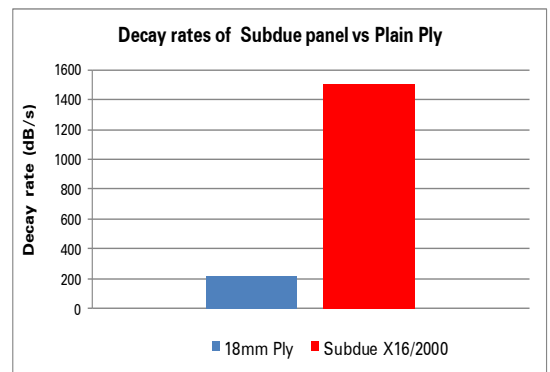
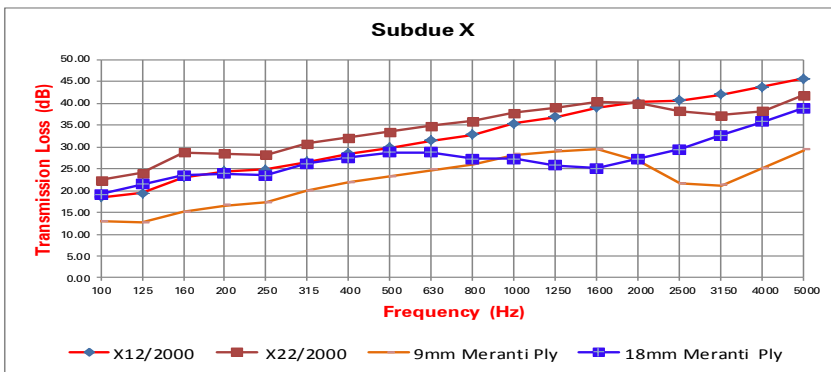
¹ Report No 23611PH/PH-1/PH-2; ² Report No 32911-MK;

Product Code Nomenclature:

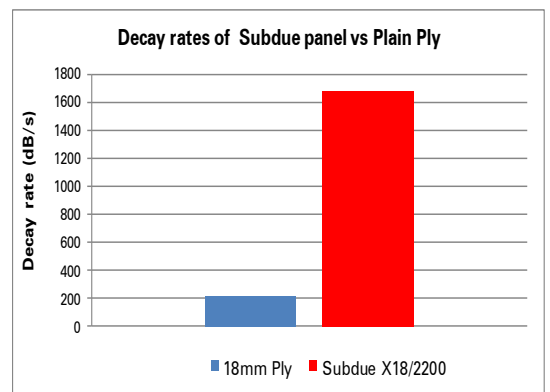
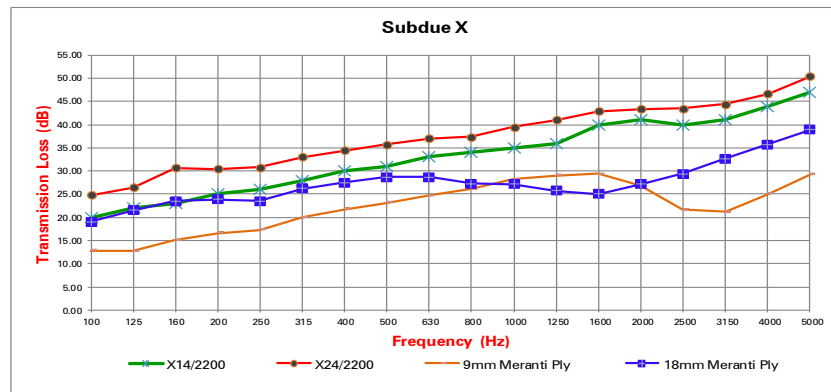


TRANSMISSION LOSS

(Tested to ISO 15186-1 /ISO 10140-4 Report date 07/09/2011)



Frequency (Hz)	100	125	160	200	250	315	400	500	630	800	1000	1250	1600	2000	2500	3150	4000	5000
X12/2000	18.41	19.48	23.12	24.37	24.80	26.55	28.55	29.84	31.43	32.88	35.34	36.93	39.07	40.22	40.68	42.08	43.72	45.63
X16/2000	19.00	20.00	22.00	23.00	25.00	26.00	28.00	30.00	31.00	33.00	34.00	35.00	39.00	42.00	42.00	44.00	47.00	50.00
X22/2000	22.40	24.00	28.70	28.50	28.20	30.80	32.20	33.50	34.90	35.90	37.80	39.10	40.40	40.00	38.20	37.30	38.20	41.90
9mm Ply	12.90	12.70	15.10	16.60	17.30	20.00	21.80	23.20	24.70	26.10	28.20	29.00	29.40	26.80	21.60	21.20	25.10	29.30
18mm Ply	19.10	21.50	23.50	23.90	23.50	26.20	27.50	28.70	28.70	27.30	27.20	25.80	25.10	27.20	29.40	32.70	35.80	38.90
X14/2200	20.00	22.00	23.00	25.00	26.00	28.00	30.00	31.00	33.00	34.00	35.00	36.00	40.00	41.00	40.00	41.00	44.00	47.00
X18/2200	22.80	24.80	28.10	29.20	30.50	32.20	33.80	35.00	36.60	37.30	39.20	40.80	42.80	43.40	43.00	43.50	45.20	49.20
X24/2200	24.80	26.50	30.70	30.50	30.80	33.10	34.50	35.80	37.00	37.40	39.50	41.00	42.90	43.40	43.50	44.40	46.70	50.40



Caveats: Specifications are subject to change without notice. The data in this document are 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 or mechanical engineer on data presented by the manufacturer. Due to the wide variety of individual projects, Pyrotek NC 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. **DISCLAIMER:** This document is covered by Pyrotek standard Disclaimer, Warranty and © Copyright clauses. See www.pyroteknc.com/disclaimer.

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