

9. Requirements for the production of punching dies

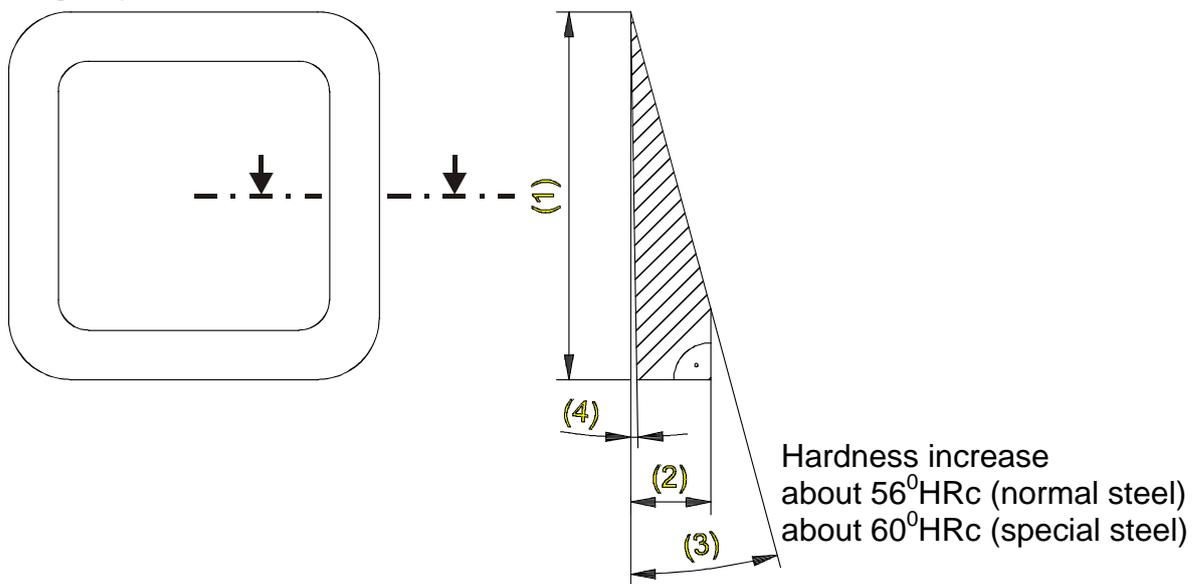
The die manufacturer requires an exact description of the edges transmitted by EDP (for example file types PDF, EPF, AI, DXF or DWG) or a film showing the exact contour of the punching shape as well as the dimensions.

The dimensions should indicate a tolerance being agreed upon with the enduser (e.g. absolute value +/- 0.25mm). If - in case of a fancy shape - the indication of dimensions is difficult, it is advisable to clarify with the manufacturer, whether the inner or the middle contour of the drawn punching line is binding.

In principal a sample of the material to be punched should accompany the order for the die, so the manufacturer can determine the exact angle of the outer chamfer from his experience. A check of the die can then be done by executing a trial punch.

9.1. Punching die – without using a counter pressure device

For full-shape label punching the die should be manufactured according to the following requirements:

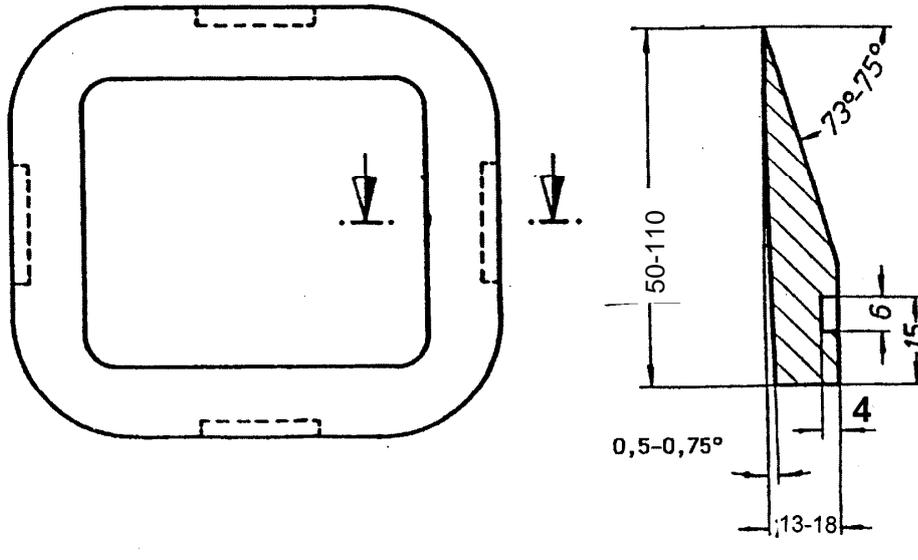


(1) Height	50 - 110 mm	(recommendation = 70 mm)
(2) Thickness of the back	13 - 18 mm	
(3) Grinding angle	15 - 17°	- polish the outer surface of the die bevel - keep the inner chamfer as small as possible depending on the material (0.05 mm and 0.1-0.2 mm long)
(4) Clearance angle according to die size	0.5 – 0.75°	opening : from the cutting edge to the die back

9.2. Using a counter pressure device

9.2.1. Punching die

- The punching die needs grooves 6 x 3 mm for the location of the retention pins



9.2.2. Matrix

- Material: plastics or aluminium (thickness 30 mm).
- Outer contour (on all sides) 0.1 – 0.2 mm smaller than the punching line of the label.
- Threaded hole M16 or threaded insert in the centre of the matrix.

