



A-L SERIES INSERT PROFILE

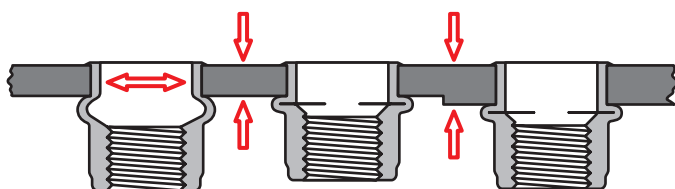
The **A-L Series Insert** features a knurled body and large diameter—low profile head making it ideal for use in punched or drilled holes. The Steel A-L Series Insert offers the highest all around strength characteristics and has been designed to be used with Grade 5 or Metric 8.8/9.8 mating screws. The A-L Series is AVK's most versatile performer.

The A-L Series Insert can be installed using AVK's ARO brand pneumatic tools or AVK's SPP Tool™ System pneumatic/hydraulic tooling. These tools can be located at any position on your assembly line. The A-L Series can be installed either before or after finish.

SPINWALL TECHNOLOGY™

HOW HOLE FILL WORKS FOR YOU

As the A-L Series is installed, the knurled body expands 360° **FILLING THE HOLE**. This feature provides exceptional torque strength and vibration resistance.



The installation tool then continues to install the insert forming a backside flange even in multiple or variable thickness materials **WITHOUT ADJUSTMENT**.

DESIGN BENEFITS

- **EXCEPTIONAL TORQUE STRENGTH** is achieved as the insert's knurled body expands **FILLING THE HOLE**.
- **QUALITY INSTALLATIONS** even in variable thickness materials are assured by AVK's spin/spin ARO pneumatic tools and our pneumatic hydraulic SPP Tool™ Systems.
- **SUPERIOR THREAD STRENGTH** is provided due to our internal rolled thread manufacturing process.
- **THREADS GAUGE** before and after installation due to the increased cross-sectional thickness of the thread area. Thread dilation is prevented.
- **INVENTORY REDUCTION** is possible because of the A-L Series' wide grip range capacity. It is 2.5 times greater than conventional rivet nuts.
- **SUPERIOR CORROSION RESISTANCE** is provided by our standard zinc/yellow trivalent finish (120 hours. salt spray to white corrosion). For exceptional corrosion protection we offer a trivalent tin/zinc alloy finish.
- **AVAILABLE** in steel. Additional materials such as aluminum, brass and monel are available by special order. Contact an AVK Sales Representatives.

ADDITIONAL DESIGN TYPES

ORIGINAL CLOSED END

Thread area is enclosed eliminating leakage past the threads from either side of the application. See page 11.



LIGHT CLOSED END

Offers the same benefits as the original with 5-30% weight savings



SEALED HEAD

A PVC foam seal is bonded to the underside of the head and when installed provides a weather tight seal. (Also available in the closed end version.) See page 18 for important grip information.



WEDGE HEAD

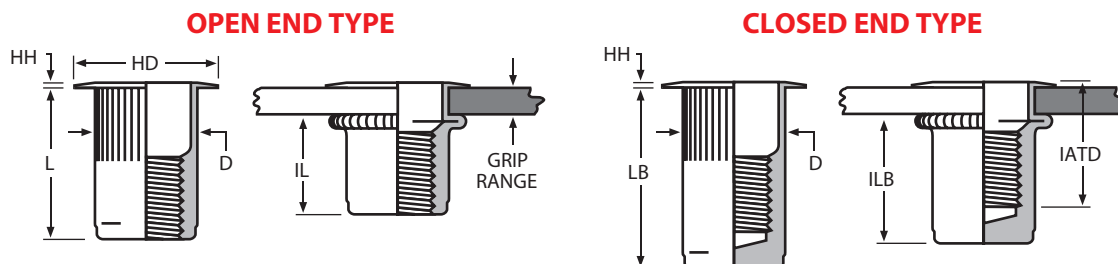
The addition of wedges under the head provides even greater torque capability, especially in soft or thin materials and is excellent for electrical grounding applications. Contact an AVK Sales Representative for details.



UNIFIED (INCH) AND METRIC THREAD SIZES



INSERT
KNURLED THREADED INSERTS



Thread Specifications: Unified 2B/21 per ASME B1.1
Metric 6H/21 per ASME B1.13M

THREAD SIZE	THREAD CALL OUT	GRIP RANGE	GRIP CALL OUT	HOLE SIZE +.006 / -.000	HD ±.010 ±.025*	HH ±.003	L ±.015	D MAX.	IL MAX.	LB MAX.	ILB MAX.	IATD** MAX.
6-32 UNC	632	.020 - .080	80	17/64 (.2656)	.390	.030	.420	.265	.305	.755	.640	.610
6-32 UNC	632	.080 - .130	130	17/64 (.2656)	.390	.030	.470	.265	.305	.755	.580	.670
8-32 UNC	832	.020 - .080	80	17/64 (.2656)	.390	.030	.420	.265	.305	.755	.640	.610
8-32 UNC	832	.080 - .130	130	17/64 (.2656)	.390	.030	.470	.265	.305	.755	.580	.670
10-24 UNC	1024	.020 - .130	130	19/64 (.2969)	.415	.030	.475	.296	.315	1.005	.845	.730
10-24 UNC	1024	.130 - .225	225	19/64 (.2969)	.415	.030	.585	.296	.315	1.005	.735	.840
10-32 UNF	1032	.020 - .130	130	19/64 (.2969)	.415	.030	.475	.296	.315	1.005	.845	.730
10-32 UNF	1032	.130 - .225	225	19/64 (.2969)	.415	.030	.585	.296	.315	1.005	.735	.840
1/4-20 UNC	420	.027 - .165	165	25/64 (.3906)	.500	.030	.580	.390	.380	1.205	1.005	.895
1/4-20 UNC	420	.165 - .260	260	25/64 (.3906)	.500	.030	.680	.390	.380	1.205	.905	1.035
5/16-18 UNC	518	.027 - .150	150	17/32 (.5312)	.685*	.035	.690	.530	.470	1.405	1.175	.995
5/16-18 UNC	518	.150 - .312	312	17/32 (.5312)	.685*	.035	.805	.530	.425	1.405	1.025	1.120
3/8-16 UNC	616	.027 - .150	150	17/32 (.5312)	.685*	.035	.690	.530	.470	1.405	1.175	.995
3/8-16 UNC	616	.150 - .312	312	17/32 (.5312)	.685*	.035	.805	.530	.425	1.405	1.025	1.120
1/2-13 UNC	813	.063 - .200	200	11/16 (.6875)	.865*	.047	1.150	.685	.850	2.380	2.070	1.505
1/2-13 UNC	813	.200 - .350	350	11/16 (.6875)	.865*	.047	1.300	.685	.850	2.380	1.920	1.505
1/2-13 UNC	813	.350 - .500	500	11/16 (.6875)	.865*	.047	1.450	.685	.860	2.380	1.770	1.505

THREAD SIZE	THREAD CALL OUT	GRIP RANGE	GRIP CALL OUT	HOLE SIZE +.015 / -.000	HD ±.025 ±.064*	HH ±.008	L ±.038	D MAX.	IL MAX.	LB MAX.	ILB MAX.	IATD** MAX.
M4 x 0,7 ISO	470	0,50 - 2,00	2.0	6,75	9,91	0,76	10,67	6,73	7,75	19,18	16,26	15,49
M4 x 0,7 ISO	470	2,00 - 3,30	3.3	6,75	9,91	0,76	11,94	6,73	7,75	19,18	14,73	17,02
M5 x 0,8 ISO	580	0,50 - 3,30	3.3	7,60	10,54	0,76	12,07	7,52	8,00	25,53	21,46	18,54
M5 x 0,8 ISO	580	3,30 - 5,70	5.7	7,60	10,54	0,76	14,86	7,52	8,00	25,53	18,67	21,34
M6 x 1,0 ISO	610	0,70 - 4,20	4.2	10,00	12,70	0,76	14,73	9,91	9,65	30,61	25,53	22,73
M6 x 1,0 ISO	610	4,20 - 6,60	6.6	10,00	12,70	0,76	17,27	9,91	9,65	30,61	22,99	26,29
M8 x 1,25 ISO	8125	0,70 - 3,80	3.8	13,50	17,40*	0,89	17,53	13,46	11,94	35,69	29,85	25,27
M8 x 1,25 ISO	8125	3,80 - 7,90	7.9	13,50	17,40*	0,89	20,45	13,46	10,80	35,69	26,04	28,45
M10 x 1,5 ISO	1015	0,70 - 3,80	3.8	13,50	17,40*	0,89	17,53	13,46	11,94	35,69	29,85	25,27
M10 x 1,5 ISO	1015	3,80 - 7,90	7.9	13,50	17,40*	0,89	20,45	13,46	10,80	35,69	26,04	28,45
M12 x 1,75 ISO	12175	1,60 - 5,10	5.1	17,45	21,97*	1,19	29,21	17,4	21,59	60,45	52,58	38,23
M12 x 1,75 ISO	12175	5,10 - 8,90	8.9	17,45	21,97*	1,19	33,02	17,4	21,59	60,45	48,77	38,23
M12 x 1,75 ISO	12175	8,90 - 12,7	12.7	17,45	21,97*	1,19	36,83	17,4	21,84	60,45	44,96	38,23

NOTE 1: Grip range can be affected by parent material density and actual hole size. AVK suggests trial installations to determine optimum grip.

NOTE 2: Additional UNF fine threads are available. Contact an AVK Sales Representative for details.

NOTE 3: Additional grip lengths are available. Contact an AVK Sales Representative for details. **Dimensions in minimum grip condition.

***NOTE 4: Closed End CRES inserts have a reduced "LB" and "ILB" dimension. Contact an AVK sales rep for details.

PART NUMBERING SYSTEM



SAMPLE NUMBER: ALS3T-420-165

AL	()	()	- ()	- ()	()
PRODUCT SERIES	MATERIAL	FINISH RoHS COMPLIANT	THREAD CALL OUT	GRIP CALL OUT	TYPE
	CALL OUT	CALL OUT			CALL OUT
	GRADE	SPECIFICATION			TYPE
	S Steel 1010/1008	3T ZINC TRIVALENT PER ASTM-B-633, FE/ZN .0003 (8µ) WITH CLEAR PROTECTIVE COATING			BLANK Open End
	A Aluminum 5056	4T YELLOW ZINC TRIVALENT PER ASTM-B-633, FE/ZN .0003 (8µ) WITH CLEAR PROTECTIVE COATING			B Closed End
	B Brass 270/260	9T TIN ZINC TRIVALENT PER ESP-P-004, .0003 (8µ) WITH CLEAR PROTECTIVE COATING			S Sealed (See Pg.18)
	M Monel 400	Note: For Additional Plating See Chart on Page 47			W Wedge Head
	C CRES 302***				

See installation tool selection on page 31 - 43.