



THE NOISE ABATEMENT ASSET

Presentation:

Any mechanical assembly in working order generates vibrations that are source of harmful frequencies.

Finding a solution to this critical drawback, Daniel GASTEL designed and patented a new laminated product called SILENTLINE®* .

SILENTLINE® is a composite of metal and synthetic material, which has the key advantage of spreading the vibrational energy over a dramatically wider band (lower Q factor) - therefore dampening the transmission of potentially destructive harmful frequencies.

Advantages:

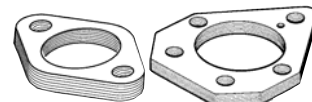
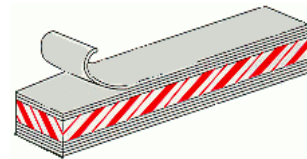
- ★ The cost of SILENTLINE® laminated shims is virtually equivalent to that of shims made of other laminated materials. So there is no economic obstacle to their use.
- ★ The mechanical characteristics of laminated shims are improved with this material. CETIM tested two probes, both in 0.08 inch (2 mm) thickness:
 - A The first one, of conventional form, entirely consisting of peelable metal layers: achieved Vickers value = 440 MPA
 - B The second one, manufactured in the new material: achieved Vickers value = 510 MPA.
- ★ The SILENTLINE® laminated shims which thus require less maintenance and are less subject to wear.
- ★ Other asset of this product – and reasons why it was designed:
 - ⇒ it contributes to improvements of the working environment, of benefit to all users
 - ⇒ it makes it easier to achieve the demands of noise abatement legislation.

Performances:

Tests carried out by CETIM on this new materiel show its capacity to tone down – in a spectacular way – the two consequences of a harmful frequency emission:

- ⇒ absorption or dampening and dispersion of 45 to 50 % of the *AMPLITUDE*
- ⇒ reduction by 50 to 55 % of the *EMISSION DURATION*.

This is therefore a high performance material.



Dimensions of SILENTLINE® products:

MATERIALS	SPECIFIC WEIGHTS	THICKNESSES OF LAMINATIONS				
		.0004" 0,01 mm	.001" 0,025 mm	.002" 0,05 mm	.003" 0,075 mm	.004" 0,1 mm
Aluminum						
★ 1200, A91200	2.8			✓	✓	✓
★ 5052, A95052	2.8			✓	✓	
Brass						
★ C27200, C27700, CuZn37	8.5		✓	✓	✓	✓
Stainless steel						
★ 302, S30200	8.2			✓	✓	✓
★ 304, S30400	8.2	✓	✓	✓	✓	✓
★ 304L, S30403	8.2			✓	✓	✓
★ 316, S31600	8.2			✓	✓	✓
★ 316L, S31603	8.2			✓	✓	✓
Steel						
★ 1010, G10100	8.2		✓	✓	✓	✓
Titanium						
★ Ti Gr1, R50250	4.5			✓	✓	✓
★ Ti Gr2, R50400	4.5			✓	✓	✓

As a conclusion:

☞ SILENTLINE® shims can be substituted for any other wedging process:

- ★ they do not have any cost or use inconvenience
- ★ they offer several additional services (notably silence and life duration) which are of paramount importance today.

The various diagrams of tests carried out by CETIM can be supplied on request.

* SILENTLINE® - Trademark Registered, Europe: Patent # EP 0 667 233 B1