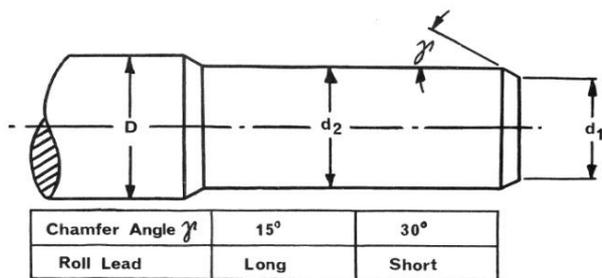


THREAD ROLLING. COMPONENT BLANK PREPARATION

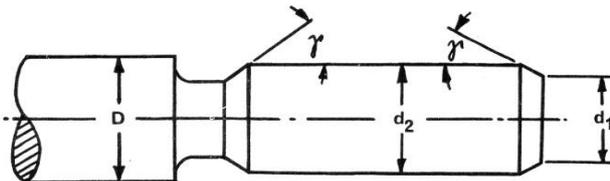
It is important that the component blank diameter is correct. If it is undersize the effective diameter of the thread will be achieved but the major diameter will not be fully formed. If it is oversize there will be excess material which will fill the void in the rolls then cause excessive loadings which could result in damage to the rolls and even to the head. It is not unknown for this condition to cause breakage of the eccentric spindles and cracking of the front plate. This latter condition must therefore be avoided!

Different materials have different resistance to displacement by cold forming due to their different hardness or toughness, so it is not possible to give rigid rules for correct blank diameters, only guidelines. The tolerance of the finished thread must be considered but in most cases it is better to determine the correct blank diameter by trial and error, starting definitely undersize and working up to a suitable result.

The blank must have a good surface finish and be straight and concentric. If the finished thread is of small diameter, or close tolerance it may be worth considering using precision ground bar or bright drawn mild steel of the correct diameter.



This is the optimum component design to ensure successful thread rolling. Chamfer diameter must always be slightly less than the core diameter of the thread.



If an undercut is required at the end of the thread it should also have a chamfer.

The optimum thread rolling diameter can be quickly determined by use of a blank in the format below. The largest diameter d_2 is the basic effective diameter of the thread and this is reduced in steps of 0.001", each step being around 1" long. Each step can be thread rolled in turn until the desired result is obtained. Remember, never roll the same step twice! It will have been work hardened.

