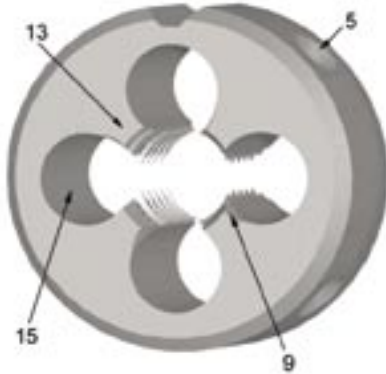
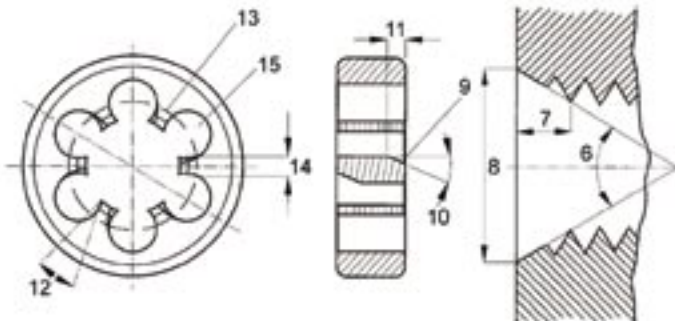
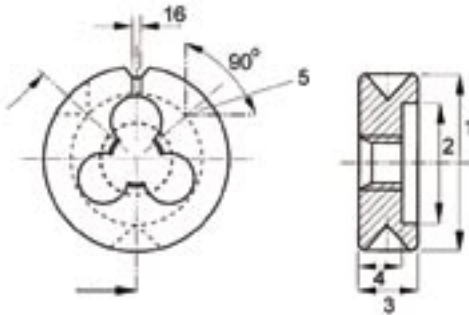


Threading with Dies

NOMENCLATURE



- 1 Outside Diameter
- 2 Recess Diameter
- 3 Thickness
- 4 Thread Length
- 5 Conical Hole for Fixing Screw
- 6 Chamfer Angle
- 7 Chamfer Length
- 8 Chamfer Diameter
- 9 Gun-nose
- 10 Spiral Angle
- 11 Spiral Length
- 12 Rake Angle
- 13 Land
- 14 Width of Land
- 15 Clearance Hole
- 16 Split of Adjustment

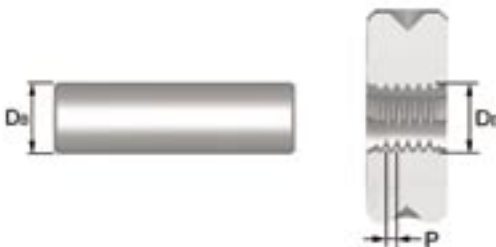


GENERAL HINTS ON THREADING WITH DIES

1. Before starting the die or dienut, chamfer the end of the bar at an angle of 45 degrees to eliminate sudden loading of the leading edges. Ensure the die or dienut is presented to the bolt squarely.
2. Make use of the large tolerances associated with the major diameter of the bolt, by reducing the diameter of the bar (see below). This will reduce the cutting force to a minimum.
3. Use the gun nose type of die, as this ensures the swarf is directed away from the cutting area.
4. Ensure a good supply of the correct lubricant is aimed at the cutting area.
5. When adjusting split dies, avoid opening out as this will cause rubbing. Split dies may be closed down by approximately 0.15mm, by turning the adjustment screws equally. Pressure on one side of the die only may cause breakage.
6. Generally speaking, dienuts are used for reclaiming or cleaning out existing threads by hand. They tend to be of a more robust construction and should only be used in exceptional circumstances to cut a thread from solid.

PRE-MACHINING DIMENSIONS

The diameter of the bolt blank must be smaller than the max. external diameter of the screw thread.



$$D_B = D_E - (0,1 * P)$$

Threading with Dies

TROUBLE SHOOTING WHEN THREADING WITH DIES

Problem	Cause	Remedy
Oversize / Undersize	Misalignment	Correct alignment, ensure cleanliness
	Incorrect axial feed rate	Ensure axial feed rate is controlled accurately
Poor finish	Incorrect rake angle for the material	Try alternative dies or special die
	Incorrect/lack of lubricant	See lubricants section
	Incorrect speed	Follow recommendations in Catalogue
	Bar diameter too large	Reduce to appropriate size
	Bar end not chamfered	Ensure bar end is chamfered
Chipping / Breakage	Wrong type of die	Follow recommendations in Catalogue
	Speed too high	Follow recommendations in Catalogue
	Bar diameter too large	Reduce to appropriate size
	Bar end not chamfered	Ensure bar end is chamfered
	Misalignment	Correct alignment, ensure cleanliness
Rapid wear	Incorrect/lack of lubricant	See lubricants section
	Speed too high	Follow recommendations in Catalogue
Built up edge	Incorrect/lack of lubricant	See section lubricants
	Bar diameter too large	Reduce to appropriate size
	Speed too low	Follow recommendations in Catalogue

