

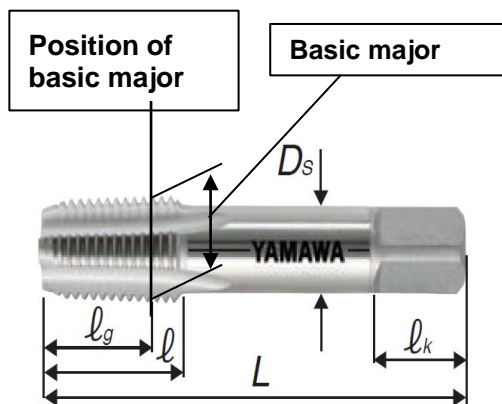
No. 082 Basic Diameter Position when processing with Taper Pipe Taps Pipe Taps

【Consultation】


We are going to machine PT1/2-14 taper pipe threads with a radial arm drilling machine. I am not sure how deep I should insert the tap into bored holes to produce a standard-compliant taper pipe threads. Can you tell me what the approximate depth of the tap should be?

【Answer】

PT taps for taper pipe threads have a tapered diameter with the smallest diameter at the tip of the tap. The diameter of the taps' threaded part becomes larger from the tip towards the shank part with a 1/16 taper. When you use taper pipe taps, you need to drive the tap to a specified diameter called the Basic Major Diameter. In the case of PT1/2-14, you can produce standard-compliant taper pipe threads by driving the tap in 25 mm from the tip.


【Advice】


• Taper pipe taps are roughly classified into three types as shown below.

1. PT : Taper pipe thread taps for Long thread type
2. S-PT : Taper pipe thread taps for Short thread type
3. Rc : Taper pipe thread taps for ISO type

• Although the basic major diameter is the same for all 3 types of taps, the length from the tip of the tap to the basic major diameter differs depending on the type of tap. The length from the tip of the taps to the basic major diameter is "lg" as shown on the example to the left, this is also known as the projection of the tap, but if the insertion depth is much different from the "lg", the internal taper pipe thread will not satisfy the JIS standard, so please be careful.

Types of taps for taper pipe taps and lengths to the basic major diameter, "ℓ" Unit: mm

Size	Distance to reference diameter		
	Long screw type (PT)	Short thread type (S-PT)	ISO type (Rc)
PT1/16-28	13	10.5	10.1
PT1/8 -28	13	10.5	10.1
PT1/4 -19	21	12.5	15
PT3/8 -19	21	14	15.4
PT1/2 -14	25	17	20.5
PT3/4 -14	25	19	21.8
PT1 -11	32	22	26

Depending on the shrinkage of the work materials and individual tapping conditions, the finished size of the internal taper pipe threads can be different. You will need to adjust the tap depth by checking it with a taper pipe thread gauge.

