

【Question】



The differences between a "Rc" and a "PT" thread call out for internal tapered pipe threads and the tapered pipe taps "PT", "S - PT" and "Rc" for tubes was explained in the Bags of Wisdom "The differences between Rc and PT(Pipe threads)". Please tell me about the difference between the external tapered pipe thread "R" and

【Answer】

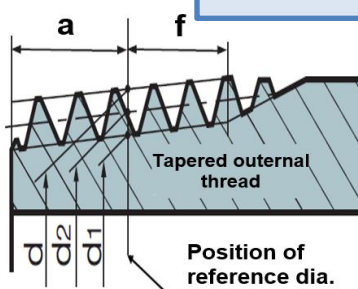
There is practically no difference between an external tapered pipe thread "R" and a "PT" thread. You might think there was a dimensional change from the "PT" to the "R" but there was not. Please see the explanation below for the relationship between the external taper pipe threads "PT" and "R" and the tapered pipe thread dies.



【Description】



The "PT" symbol was used for "External tapered pipe threads" in the former JIS standard for threads such as "PT 1/2 - 14". The current JIS standard uses the symbol "R" for threads such as "R1 / 2-14". The external thread size is the same for both a "PT1 / 2-14" and a "R1 / 2-14". ※ In the old JIS standard, both the external threads and the internal threads were displayed as "PT", but in the current JIS standard, external threads are displayed as "R" and the internal threads are shown as "Rc", so please be a little careful when selecting a tapered pipe tap.



External Thread Standard	Size	Reference Dimension of Outer Diameter (d)	Reference Length From Pipe End (a)	Unit (mm)
				Effective Thread Pitch Length (Minimum) (f)
Old JIS goods	PT1/2-14	20.955	8.16	5.0
Current JIS item	R1/2-14	20.955	8.16	5.0

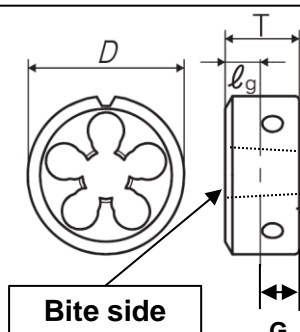
*The pitch diameter d2 and the minor diameter d1 are omitted.

*The "PT1 / 2-14" and the "R1 / 2-14" thread designations exist in the market today. The "tapered pipe thread ring gauge" that is used to inspect both "external tapered pipe threads" are also available as the thread shapes are only slightly different. So, if you use a gauge with this understanding, it is possible to inspect both the "PT" external thread and a "R" external thread with the same gauge.



YAMAWA's solid die (D PT) for taper pipe thread has the designation "PT" and it can be used as a threading die for "PT threads" and for "R thread". Please refer to the thickness of the die "1 / 2-14" die (T) below and the reference diameter position (lg).

Die schematic drawing



Product	Size	Die Diameter (D)	Die Thickness (T)	Unit (mm)
				Position of reference diameter (lg)
D PT	PT1/2-14	50	22	12

* 14 TPI = a pitch of "1.814 mm"

• The value of G in the figure on the left is "T - lg" or 10mm. This places "G" over the reference length "a" or 8.16 mm from the end of the external threaded tube. The "lg" length contains 2.5 chamfered threads, with the complete threaded portion at 12 - (1.814 × 2.5) ≈ 7.5 (mm). The minimum length of the external thread pitch portion is "f (5.0 mm)". The solid dies for tapered pipe threads are designed so that both "PT external threads" and "R external threads" can be machined without a problem.