

【Consultation】



I'm producing an aircraft part that has a 1/4"-28 UNJF 3A external thread. When we produced an internal UNF thread, we were able to use a YAMAWA Unified 1/4" - 28 UNF GH3 HT hand tap that's used for inch threads. I have used a special threading die before for an external 1/4"-28UNF 3A class of fit. Can I use the same die to produce a 1/4"-28UNJF 3A external thread?

【Answer】

Yamawa does not recommend using the special die made for a 1/4"-28UNF 3A thread to produce an aerospace UNJF type thread. The diameter and number of threads per inch on both threads are the same but the minor diameter of the UNJF thread is larger. The UNJF thread also has a larger than normal controlled root radius. You must use a die designed for a UNJF external thread as it is designed to cut a larger minor diameter and the controlled root radius of a UNJF 3A thread.



【Description】

External and internal size comparison of a "1 / 4-28 UNJF 3A class" and a "1 / 4-28 UNF 3A class"

Unit : mm

Reference size of outer diameter.	1/4-28UNJF 3A inch external thread.		1/4-28UNF 3A inch external thread.	
	Max	Min	Max	Min
6.350	6.350	6.185	6.350	6.185
Reference size of pitch diameter.	Pitch diameter tolerance.		Pitch diameter tolerance.	
	Max	Min	Max	Min
5.761	5.760	5.698	5.760	5.698
Reference dimension of minor diameter.	Tolerance of minor diameter.		Tolerance of minor diameter.	
	Max	Min	Max	Min
5.367	5.303	5.185	5.237	~
R tolerance of minor diameter.	R tolerance of minor.		R tolerance of minor.	
	Max	Min	Max	Min
	0.162	0.138	~	~

- A standard dimension comparison between a UNF and a UNJF thread is shown in the table on the left.

- As you can see from this table, the accuracy of the outer diameter and pitch diameter is the same for UNF series and UNJF 3A class of fit thread, but the dimensions of the minor diameters and Radius specifications are different.

- That's why a UNJ series screw needs to be cut with a die for a UNJ series threads.



<One point advice>

- When requesting a quotation and placing an order for an inch style UNJ external thread for aerospace threading, I strongly urge you to convey the nomenclature UNJC, UNJF or UNJEF and thread accuracy of the 3A class of fit. Additionally, please specify the minor diameter of the thread and the controlled root radius in the minor

