

ひっかかり率 Percentage of Thread Engagement

ねじ用語で、ひっかかり率とは、基準ねじ山高さ(図1)とおねじとめねじが噛み合っている高さの百分比をさす言葉です。
しかしねじは、おねじ、めねじが別々に加工されるため、便宜的に基準ねじ山に対するそれぞれのねじの噛み合高さの比で表わします。

In thread terminology, percentage of thread engagement refers to percentage of height where basic thread height (Fig.1) and external and internal threads are engaged. However, since external and internal threads are processed separately, threads are expressed by a ratio in height of action at each thread to basic thread height for convenience.

盛上げタップの場合

For forming taps, the percentage of thread engagement is calculated as follows:

$$\text{ひっかかり率 (\%)} = \frac{\text{外径の基準寸法} - \text{めねじ内径寸法}}{2 \times \text{基準ねじ山高さ}} \times 100$$

Basic major dia. - minor dia. of internal thread
2 × basic thread height

めねじ
Internal threads

下穴径
Hole dia.

めねじ内径寸法
Minor dia. of internal thread

切削タップの場合

For cutting taps, it is calculated as follows:

$$\text{ひっかかり率 (\%)} = \frac{\text{外径の基準寸法} - \text{下穴径}}{2 \times \text{基準ねじ山高さ}} \times 100$$

Basic major dia. - hole dia.
2 × basic thread height

めねじ
Internal threads

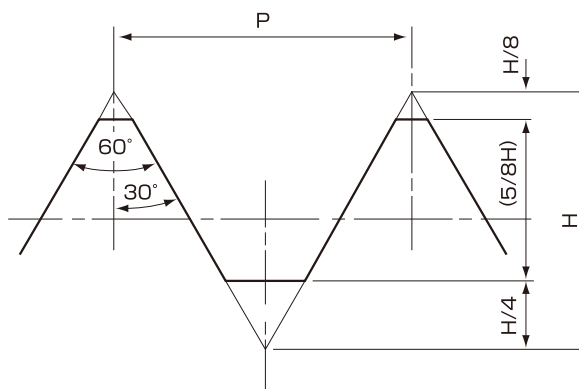
めねじ内径寸法=下穴径
Minor dia. of internal thread

基準ねじ山高さ

- メートル、ユニファイねじは $P \times 0.541266$
- ウィットねじは $P \times 0.6403$
- 管用ねじは $P \times 0.640327$

The basic thread height is taken as follows.

- $P \times 0.541266$ in case of Metric and Unified screw threads
- $P \times 0.6403$ in case of Whitworth screw threads
- $P \times 0.640327$ in case of pipe threads



メートルねじ基準山形(図1)
Basic profile of Metric thread (Fig. 1)