

### Fractional and Machine Screw

#### Table of Thread Elements

All standard Ground Thread Taps made to Tables 327 and 329 will be marked with the letter G to designate Ground Thread. The letter G will be followed by the letter H to designate above basic (L below basic) and a numeral to designate the Pitch Diameter limits.

Example: G H3 indicates a Ground Thread Tap with Pitch Diameter limits .0010 to .0015 over basic

Pitch Diameter limits for Taps to 1" diameter inclusive.

- L1 = Basic to Basic minus .0005
- H1 = Basic to Basic plus .0005
- H2 = Basic plus .0005 to Basic plus .0010
- H3 = Basic plus .0010 to Basic plus .0015
- H4 = Basic plus .0015 to Basic plus .0020
- H5 = Basic plus .0020 to Basic plus .0025
- H6 = Basic plus .0025 to Basic plus .0030

Pitch Diameter limits for Taps over 1" diameter to 1-1/2" diameter inclusive.

H4 = Basic plus .0010 to Basic plus .0020

Pitch Diameter Limit Numbers for Taps not shown above or those over 1-1/2" diameter.

For taps with H or L limit numbers not shown above or over 1-1/2" diameter for example H12 or L10, the H or L limit number divided by 2 indicates in thousandths of an inch the amount the maximum tap pitch diameter is over basic in the H series or the amount the minimum tap pitch diameter is under basic on the L series. In the H series taps the tolerance shown in Table 331, page 56. Column D, subtracted from the maximum pitch diameter will give the minimum pitch diameter. In the L series taps the tolerance shown in Table 331, Column D, added to the minimum pitch diameter will give the maximum pitch diameter. These taps will be marked with the appropriate H or L limit number.

### Metric I.S.O

Where the tap pitch diameter is over or under basic thread pitch diameter by even multiples of .0005", the tap will be marked with the letter "D" or "DU" respectively, followed by a limit number. The limit number is determined as follows:

D Limit No. = Amt. Tap PD High Limit Is Over Basic PD  
.0005"

DU Limit No. - Amt. Tap PD Low Limit Is Under Basic PD  
.0005"

For tap P.D. tolerances—see Table 341, page 582. Column "Z"

Examples:

M1.6 x .035-for D3 limit, max. tap PD = basic plus .0015"  
Tap PD tolerance = minus .0006"

M12 x 1.75-for D6 limit, max. tap PD = basic plus .0030"  
Tap PD tolerance = minus .0012"

M39 x 4-for D10 limit, max. tap PD = basic plus .0050"  
Tap PD tolerance = minus .0020"

M6 x 1-for DU 4 limit, min. tap PD = basic minus .0020"  
Tap PD tolerance = plus .0010"

Amount tap PD high limit is over basic or PD low limit is under basic should be greater than, or equal to, column Z of Table 341. If this amount is less than column Z, customer must specify maximum and minimum tap PD limits instead of a "D" or "DU" limit number.

When ground thread taps are ordered without a pitch diameter or limit number given, the tap pitch diameter will normally be determined from Table 341, and will be marked with the appropriate D limit number.

Metric taps will be marked with a capital M followed by the nominal size in millimeters and the pitch in millimeters separated by the sign "x." For example, M1.6x0.35; M6x1; M10x1.5.

### Specials

Special taps are to be marked with the nominal diameter and number of threads per inch and form of thread as specified by the purchaser on his order or blue print provided such specifications are reasonably correct.

Special Ground Thread taps made to the Pitch Diameter limits shown will also be marked with the corresponding limit number.

Special Thread taps not made to H or L limits, or to Tables 331 and 341, standard rules for undersized and oversized taps.

Where special taps are ordered without a pitch diameter or limit number given, the pitch diameter will normally be determined from Tables 331 or 341. When determined from Table 331 the taps will be marked with the appropriate H and L limit number.

When taps are specified to be a certain amount oversize or

undersized, it is standard practice to add or subtract this amount from the basic pitch diameter of the nominal size tap. This dimension then becomes the new minimum pitch diameter for the special tap to which Standard Tolerance for the nominal size is added.

Undersize or oversize taps will be marked with the nominal size and pitch, followed by the amount the minimum pitch diameter is over or under basic. For example, 1/2-13+.010".

Whenever possible, in the case of oversize, undersize, or other special taps, orders should specify the minimum and maximum tap pitch diameter desired.

Left hand taps will be marked "Left Hand" or "LH."

