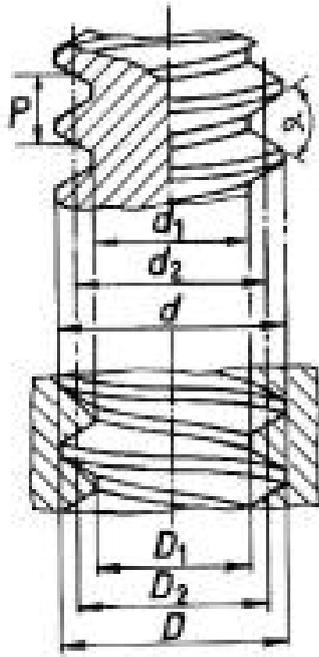


THREAD ABBREVIATIONS



EXTERNAL THREAD

d = Major diameter
d2 = Pitch diameter
d1 = Minor diameter

INTERNAL THREAD

D = Major diameter
D2 = Pitch diameter
D1 = Minor diameter
(also bore diameter)

P = Pitch
 α = Flank angle

Pitch, with metric threads, is the movement with a single rotation of the thread. Pitch, with inch threads, is the number of rotations required to move the thread a distance of 1 inch. Also known as TPI (Threads per Inch). For TPI to mm divide 25.5 by TPI.

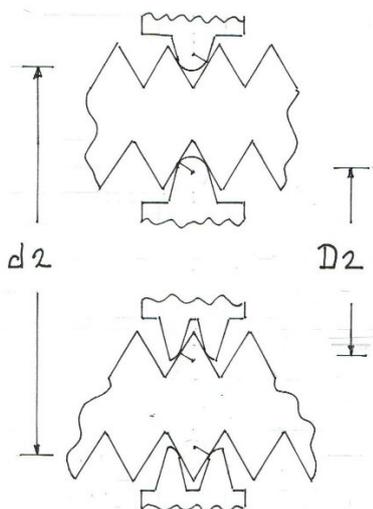
Measuring d and D_1 on threads is easy and should always be done.

Measuring d_2 with thread wires requires a calculation. No calculation is required with FMS for d_2 measurement as the measurement result is the pitch diameter.

Measuring D_2 with FMS is easy but requires a calibration plate as a reference.

UNJ and MJ threads normally require measurement of d_1 because of the larger than standard radius. FMS thread inserts can be made for measurement of both d_1 and D .

Buttress threads are the only non isosceles threads as the two flank angles are different. Often used in the aerospace industry.



The drawing to the left shows the contact FMS thread inserts make on external and internal thread pitch diameters.

Thread insert types 21, 22, 23 and 24 and 25 (the last two for tapered threads) have a pitch range exceeding just 1 pitch. For example types 21A (and of course 22A and 23A) cover a pitch range of 1-2mm/24-13 TPI on threads with a flank angle of 55° - 80° . 21B, 22BA, 23B cover the pitch range 2-4mm/13-6 TPI. C covers 4-8mm/6-3 TPI.

Thread inserts type 26, 27 and 28 can usually only be used for a specific pitch but have the advantage (as all FMS thread inserts) of the only limitation to thread diameter being the digital caliper length.