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D5 NOISE ABATEMENT FENCING

ACOUSTIC REFLECTIVE BARRIER

- **SINGLE SIDED ACOUSTIC BARRIER - STC RATING 20dB**
- **DOUBLE SIDED ACOUSTIC BARRIER - STC RATING 36dB**
- **INNOVATIVE and VERY ECONOMICAL**
- **EASILY INSTALLED UP TO 6m (20ft) HIGH**
- **BURIED AT BASE – no plinth reduces construction cost & provides noise attenuation**
- **Reduces the impact of noise from –**

Freeway & Highway Traffic
Electric Trains
Domestic Noise
Commercial Businesses
Reverse Cycle Air Conditioners
Swimming Pool and Spa Pumps
Generating equipment and machinery

D5 Noise Abatement has N.A.T.A. registered laboratory Certification with rated reductions in sound levels up to 20 dB(A) for a single sided fence and 36 dB(A) for a double sided fence.

D5 Noise Abatement provides a long life, virtually maintenance free, outdoor reflective acoustic barrier material.

Known as '**D5 Noise Abatement**' (**D5**) this especially formulated plastic material has had over 38 years Australian, New Zealand and South Pacific regions all terrain, outdoor exposure with positive comments on the lasting appearance and negligible maintenance demands.

D5 acoustic barriers give immediate reductions in road traffic and other noise by breaking the line-of-sight between you and the noise sources (including noise reflections from solid walls etc).

Acoustic barrier effectiveness depends on its material, height; length and location with a general rule of thumb being that road noise will line-of-sight impact on a given point over a 160° angle, the noise primarily being road surface generated with the addition of high level truck exhaust braking on down hill and bends.

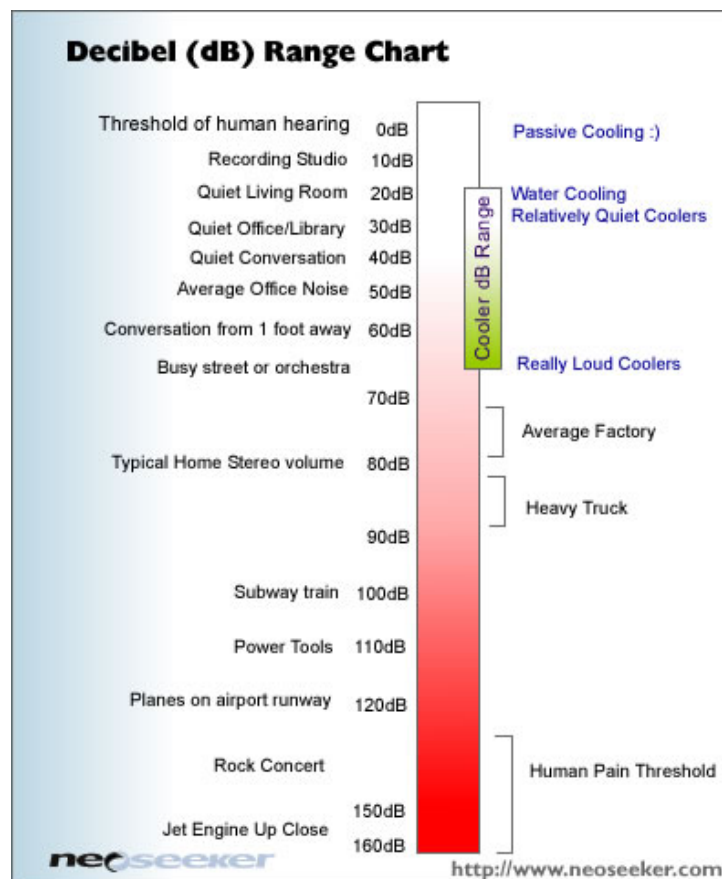


Noise

Your location impact from ‘ambient’ (the general noise around us), ‘background’ (noise without any dominant noise source – lawn mowers, air conditioners, loud birds) and ‘high peak’ noise levels varies. Any large difference between background and peak noise levels can have a great impact on your lifestyle.

Traffic noise levels during peak times may be low due to the volume of slow moving traffic, while before or after peak periods the traffic speed increases causing disturbance to your sleep and noise impact within 300 metres of any 52 dB (A) rated home, hospital ward, school playground / classroom, place of worship (temples/churches/mosques), or 67 dB (A) rated recreation areas.

When an ambient noise level is impacted by 12dB (A) or more you have a problem as it is generally considered that a 10dB (A) increase is a doubling of the noise level. 70dB is considered a safe, non-intrusive noise level while any noise level above 85dB may be hazardous to your hearing.



To reduce the impact of unavoidable noise on your home or community a **D5** noise fence will provide a competitively low cost structure with less practical and visual intrusion than other products.

D5 is a method of providing the benefits of sound pollution reduction while creating a positive, visual benefit for road users and the surrounding community that will withstand harsh climatic and polluted atmospheric conditions.

Alternative considerations are the use of dense vegetation screening (but this will generally only achieve 1 dB (A) for every 10 m depth of screen and can in dry periods constitute a fire hazard to nearby properties) or earth mounding (which uses considerable space and can cause on site drainage difficulties).

Neighbouring noise mitigation can be achieved by erecting a noise barrier along the road or boundary with ground cover vegetation helping to reduce noise propagation or the upgrading of acoustical insulation of noise sensitive premises.

Usually a building will experience an internal noise level with the windows open around 10 dB (A) below the external noise level. To lower noise ingress further expensive architectural modifications are required to the windows, doors, seals and facades exposed to the noise direction (and may cause interference to radio and television reception).

Although **D5** does not support combustion road edge hazard reduction by proximity burning is not recommended.

For a permanent access opening through the wall an offset barrier must overlap the opening by a minimum of 2.5 to 3 times the offset distance to maintain sound attenuation integrity.

D5 wall profile line can be easily designed and formed to reflect, contrast or remain neutral to the surroundings by castellated or varied height segments. This offers a more visually interesting wall but adds to the cost whereas shrubs or trees of varying height will provide a similar effect with a spatial envelope.

D5 can be buried, it inhibits the spread of weed growth and enables low cost installation, as any undulating ground surface does not need to be levelled. Wet, dry or varying soil type locations have no effect on **D5**.

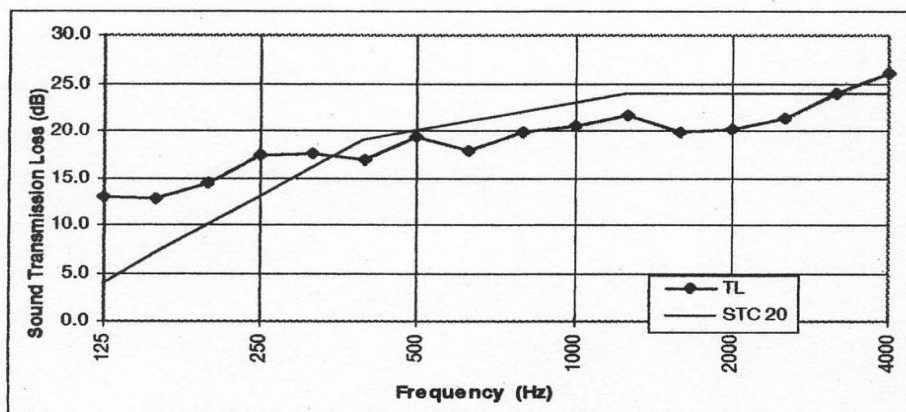


TEST CERTIFICATE

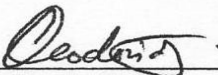
DERIVED TRANSMISSION LOSS DATA FOR PVC TWIN WALL PANELLING

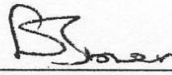
SUPPLIED BY: SVP Industries
TESTED BY: VIPAC ENGINEERS & SCIENTISTS LTD
TEST DATE: 11/6/98
UNIT: PVC Twin Wall Panelling

Third Octave Band Centre Frequency (Hz)	Sound Transmission Loss (dB)
125	12.9
160	12.8
200	14.4
250	17.4
315	17.5
400	16.8
500	19.4
630	17.9
800	19.9
1000	20.6
1250	21.6
1600	19.9
2000	20.1
2500	21.2
3150	24.0
4000	26.1



Determined Panel Performance: STC 20


Greg Theodoridis
PROJECT ENGINEER


Norm Broner
N.A.T.A. SIGNATORY

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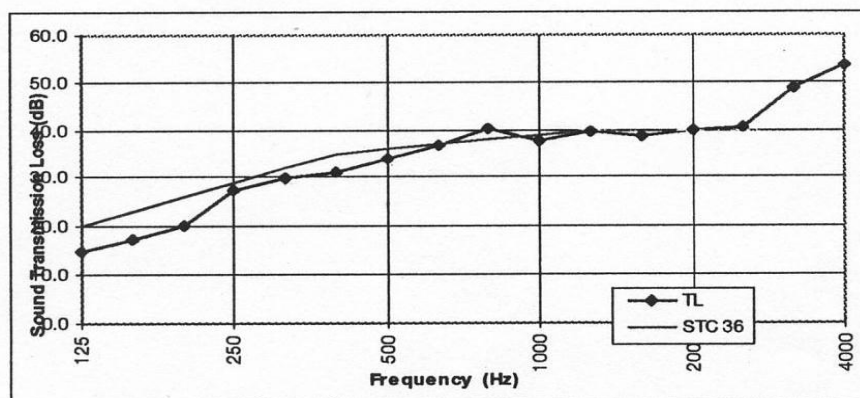


TEST CERTIFICATE

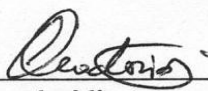
DERIVED TRANSMISSION LOSS DATA FOR PVC TWIN WALL PANELLING

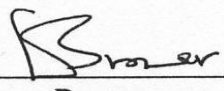
SUPPLIED BY: SVP Industries
TESTED BY: VIPAC ENGINEERS & SCIENTISTS LTD
TEST DATE: 30/9/98
UNIT: PVC Twin Wall Panelling, Double Layer

Third Octave Band Centre Frequency (Hz)	Sound Transmission Loss (dB)
125	14.7
160	17.2
200	20.0
250	27.5
315	29.8
400	31.2
500	34.1
630	36.8
800	40.1
1000	37.6
1250	39.5
1600	38.8
2000	39.9
2500	40.5
3150	48.7
4000	53.5



Determined Panel Performance: STC 36


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Where noise reduction up to 20dB is required use a single D5 face wall –



Where noise reduction up to 36 dB is required use a double D5 face wall –



Acceptability **D5** creates a barrier landscape system that is enthusiastically supported by community and political decision making groups due to the 100% recyclability of materials, the lack of major earthworks and landform disturbance coupled with rapid completion and very favourable cost: benefit ratios.

Aesthetics **D5** provides an attractive noise barrier that is complimentary and enhancing to the surrounding community and providing a positive, in harmony with nature, image. The variety of eye appealing pastel colours can be used to create a visual contrast and a calming effect.

Cost Benefit Analysis a comparative analysis of noise control treatment cost effectiveness has shown that **D5** provides preferred option benefits in reducing noise impact over structural architectural alterations to your home or building. **D5** also provides a barrier and complimentary landscaping system with a commercially competitive cost and negligible maintenance demands.

Effectiveness Because the installation of **D5** only requires the boring and concrete backfilling of post holes without excavation or the installation of footings there is negligible associated earth or watercourse disturbance to displace the bottom of the wall and allow noise egress. Being lightweight the **D5** does not add to ground subsidence or landslip issues. The NATA Laboratory **D5** Certification of 20 dB (A) for a single sided and 36 dB (A) for a double sided barrier wall confirms the attenuation impact capability.

Feasibility **D5** provides an economic, long-term noise-control strategy for any location with feature benefits that facilitate the noise barrier design and reduces adverse visual impact while enhancing landscaping opportunities without the need for land levelling machinery, heavy foundations or on-site cranes and wide servicing corridors.

Maintenance the negligible maintenance demand ideally encourages endemic flora growth to enhance the community and minimise graffiti while providing a local habitat for bird life. A gentle cloth rubbing and a mix of turpentine and mentholated spirits usually remove graffiti. Damaged panels can be simply replaced or by small patch moulded joiners.

Reasonableness Benefits **D5** provides low cost noise mitigation, is virtually maintenance free and offers an aesthetically pleasing appearance coupled with weed migration and fauna control abilities.

Safety the negligible maintenance demand ensures that maintenance personnel spend little time in proximity to the **D5** barrier. Emergency access is simply by disk cutting the **D5** to allow the passage of fire hoses, emergency response personnel or for the expeditious evacuation of victims.

D5 is an ideal retrofit material for noise barrier integration in the urban environment as the wall is subtly non-obtrusive, appearing to 'grow' out of the landscape of plants and earth.

Nominally weighing 1.45kg/m² **D5** is ideal for mounting on structures such as buildings, factories and recycling plants as the clip and fix installation makes **D5** easy to use for custom noise abatement applications, whilst the servicing of equipment is by easy disassemble and re-assemble or temporary wall relocation.

Steel Fixing – The hollow DURAGAL ® sections can be joined continuously by overlapping them and using 14-20x22 plated Tek screws. For fixing the DURAGAL ® SHS Channel (vertical posts) to the Topspan rails we recommend Buildex Series 500 Tek screws or an equivalent.

D5 Fixing – The **D5** profile can be fixed to the DURAGAL ® Topspan rails using wafer head 10g x 16mm metal screws. In high wind areas we recommend a 40mm x 2.8mm ring shank fixing with a 12.5mm diameter x 0.85mm thick stainless steel washer with a 5 mm hole.