A-1 Wire Tech, Inc.

Revision: 08.01.00
Document No.QM-201

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Document:
Mechanical Properties Guideline

Originated By
Production Manager

Approved By
Management Council

COLD DRAWN WIRE .032-.250" GUIDELINE FOR MECHANICAL PROPERTIES

	302	304	305	308	309	310	316	330	347	430	A286
TENSILE KSI											
ANNEALED	95-115	95-115	95-115	90-110	90-110	90-110	90-110	90-110	90-110	85-100	
No. 1 TEMPER											
QUARTER HARD	140-160	140-160	140-160	115-140	115-140	115-140	115-140	115-140	115-140	105-120	
HALF HARD	165-230	165-230	165-230	140-170	140-170	140-170	140-170	140-170	140-170	115-130	
THREE QUARTER HARD	195-275	195-275	195-275	170-200	170-200	170-200	170-200	170-200	170-200	125-140	
FULL HARD SPRING	225-300	230-300	230-300	185-245	185-245	185-245	185-245	185-245	185-245	140-160	
ANNEALED-AGE HARDENED											
SPRING -AGE HARDENED											
YIELD KSI											
ANNEALED	40-60	40-60	40-60	35-50	35-50	35-50	35-50	35-50	35-50	40-60	
QUARTER HARD	100-150	100-150	100-150	90-130	90-130	90-130	90-130	90-130	90-130	80-90	
HALF HARD	130-210	130-210	130-210	110-155	110-155	110-155	110-155	110-155	110-155	95-105	
THREE QUARTER HARD	170-260	170-260	170-260	150-180	150-180	150-180	150-180	150-180	150-180	110-125	
FULL HARD	210-280	210-280	210-280	185-230	180-230	185-230	185-230	185-230	185-230	130-150	
ELONG 2%											
ANNEALED	35-55	35-55	35-55	25-55	25-55	25-55	30-55	25-55	25-55	15-22	
QUARTER HARD	15-25	15-25	15-25	15-25	15-25	15-25	15-25	15-25	15-25	11-16	
HALF HARD	10-17	10-17	10-17	10-17	10-17	10-17	10-17	10-17	10-17	9-14	
THREE QUARTER HARD	5-10	5-10	5-10	5-10	5-10	5-10	5-10	5-10	5-10	7-12	
FULL HARD	2-5	2-5	1-2	1-2	1-2	1-2	1-2	1-2	1-2	2-5	
.125 - .250 DIAMETER GUIDELINES											
TENSILE KSI											
ANNEALED	90-105	90-105	90-105	85-105	85-105	85-105	85-105	85-105	85-105	75-90	85-105
QUARTER HARD	120-140	120-140	120-140	110-130	110-130	110-130	110-130	110-130	110-130	90-100	100-120
HALF HARD	145-170	145-170	145-170	125-155	125-155	125-155	125-155	125-155	125-155	100-115	120-150
THREE QUARTER HARD	170-200	170-200	170-200	140-180	140-180	140-180	140-180	140-180	140-180	110-125	130-160
FULL HARD	190-230	190-230	190-230	160-190	160-190	160-190	160-190	160-190	150-185	115-130	140-180
YIELD KSI											
ANNEALED	35-55	35-55	35-55	35-40	35-40	35-40	35-40	35-40	35-40	40-60	45-65
QUARTER HARD	90-125	90-125	90-125	80-90	80-90	80-90	80-90	80-90	80-90	70-80	65-100
HALF HARD	120-150	120-150	120-150	105-125	105-125	105-125	105-125	105-125	105-125	80-100	100-130
THREE QUARTER HARD	150-180	150-180	150-180	125-150	125-150	125-150	125-150	125-150	125-150	95-110	115-140
FULL HARD	180-220	180-220	180-220	150-185	150-185	150-185	150-185	150-185	150-185	115-130	140-180
ELONG 2%											
ANNEALED	25-55	25-55	25-55	25-55	25-55	25-55	25-55	25-55	25-55	15-22	40
QUARTER HARD	15-25	15-25	15-25	15-25	15-25	15-25	15-25	15-25	15-25	11-16	15
HALF HARD	10-17	10-17	10-17	10-11	10-11	10-11	10-11	10-11	10-11	10-11	8
THREE QUARTER HARD	5-10	5-10	5-10	8-12	8-12	8-12	8-12	8-12	8-12	7-12	4
FULL HARD	2-5	2-5	2-5	4-8	4-8	4-8	4-8	4-8	4-8	4-6	2