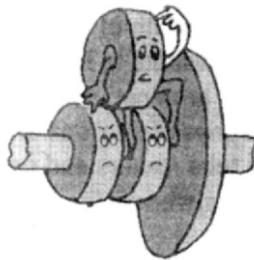




## DeeTee's Computer Aided Shimless Tooling DCAST

Wide coils are slit into exact width by way of arranging Knives at desired spacing. This required spacing is obtained by means of selecting spacers of various thickness. The minimum thickness of the Metal Spacer in normal use is 1 mm.



Hence Plastic Shims are used to get exact spacing between knives. By using the combination of the Shims, exact spacing is obtained. For example, if we want the spacing between two knives as 191.64 mm, then following Spacers and Shims shall be required.

### SPACERS

Nos.	mm
1	100
1	50
2	20
1	1
<b>Total</b>	<b>191 mm</b>

### SHIMS

2	0.25
1	0.10
2	0.02
<b>Total</b>	<b>0.64 mm</b>

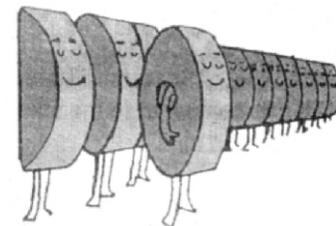
	<b>191.00</b>
	<b>+ 0.64</b>
<b>Grand Total</b>	<b>191.64 mm</b>

Knives, Spacers and Plastic Shims are assembled and then the spindle nut is tightened. While tightening the spindle nut, Plastic Shims are bound to get compressed unequally giving differential pressure on knife face. This would mean that cutter's face shall run out during slitting. Horizontal clearance between two Knives during slitting will keep varying, resulting in poor slit edges and even variation in strip width.

This practice is being followed for many years and

engineers have been trying to evolve some method of avoiding use of plastic Shims, which not only spoil the accuracy but increase the cost of slitting as Plastic Shims cannot be reused.

Here is an entirely new concept of SHIMLESS TOOLING where the Spacers are manufactured in various thickness so that selection of Spacers can be done in a manner so as to get exact spacing of Knives.



There are two steps in case of using SHIMLESS TOOLING. We need to have following information for deciding the sizes and quantity of Spacers -

#### REQUIREMENT OF SPACERS :

- Spindle length.
- Maximum width of coil.
- Maximum number of cuts.
- Minimum strip width required.
- Maximum strip thickness.
- Thickness of Knife.
- Accuracy of slit-strip width, 0.1 mm or 0.01 mm.

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DeeTee stands for total quality movement

At the time of Slitting, following data is fed to the computer to find out exact Spacers required for SHIMLESS TOOLING -

### SLITTER SETTING

- Material to be slit
- Thickness of coil.
- Coil width in mm.
- % of thickness to be kept as horizontal clearance.
- Slit width in mm and nos

The programme can select no. of width of one type or other type for minimum specified wastage.

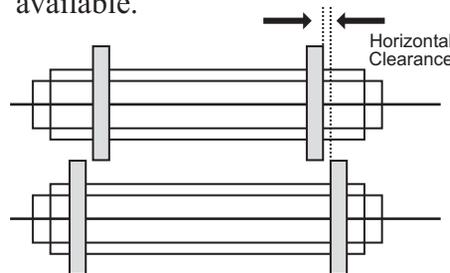
The cost of tooling varies depending upon the accuracy of slit width required, if final strip width is required in the accuracy of 0.01 mm, then the cost of Spacers will be higher by 10-15% compared to the slit width accuracy of 0.1 mm.

### HORIZONTAL CLEARANCE

For accurate and burr free slitting, this parameter is very important. It varies from metal to metal and is a function of tensile strength and sheet thickness. Depending on the type of material, the software selects the horizontal clearance as a percentage of sheet thickness as follows -

Material	Horizontal Clearance
Aluminium	7%
Brass	7.5%
Copper Soft	5%
Steel Soft	7.5%
Medium Alloy Steels	15%
Steel Stainless / High Alloy	20%

If a user with his experience wishes to change the horizontal clearance, the facility for incorporating such a change is available.



### ADVANTAGES

**DCAST**, which is first of its kind in India, offers following distinct advantages -

#### A- ELIMINATES SHIMS :

As the name suggests, Shimless slitting completely eliminates Plastics Shims, it means a substantial saving in the cost of Shims, For example, if 40 Shims are required for a particular setting costing Rs. 25/- per Shim, then the saving is Rs. 1000/- per setting. As the Shims loose their shape and get damaged during each setting, over a period of one

year, considering 300 working days, the saving is to the tune of Rs. 3 Lakh. Also it is a known fact that thousands of man hours are lost in arbour setting. Small gaps between the Spacers have to be painstakingly filled up with the Plastics Shims. Along with the cost saving, substantial setting time is also saved with the elimination of Shims.

#### B- IMPROVES SLITTING ACCURACY:

Plastic is not known to retain its shape under pressure. Also it attracts dirt and dust and the operator has to compromise for the less accurate slitting. Shimless slitting ensures accurately made Metal Spacers, which are duly marked for quick selection. This accuracy reflects in burr free slitting and reduced scrap.

#### C- MINIMISES COIL WASTAGE :

**DCAST** helps to select the most economical width of coil for a given number of widths to be slit, ensuring that there is minimum coil wastage. With the price of steel on the rise, it is a boon to tube makers and cold rolling mill owners, who slit the coil.

**With the help of Shimless Tooling, your quality of slitting is going to improve to a great extent, which you never imagined earlier.**

**Tools WHICH LAST LONGER - Slitting Line Tooling, Tube/Section Mill Rolls, Tube Cut Off Knives, Cold Rolling Mill Rolls, Leveller Rolls, Fins, Steel Centers, Chipper Knives, Friction Saws, Shear Blades, H.S.S. Saws & C.T. Saw Bodies.**

