LAMECO LAMINATED SHIMS

HOW DO YOU SELECT THE SUITABLE LAMINATED MATERIAL ?

Use factors:

☞ **New to laminated shims? Or maybe just wondering which type would best meet your requirements?**

There are two key issues to be born in mind:

Maximum use temperature.

It should be born in mind that the special binder film is extremely fine. After thermal treatment its thickness can be virtually discounted it is so thin.

But above 446°F (230°C), the binder will be destroyed. However, its disappearance does not influence in any way the continued use of the LAMECO shim. The part will continue to work until it is replaced during the maintenance disassemblies.

Mechanical stress.

You must first know what pressures and stress will be exerted on the laminated material.
You must avoid situations where shim faces would be submitted to friction - there will be a risk of delamination unless you specify a PTFE treatment.
If your parts are provided with fixation holes, the only pressure will be that exerted by the tightening of fixing screws. This is only a small pressure. In this case all LAMECO laminated materials can be used without any limitations.
For all other cases, please refer to the table hereafter.

Conditions of use:

☞ **Once you have taken these two factors into account, you can choose which material best suits your requirements by considering the following points:**

Lightness requirements:

★ If weight reduction is your primary concern (for portability, or more useful carrying capacity, etc.): INTERCOMPOSITE®, DUOPEEL® and X.FIBER® would be perfectly suited to your needs - *see cards of these products*.
They are best recommended as they are the lightest of our products.

INTERCOMPOSITE®, DUOPEEL® have an excellent weight/ mechanical characteristic ratio whenever minimum weight and outstanding performance are demanded together .

X.FIBER® is EVEN stronger and can be used as a fine replacement for carbon or stainless steels.

★ An extra plus with these products is that both INTERCOMPOSITE®, DUOPEEL® and X.FIBER® can be easily peeled with forefinger alone - no tools required!

★ INTERCOMPOSITE® is not only very fast to use, but is the least expensive of all laminated materials.

LAMINATED SHIMS

Requirements of adaptation to curved shapes:

★ If you want to wedge on curved shapes, INTERCOMPOSITE® and DUOPEEL® – *see the card of these products* – can be quickly and easily adapted to most curves without any loss of utility or precision.

Noise reduction requirements:

★ If you are inserting laminated shims into systems or machines whose operation is noisy due to considerable vibrations: choose SILENTLINE® – *see the card of this product*. This laminated material, said " silent ", has the property of dispersing, in emission duration and amplitude, over 50% of the harmful frequencies.

★ SILENTLINE® is also the most resistant of LAMECO's special shims.

Two final hints:

★ Steel is best avoided in assemblies presenting a corrosion risk.

★ It is better to avoid aluminum, whenever productivity improvement is being sought. The peeling of aluminum is namely more delicate, therefore longer.

☞ **Bearing in mind the temperature at which the shim will be performing, the physical stresses exerted, the possible benefits of noise reduction, the presence of difficult curved mating surfaces, or the desirability to save weight in your final assembly should guide you to selecting the correct LAMECO laminated shim for your precise application.**

Limitations of mixed technique shims (laminations plus solid parts):

Once the material has been set out, avoid planning said " solid parts " [or " P.S. " = solid stocks, unpeelable part] in strong thicknesses.

★ Combining solid metal sections with the laminations actually results in lowered mechanical performance. For this reason when such mixed shims are desired the thickness of the solid metal part should be kept at an absolute minimum.

★ It should also be noted that such mixed shims are particularly difficult to manufacture and hence expensive.

Consequently, a solid part should be used only in case of special technical constraint.

This notably occurs when there exists the necessity of having a threaded portion contained within the depth of the shim.

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