



# PEELABLE SHIMS

## ALTHERMILL



## ALTHERMILL LAMINATED PEELABLE SHIMS

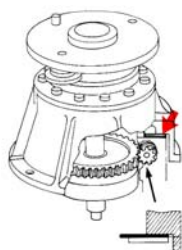
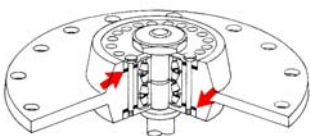
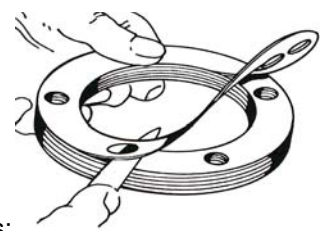
**Althemill laminated peelable shims** are shims for high accuracy adjustment. Consisting of a stack of basic metal leaves joined together by gluing over their whole surface, they form a laminated assembly of compact appearance consisting of a number of metal leaves. Each basic leaf may be peeled off very easily, until the exact thickness desired is obtained. The shim is therefore perfectly and easily adjusted in thickness to compensate accurately for play resulting from machining tolerances of any mechanical assembly.

This ingenious process avoids the machining and grinding of solid shims while offering comparable or even greater accuracy. It also replaces stacks of foil thereby avoiding the problems of this type of shimming. In addition to the assembly time saved, the ease of use and reduction in costs, peelable shims enable stocks to be reduced by avoiding keeping solid shims in many thicknesses.

Made perfectly to measure, to your drawing, dimensions and specifications, Jicey peelable shims are available in a wide range of materials (steel, stainless steel, aluminium, brass and titanium) to meet all your requirements.

### ADVANTAGES:

- Saving time which may exceed 50% compared with grinding solid shims or machining special shims
- Easy peeling, instantaneous correct sizing, no more wasted assembly time
- Highly accurate assembly
- Accuracy of parallelism
- Thinness of basic thicknesses: from 0.025 mm to 0.2 mm
- Perfectly ready made, to your dimensions and specifications
- Economical process
- Dual composition available (different thickness on each side). For example, a shim of thickness 1mm consisting of 8 leaves of 0.1mm and 4 leaves of 0.05mm
- Reduction of stock



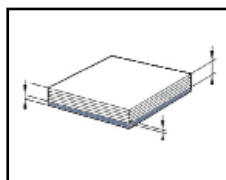
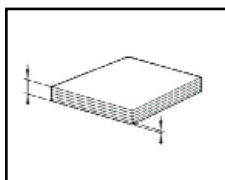
## SHAPES AVAILABLE

Althermill peelable shims can be produced in all geometrical shapes, by cutting out or machining, to your dimensions and specifications. In the majority of cases, the shims are flat and of constant thickness. It is nevertheless possible to produce compositions or special shapes or even to add other materials to one face. If the dimensions exceed those of the blocks, it is possible to produce shims in several parts, mechanically connected or otherwise. There are also peelable U shims in standard dimensions.

## THICKNESS COMPOSITION

### SINGLE COMPOSITION

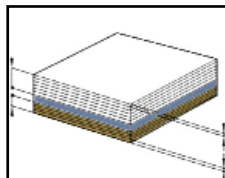
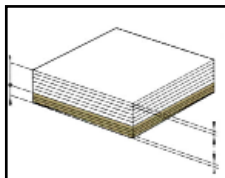
Althermill peelable shims may consist exclusively of leaves of the same thickness (by attaching a solid portion or otherwise).



With solid portion

### DUAL COMPOSITION

They may also consist of basic leaves of different thickness accessible on one side or the other and marked by colouring (an exclusive Jicey process). We call this dual composition. The adjustment is therefore approached by commencing by peeling off the thickest basic leaves, then the precise adjustment is obtained by peeling off the thinnest basic leaves. This process is extremely economical since, firstly, it reduces assembly time and, secondly, it reduces purchase costs by the use of the maximum number of thick basic leaves.



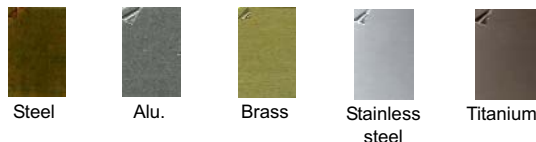
With solid portion



Example of dual composition: a shim of total thickness 1 mm consisting of 8 leaves of 0.1 mm and 4 leaves of 0.05 mm. The exclusive colouring of the metal immediately identifies 0.05 mm leaves in yellow and 0.1 mm leaves in blue

## CHOICE OF MATERIAL

Althermill peelable shims are available in a wide range of metallic materials. If compression forces are low, aluminium is the most economical material. If compression forces are average or high, mild steel is a better choice. If there is a risk of corrosion, brass or stainless steel is preferable.



It is also possible to add an anti-friction coating on one side of the shim, either of Teflon or ceramic.



## ACCURACY

Accuracy is obtained as a function of the basic thickness chosen to make up the shim. So, for a basic thickness of 0.025 mm, the accuracy is plus or minus 0.002 mm. For a basic thickness of 0.05 mm, the accuracy is plus or minus 0.003 mm, and for a basic thickness of 0.1 mm, the accuracy is 0.005 mm.

For a total thickness of 1 mm/dm<sup>2</sup> of area, the parallelism is less than or equal to 0.01 mm for all bonded materials.

## TIME SAVING

The use of peelable shims avoids the storage of separate leaves and piles of solid shims and foils. The time wasted in measuring dimensions and machining special shims is eliminated. Compared with conventional shimming, the time saved may exceed 50%, or even more if the shims are to be ground. Complicated adjustments and adjustments for maintenance purposes are greatly facilitated.

## ÉCONOMY

The assembly of bearings, problems of play at the end of a shaft, gear alignment, etc. often involve excessively tight machining tolerances. The use of peelable shims enables the tolerances of the parts to be assembled to be relaxed in many cases, with a consequent reduction in machining costs, while preserving high adjustment accuracy (typically 0.025mm). By removing one or more leaves, the initial position of gears, bearings and shafts can be restored, thereby ensuring maintenance at less cost. The last advantage, but by no means the least, is that the price of the part becomes more economical because of the use of a majority of thick leaves that are cheaper to purchase.

## TECHNICAL CHARACTERISTICS

Material	Reference	Binder	Jicey Symbol	Standard dimensions w x L	Thickness of the layers
Mild steel	DC03 (C490 - C590)	Glue A	AC	500 x 1220	0,05-0,1-0,20
				400x 1220	0,025-0,05-0,1-0,2
Stainless steel	AISI 304	Glue A	AI	500 x 1220	0,025-0,05-0,1-0,2
Brass	UZ 10 UZ 33	Glue A	AL	305 x 1220	0,025-0,05-0,76-0,1-0,2
Aluminium	Al 99 (A4)	Glue B	AA	500 x 1220	0,025-0,05-0,76-0,1-0,2

Material	Resistance to traction daN/mm <sup>2</sup>	Resistance to temperature °C
Mild steel	70 à 80	200
Stainless steel	65 à 70	200
Brass	40 à 45	200
Aluminium	12 à 15	150

The digital values indicated above are typical results obtained. However, with a view to improving them, Jicey reserves the right to modify all the characteristics and specifications that appear in this document at any time without notice.

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