

【Question】





We are tapping both Metric and Unified screws. The current method we use for the inspection of an internal screw thread is to insert a commercially available bolt into the tapped hole. This verifies the condition of the threads acceptability and we can check the thread at the processing site to judge the quality. Now we have received a request from our customer for large screws and they want us to inspect more carefully to control the tolerance of the thread to insure the high and low tolerance of the thread is being held. We know it is a good practice to inspect with the thread gauge “GP-6H” and “NP-6H” for tighter tolerances, but there are so many types of gauges making it a difficult situation in cost to measure all screw gauges. Is there a better way?

【Answer】

We would like to suggest you use of the simple screw inspection tool "SIT". "SIT" has a form similar to a roll tap, but is manufactured with the same accuracy as a thread plug gauges “GP-6H” and “NP-6H”. It is less expensive than double end thread plug gauges, so I think it is the best tool for preparing various sizes for in-house inspection tools. Please see the note below.



【Description】

| Simple Inspection Tool: SIT | |
|-----------------------------|--|
| For Go (G B) |  With blue ring. |
| For Not Go (N B) |  With red ring. |
| Remarks | You can get both separately. |

The SIT has the same tolerance accuracy as a thread plug gauge on the pitch diameter, the thread pitch and the half angle. All of these elements are important to internal thread accuracy inspection. The thread length is also important. Some specifications such as the end shape of the relief are unique to the SIT, therefore, the name thread plug gauge is not used to distinguish it as a simple Inspection Tool.

- Comparison of acceptability using a simple Screw Inspection Tool SIT GB-6H and NB-6H and double end thread plug gauge "GP-6H and NP-6H". (Example) M 6X1 6H



Unit:mm

| Size | Major diameter | | | | Pitch diameter | | | | Pitch Tolerance (±) | Tolerance of Thread half angle (±) |
|------------|----------------|---------------|--------|-----------|----------------|---------------|--------|-----------|---------------------|------------------------------------|
| | Basic | Thread limits | | Tolerance | Basic | Thread limits | | Tolerance | | |
| | | Max. | Min. | | | Max. | Min. | | | |
| GB-6H M6X1 | 6.000 | 6.023 | 6.001 | 0.022 | 5.350 | 5.3675 | 5.3565 | 0.011 | 0.005 | 15 |
| GP-6H M6X1 | 6.000 | 6.023 | 6.001 | 0.022 | 5.350 | 5.3675 | 5.3565 | 0.011 | 0.005 | 15 |
| Size | Major diameter | | | | Pitch diameter | | | | Pitch Tolerance (±) | Tolerance of Thread half angle (±) |
| | Basic | Thread limits | | Tolerance | Basic | Thread limits | | Tolerance | | |
| | | Max. | Min. | | | Max. | Min. | | | |
| NB-6H M6X1 | 5.7055 | 5.7165 | 5.6945 | 0.022 | 5.500 | 5.511 | 5.500 | 0.011 | 0.005 | 16 |
| NP-6H M6X1 | 5.7055 | 5.7165 | 5.6945 | 0.022 | 5.500 | 5.511 | 5.500 | 0.011 | 0.005 | 16 |