

# Standard Thread Measuring Wires

## Check your pitch diameters

Vermont Gage Thread Measuring Wires, together with a micrometer, are used to quickly and accurately measure pitch diameters of external threads. They are perfect for calibrating or checking wear on thread plug gages, and can be used to monitor and control pitch diameters of manufactured threads.

- **Tolerance**  
(+/- .000010") of calibrated nominal dia.  
(+/- .000020") of nominal best wire dia.
- **Tool steel; 59/64 Rc**
- **2" long**
- **2 microinch finish**
- **Within .00001" round (100% inspected)**
- **ANSI/ASME B89.1.17**
- **Certificate of Accuracy included**  
See page 89 for Calibration Services



## Inch Wires

[n] Threads per Inch	[G] Nominal Best Wire Diameter (Decimal)	[C] Nominal Constant (Decimal)	Order No. 3-Wire Set
120	.00481	.00722	351100510
100	.00577	.00866	351101010
96	.00601	.00902	351101510
90	.00642	.00962	351102010
80	.00722	.01083	351102510
72	.00802	.01203	351103010
64	.00902	.01353	351103510
56	.01031	.01546	351104010
50	.01155	.01732	351104510
48	.01203	.01804	351105010
44	.01312	.01968	351105510
40	.01443	.02165	351106010
36	.01604	.02406	351106510
32	.01804	.02706	351107010
30	.01925	.02887	351107510
28	.02062	.03093	351108010
27	.02138	.03208	351108510
26	.02221	.03331	351109010
24	.02406	.03608	351109510
22	.02624	.03936	351110010
20	.02887	.04330	351110510
18	.03208	.04811	351111010
16	.03608	.05413	351111510
14	.04124	.06186	351112010
13	.04441	.06662	351112510
12	.04811	.07217	351113010
11 1/2	.05020	.07531	351113510
11	.05249	.07873	351114010
10	.05774	.08660	351114510
9	.06415	.09623	351115010
8	.07217	.10825	351115510
7 1/2	.07698	.11547	351116010
7	.08248	.12372	351116510
6	.09623	.14434	351117010
5 1/2	.10497	.15746	351117510
5	.11547	.17321	351118010
4 1/2	.12830	.19245	351118510
4	.14434	.21651	351119010
3 1/2	.16496	.24744	351119510
3 1/4	.17765	.26647	351120010
3	.19245	.28868	351120510
2 3/4	.20995	.31492	351121010
2 1/2	.23094	.34641	351121510
2	.28868	.43301	351122010

## Metric Wires

Pitch	Nominal Best Wire Diameter (mm)	[C] Nominal Constant (mm)	Order No. 3-Wire Set
.2	.1155	.1732	352100510
.225	.1299	.1949	352101010
.25	.1443	.2165	352101510
.3	.1732	.2598	352102010
.35	.2021	.3031	352102510
.4	.2309	.3464	352103010
.45	.2598	.3897	352103510
.5	.2887	.4330	352104010
.6	.3464	.5196	352104510
.7	.4041	.6062	352105010
.75	.4330	.6495	352105510
.8	.4619	.6928	352106010
.9	.5196	.7794	352106510
1.0	.5774	.8660	352107010
1.25	.7217	1.0825	352107510
1.5	.8660	1.2990	352108010
1.75	1.0104	1.5155	352108510
2.0	1.1547	1.7321	352109010
2.5	1.4434	2.1651	352109510
3.0	1.7321	2.5981	352110010
3.5	2.0207	3.0311	352110510
4.0	2.3094	3.4641	352111010
4.5	2.5981	3.8971	352111510
5.0	2.8868	4.3301	352112010
5.5	3.1754	4.7631	352112510
6.0	3.4641	5.1962	352113010
7.0	4.0415	6.0622	352113510
8.0	4.6188	6.9282	352114010
9.0	5.1962	7.7942	352114510
10	5.7735	8.6603	352115010

## Thread Measuring Wire Sets

Description	Order No.
4 to 80 TPI (34 sizes in set)*	359100530
5 to 80 TPI (30 sizes in set)*	359101030
6 to 36 TPI (20 sizes in set)*	359101530
.2 to 10mm Pitch (30 sizes in set)	359102030
.3 to 6mm Pitch (23 sizes in set)	359102530

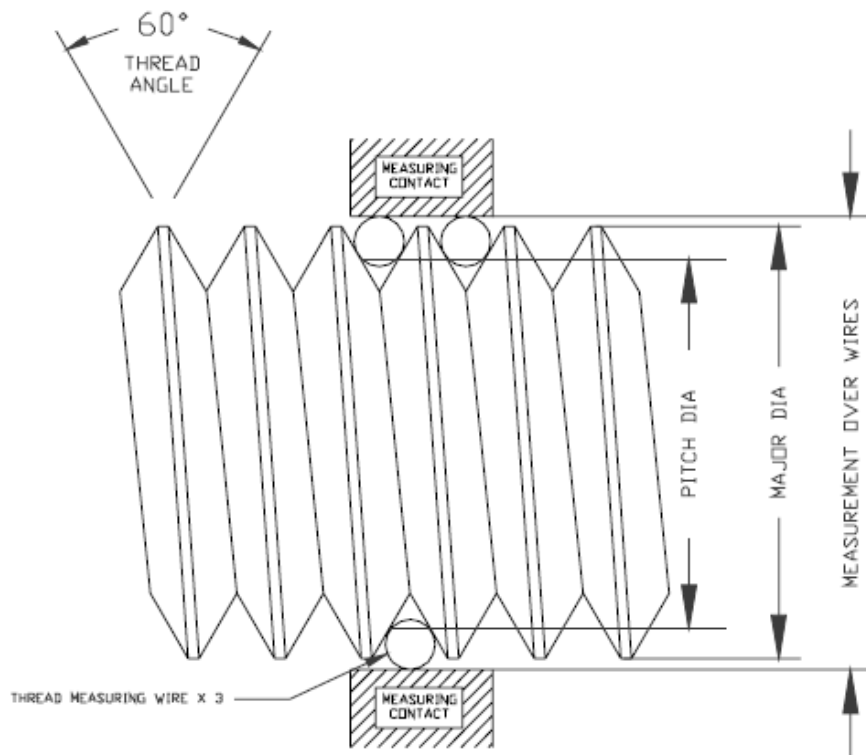
\*7-1/2 and 22 threads per inch wires not included

## 29° Acme Wires

[n] Threads per Inch	[G] Nominal Best Wire Diameter (Decimal)	Order No. 3-Wire Set
1	.51645	353100510
1 1/3	.38734	353101010
1 1/2	.34430	353101510
1 3/4	.29511	353102010
2	.25823	353102510
2 1/2	.20658	353103010
3	.17215	353103510
3 1/2	.14756	353104010
4	.12911	353104510
4 1/2	.11477	353105010
5	.10329	353105510
5 1/2	.09390	353106010
6	.08608	353106510
7	.07378	353107010
8	.06456	353107510
9	.05738	353108010
10	.05164	353108510
12	.04304	353109010
14	.03689	353109510
16	.03228	353110010
18	.02869	353110510
20	.02582	353111010

*constants must be calculated*

## Basic 60° Thread Measuring Wire Information



**Pitch Diameter = Measurement over wires (MOW) - constant**

**w = wire size**

**Pitch(P) = 1/number of threads per inch. This is the distance the thread travels in one turn.**

**Constant(C) = Constant (3 \* w) - (.8660254 \* P)**

**Pitch Diameter(PD) is the halfway point between sharp major and minor diameters.**

**Measured PD = MOW + (.8660254 \* P) - (3 \* w)**

**Reference ANSI/ASME Standards:**

**B89.1.7 - 2001 "Measurement of Thread Measuring Wires"**

**B1.7M - 1984 "Nomenclature, Definitions & Letter Symbols for Screw Threads"**

**B1.1 - 2003 "Unified Inch Screw Threads (UN & UNR Thread Form)"**

**B1.2 - 1983 "Gages & Gaging for Unified Inch Screw Threads"**

**B1.13M - 2001 "Metric Screw Threads: M Profile"**

**B1.16M - 1984 "Gages & Gaging for Metric M Screw Threads"**

## Standard Gear Measuring Wires

*Gear measuring wires are a quick & economical method to measure the tooth thickness of gears at the pitch diameter. Gear measuring wires are the same as thread measuring wires except that gear measuring wires are supplied in 2 wire sets. Special 3 wire sets & sizes may be quoted upon request.*

- Tolerance  $\pm .000010''$
  - Round within  $.00001''$
  - Wire sets up to  $.825''$  are matched to within  $.00001''$
  - Oil hardened tool steel or high speed steel
  - 2" long
  - 2 rms or better
  - meets former Federal Specification GGG-W-366b
  - Certificate of Accuracy included
- See page 89 for Calibration Services



Pitch	1.92" Series Wire Dia.	Order No. Set of 2	1.728" Series Wire Dia.	Order No. Set of 2	1.68" Series Wire Dia.	Order No. Set of 2	1.44" Series Wire Dia.	Order No. Set of 2
2	.960	357100510	.864	357200510	.840	357300510	.720	357400510
2 1/2	.768	357101010	.6912	357201010	.672	357301010	.576	357401010
3	.640	357101510	.576	357201510	.560	357301510	.480	357401510
4	.480	357102010	.432	357202010	.420	357302010	.360	357402010
5	.384	357102510	.3456	357202510	.336	357302510	.288	357402510
6	.320	357103010	.288	357203010	.280	357303010	.240	357403010
7	.27428	357103510	.24686	357203510	.240	357303510	.20571	357403510
8	.2400	357104010	.216	357204010	.210	357304010	.180	357404010
9	.21333	357104510	.192	357204510	.18666	357304510	.160	357404510
10	.192	357105010	.1728	357205010	.168	357305010	.144	357405010
11	.17454	357105510	.15709	357205510	.15273	357305510	.13091	357405510
12	.160	357106010	.144	357206010	.140	357306010	.120	357406010
14	.13714	357106510	.12343	357206510	.120	357306510	.10286	357406510
16	.120	357107010	.108	357207010	.105	357307010	.090	357407010
18	.10667	357107510	.096	357207510	.0933	357307510	.080	357407510
20	.096	357108010	.0864	357208010	.084	357308010	.072	357408010
22	.08727	357108510	.07855	357208510	.07636	357308510	.06545	357408510
24	.080	357109010	.072	357209010	.0700	357309010	.0600	357409010
28	.06857	357109510	.06171	357209510	.060	357309510	.05143	357409510
32	.060	357110010	.054	357210010	.0525	357310010	.045	357410010
36	.05333	357110510	.048	357210510	.04667	357310510	.0400	357410510
40	.048	357111010	.0432	357211010	.042	357311010	.036	357411010
48	.040	357111510	.036	357211510	.035	357311510	.030	357411510
64	.030	357112010	.027	357212010	.02625	357312010	.0225	357412010
72	.02667	357112510	.024	357212510	.02333	357312510	.020	357412510
80	.024	357113010	.0216	357213010	.021	357313010	.018	357413010
96	.020	357113510	.018	357213510	.0175	357313510	.015	357413510
100	.0192	357114010	.01728	357214010	.0168	357314010	.0144	357414010
120	.0160	357114510	.0144	357214510	.014	357314510	.012	357414510
128	.0150	357115010	.0135	357215010	.01312	357315010	.01125	357415010
200	.0096	357115510	.00864	357215510	.0084	357315510	.0072	357415510