

NO.112

About MJ threads tapping

【Consulting】



I need to produce a "MJ 8X1" internal thread as described in the parts drawing. What are the MJ threads and can I produce this thread with a standard M8X1 taps that I normally use?

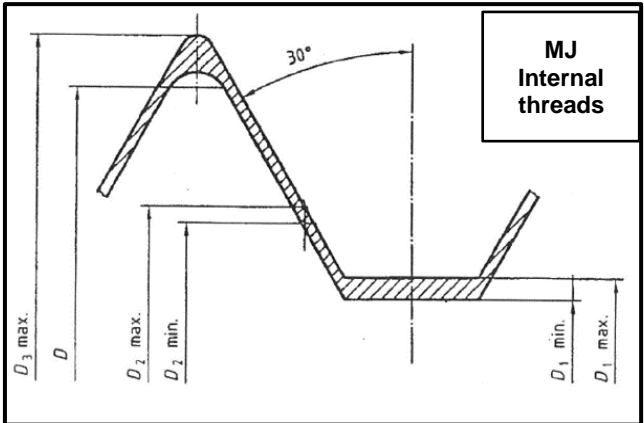
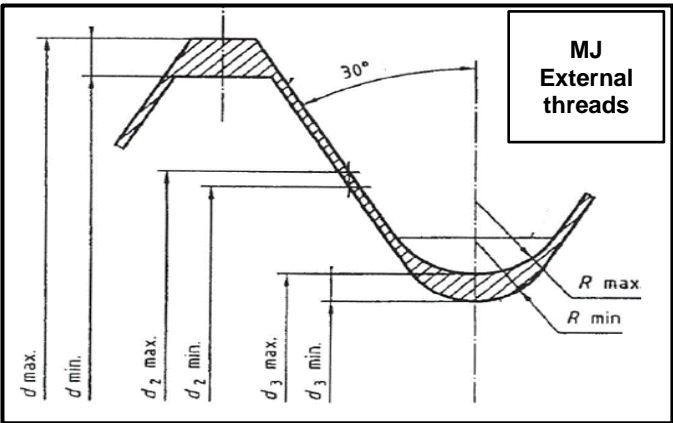
【Answer】

MJ threads are "Metric threads for Aerospace" used in aircraft, rockets and space stations. The MJ thread standard is specified in ISO 5855. The minor diameter is larger and the pitch diameter tolerance is more strict than general Metric threads. It may be difficult to make the internal MJ threads with a standard Metric thread tap. Please refer to explanation below for more details.



【Description】

MJ threads are "Metric threads for Aerospace" specified in ISO 5855. The figure below shows the shape of the "basic profile of threads" of external MJ threads and internal MJ threads. In order to prevent cracking, the external MJ threads have a radius on the root and the minor diameter is larger than that of standard Metric threads. Therefore, the minor diameter of the internal MJ threads is also larger than that of standard Metric threads.



The table below shows a comparison of the internal thread standards between MJ8X1 and M8X1. The internal MJ threads have more strict pitch diameter tolerance and larger minor diameter than the Metric threads.

Unit : mm

| Size | Class | Major dia. | Pitch dia. | | | Minor dia. | | |
|-------|-------|------------|------------|-------|-----------|------------|-------|-----------|
| | | Max | Max. | Min. | Tolerance | Max. | Min. | Tolerance |
| MJ8X1 | 4H5H | 8.239 | 7.445 | 7.350 | 0.095 | 7.216 | 7.026 | 0.190 |
| M8X1 | 6H | - | 7.500 | 7.350 | 0.150 | 7.153 | 6.917 | 0.236 |

【Advice】



MJ threads are used not only in the aircraft industry, but also in racing cars and other critical applications. There is a possibility that the internal MJ threads can be tapped with conventional Metric thread taps by drilling the bored holes bigger, but it is necessary to do a gauge check to make sure that the internal MJ threads are produced within the standard tolerance of the internal MJ threads. The majority of the aerospace industries uses the aerospace Unified threads (UNJ threads). Please refer to the "Bag full of Wisdom when you are in trouble No.102 Tap Limit for 3B Unified Threads".