

KEY-LOCKING INSERT **CLAVSERT**





RELIABILITY

Product quality, respect of applicable standards, respect of our commitments through our certifications.

It is because we are reliable that we can be trusted.



EXPERTISE

We have been manufacturing for 45 years: design office & automated production system.



INNOVATION

Products, production and service, we are continuously looking for innovation for our customers.



PROXIMITY

We remain at our customers disposal at all times: listening, advising and being flexible to meet your expectations.

For over 45 years, AMECA provides **reliable, high-quality products** to a wide range of customers in a variety of industries around the world: aerospace, defense, nuclear, railway, etc.

We are **aware of product and quality standards** and we work in close partnership with our customers to adapt our service and meet their expectations.



**FRENCH
MANUFACTURER
OF MECHANICAL
FASTENING
SOLUTIONS**



A PRODUCTION
ADAPTED TO YOUR NEEDS:
MICRO SERIES AND LARGE VOLUMES





KEY-LOCKING INSERTS CLASERT

CHARACTERISTICS

CLASERT key-locking threaded inserts are used in many industries, from aerospace, railway to energy and defense. They provide a **reliable and durable assembly solution**.

CLASERT are particularly strong and **can withstand frequent assembly and disassembly** of the screw, without altering the thread. They are positively locked to prevent rotation and are **resistant to vibration**. They can easily be used in light alloy, steel and cast iron. They can also be used to **repair stripped, damaged or worn out threads**.

Depending on the size of the thread, CLASERT are available with two or four keys and either a non-locking or self-locking internal threads.



ADVANTAGES



EASY INSTALLATION

CLASERT key-locking threaded inserts are very easy to install and remove. There is **no need for special tools or pre-winder tools**. All you have to do is to drill a hole, tap it to the dimensions indicated, screw in the insert and lock it in place by simultaneously pushing in the two or four keys.



HIGH PULL-OUT RESISTANCE

The CLASERT key-locking threaded insert comes in the form of a rigid one-piece insert with locking keys, ensuring **high resistance to tearing**.



REPAIR OF DAMAGED THREADS

The CLASERT key-locking threaded insert **enables damaged threads** in expensive parts to be replaced quickly and cost-effectively.

MATERIALS & TREATMENTS A large choice of materials and sizes

MATERIALS (INSERTS)	MATERIALS (KEYS)	FINISHES	SIZES
303 Stainless	302 Stainless	Zinc Phosphate (standard acier)	Metric M4 à M24
304 Stainless	420 Stainless (Self-Broaching)	Passivate (standard inox)	UNC – UNF 8-32 à 1"
316 Stainless		Cadmium	
17-4 PH Stainless		Dry-Film Lube	
A286 Stainless		Silver	
Nitronic 60 Stainless		Nickel	
4140 Alloy			
Inconel 718			
Carbon Steel (C1215)			

CLAYSERT - TECHNICAL DATA AND PART NUMBERS

STANDARD KEY-LOCKING THREADED INSERTS



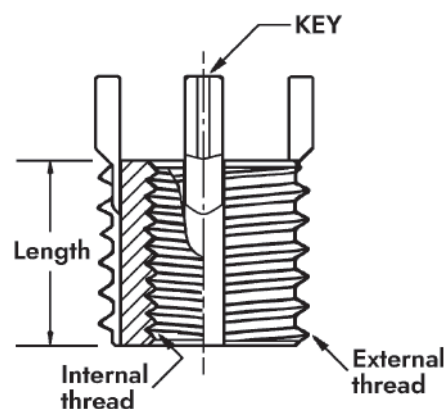
MATERIALS (INSERTS)	MATERIALS (KEYS)	FINISHES	TOLERANCES
Carbon Steel C1215 or equivalent	302 CRES or equivalent	Carbon Steel	±0.010 inch or ±0.25 mm unless specified otherwise
		Zinc Phosphate	
Stainless Steel 303 or equivalent		Stainless Steel	
		Passivated	

KEYS

Inserts with an internal thread size of 5/16 or M7 and larger have 4 locking keys. Smaller sizes have 2 locking keys.

DIMENSIONS

Are in inches except metric inserts are in millimeters.



TAP DRILL HOLE TOLERANCE:

Metric: 6.90 to 10.80 = +0.100/-0.025 - Over 12.80 = +0.130/-0.025

Inch: 0.234 to 0.500 = +0.004/-0.001 - Over 0.500 = +0.005/-0.001

METRIC / NON-LOCKING / THINWALL

PART NUMBER		INSERT			INSTALLATION					REMOVAL	
Carbon Steel	Stainless Steel	Internal Thread Class 6H	External Thread Class 6g	Length	Installation Tool Part No.	Tap Drill Size ①	C'Sink Dia. +0.25 -0.00	Thread Tap		Drill	
								Size Class 6H	Min. Depth	Size	Depth
9100005080	9110005080	M 5x0.8	M 8x1.25	8,0	64751	6,9	8,25	M 8x1.25	9,5	5,50	4,00
9100006100	9110006100	M 6x1.0	M 10x1.25	10,0	64752	8,8	10,25	M 10x1.25	11,5	7,50	4,75
9100008125	9110008125	M 8x1.25	M 12x1.25	12,0	64753	10,8	12,25	M 12x1.25	13,5	9,50	4,75
9100008100	9110008100	M 8x1.0									
9100010150	9110010150	M 10x1.5	M 14x1.5	14,0	64755	12,8	14,25	M 14x1.5	15,5	11,50	4,75
9100010125	9110010125	M 10x1.25									
9100012175	9110012175	M 12x1.75	M 16x1.5	16,0	64756	14,75	16,25	M 16x1.5	17,5	13,50	4,75
9100012125	9110012125	M 12x1.25									

METRIC / NON-LOCKING / HEAVY DUTY

PART NUMBER		INSERT			INSTALLATION					REMOVAL	
Carbon Steel	Stainless Steel	Internal Thread Class 6H	External Thread Class 6g	Length	Installation Tool Part No.	Tap Drill Size 1	C'Sink Dia. +0.25 -0.00	Thread Tap		Drill	
								Size Class 6H	Min. Depth	Size	Depth
9200004070	9210004070	M 4x0.7	M 8x1.25	8,0	64763	6,9	8,25	M 8x1.25	9,5	5,50	4,00
9200005080	9210005080	M 5x0.8	M 10x1.25	10,0	64764	8,8	10,25	M 10x1.25	12,5	7,50	4,75
9200006100	9210006100	M 6x1.0	M 12x1.25	12,0	64765	10,8	12,25	M 12x1.25	14,5	9,50	4,75
9200008125	9210008125	M 8x1.25	M 14x1.5	14,0	64766	12,8	14,25	M 14x1.5	16,5	11,50	4,75
9200008100	9210008100	M 8x1.0									
9200010150	9210010150	M 10x1.5	M 16x1.5	16,0	64767	14,75	16,25	M 16x1.5	18,5	13,50	4,75
9200010125	9210010125	M 10x1.25									
9200012175	9210012175	M 12x1.75	M 18x1.5	18,0	64769	16,75	18,25	M 18x1.5	20,5	15,50	4,75
9200012125	9210012125	M 12x1.25									
9200014200	9210014200	M 14x2.0	M 20x1.5	20,0	64770	18,75	20,25	M 20x1.5	22,5	17,50	4,75
9200014150	9210014150	M 14x1.5									
9200016200	9210016200	M 16x2.0	M 22x1.5	22,0	64771	20,5	22,25	M 22x1.5	24,5	17,75	6,35
9200016150	9210016150	M 16x1.5									
9200018150	9210018150	M 18x1.5	M 24x1.5	24,0	64772	22,5	24,25	M 24x1.5	26,5	19,75	6,35
9200020250	9210020250	M 20x2.5	M 30x2.0	30,0	64773	28,0	30,25	M 30x2.0	34,5	25,75	6,35
9200020150	9210020150	M 20x1.5									
9200022150	9210022150	M 22x1.5	M 32x2.0	32,0	64774	30,0	32,25	M 32x2.0	36,5	27,75	6,35
9200024300	9210024300	M 24x3.0	M 33x2.0	33,0	64775	31,0	33,25	M 33x2.0	37,5	28,75	6,35
9200024200	9210024200	M 24x2.0									

METRIC / SELF-LOCKING / THINWALL

PART NUMBER		INSERT			INSTALLATION					REMOVAL	
Stainless Steel		Internal Thread Class 6H	External Thread Class 6g	Length	Installation Tool Part No.	Tap Drill Size 1	C'Sink Dia. +0.25 -0.00	Thread Tap		Drill	
								Size Class 6H	Min. Depth	Size	Depth
9110105080		M 5x0.8	M 8x1.25	8,0	64751	6,9	8,25	M 8x1.25	9,5	5,50	4,00
9110106100		M 6x1.0	M 10x1.25	10,0	64752	8,8	10,25	M 10x1.25	11,5	7,50	4,75
9110108125		M 8x1.25	M 12x1.25	12,0	64753	10,8	12,25	M 12x1.25	13,5	9,50	4,75
9110108100		M 8x1.0									
9110110150		M 10x1.5	M 14x1.5	14,0	64755	12,8	14,25	M 14x1.5	15,5	11,50	4,75
9110110125		M 10x1.25									
9110112175		M 12x1.75	M 16x1.5	16,0	64756	14,75	16,25	M 16x1.5	17,5	13,50	4,75
9110112125		M 12x1.25									

1 Tap drill hole tolerance: Metric
6.90 to 10.80 = +0.100/-0.025 - Over 12.80 = +0.130/-0.025

METRIC / SELF-LOCKING / HEAVY DUTY

PART NUMBER	INSERT			INSTALLATION					REMOVAL	
Stainless Steel	Internal Thread Class 6H	External Thread Class 6g	Length	Installation Tool Part No.	Tap Drill Size 1	C'Sink Dia. +0.25 -0.00	Thread Tap		Drill	
							Size Class 6H	Min. Depth	Size	Depth
9210104070	M 4x0.7	M 8x1.25	8,0	64763	6,9	8,25	M 8x1.25	9,5	5,50	4,00
9210105080	M 5x0.8	M 10x1.25	10,0	64764	8,8	10,25	M 10x1.25	12,5	7,50	4,75
9210106100	M 6x1.0	M 12x1.25	12,0	64765	10,8	12,25	M 12x1.25	14,5	9,50	4,75
9210108125	M 8x1.25	M 14x1.5	14,0	64766	12,8	14,25	M 14x1.5	16,5	11,50	4,75
9210108100	M 8x1.0									
9210110150	M 10x1.5	M 16x1.5	16,0	64767	14,75	16,25	M 16x1.5	18,5	13,50	4,75
9210110125	M 10x1.25									
9210112175	M 12x1.75	M 18x1.5	18,0	64769	16,75	18,25	M 18x1.5	20,5	15,50	4,75
9210112125	M 12x1.25									
9210114200	M 14x2.0	M 20x1.5	20,0	64770	18,75	20,25	M 20x1.5	22,5	17,50	4,75
9210114150	M 14x1.5									
9210116200	M 16x2.0	M 22x1.5	22,0	64771	20,5	22,25	M 22x1.5	24,5	17,75	6,35
9210116150	M 16x1.5									
9210118150	M 18x1.5	M 24x1.5	24,0	64772	22,5	24,25	M 24x1.5	26,5	19,75	6,35
9210120250	M 20x2.5	M 30x2.0	30,0	64773	28,0	30,25	M 30x2.0	34,5	25,75	6,35
9210120150	M 20x1.5									
9210122150	M 22x1.5	M 32x2.0	32,0	64774	30,0	32,25	M 32x2.0	36,5	27,75	6,35
9210124300	M 24x3.0	M 33x2.0	33,0	64775	31,0	33,25	M 33x2.0	37,5	28,75	6,35
9210124200	M 24x2.0									

UNC-UNF / NON-LOCKING / THINWALL

PART NUMBER		INSERT			INSTALLATION					REMOVAL	
Carbon Steel	Stainless Steel	Internal Thread Class 2B	External Thread (Mod.) Class 2A	Length	Installation Tool Part No.	Tap Drill Size 2	C/Sink Dia. +0.010 -0.000	Thread Tap		Drill	
								Size Class 2B	Min. Depth	Size	Depth
9100065921	9110066321	10 - 24	5/16 - 18	0,31	64721	0,272	0,32	5/16 - 18	0,37	7/32	1/8
9100066121	9110066521	10 - 32									
9100065922	9110066322	1/4 - 20	3/8 - 16	0,37	64722	0,332	0,38	3/8 - 16	0,43	9/32	3/16
9100066122	9110066522	1/4 - 28									
9100065923	9110066323	5/16 - 18	7/16 - 14	0,43	64723	0,397	0,44	7/16 - 14	0,50	11/32	3/16
9100066123	9110066523	5/16 - 24									
9100065924	9110066324	3/8 - 16	1/2 - 13	0,50	64724	29/64	0,51	1/2 - 13	0,56	13/32	3/16
9100066124	9110066524	3/8 - 24									
9100065925	9110066325	7/16 - 14	9/16 - 12	0,56	64725	33/64	0,57	9/16 - 12	0,62	15/32	3/16
9100066125	9110066525	7/16 - 20									
9100065926	9110066326	1/2 - 13	5/8 - 11	0,62	64726	37/64	0,63	5/8 - 11	0,68	17/32	3/16
9100066126	9110066526	1/2 - 20									

1 Tap drill hole tolerance: Metric
6.90 to 10.80 = +0.100/-0.025 - Over 12.80 = +0.130/-0.025

UNC-UNF / NON-LOCKING / HEAVY DUTY

PART NUMBER		INSERT			INSTALLATION					REMOVAL	
Carbon Steel	Stainless Steel	Internal Thread Class 2B	External Thread (Mod.) Class 2A	Length	Installation Tool Part No.	Tap Drill Size 	C'Sink Dia. +0.010 -0.000	Thread Tap		Drill	
								Size Class 2B	Min. Depth	Size	Depth
9200065900	9210066300	8 - 32	5/16 - 18	0,31	64700	0,272	0,32	5/16 - 18	0,37	7/32	1/8
9200065901	9210066301	10 - 24	3/8 - 16	0,31	64701	0,332	0,38	3/8 - 16	0,37	9/32	1/8
9200066101	9210066501	10 - 32									
9200065902	9210066302	1/4 - 20	7/16 - 14	0,37	64702	0,397	0,44	7/16 - 14	0,43	11/32	3/16
9200066102	9210066502	1/4 - 28									
9200065903	9210066303	5/16 - 18	1/2 - 13	0,43	64703	29/64	0,51	1/2 - 13	0,50	13/32	3/16
9200066103	9210066503	5/16 - 24									
9200065904	9210066304	3/8 - 16	9/16 - 12	0,50	64704	33/64	0,57	9/16 - 12	0,56	15/32	3/16
9200066104	9210066504	3/8 - 24									
9200065905	9210066305	7/16 - 14	5/8 - 11	0,62	64705	37/64	0,63	5/8 - 11	0,68	17/32	3/16
9200066105	9210066505	7/16 - 20									
9200065906	9210066306	1/2 - 13	3/4 - 16	0,62	64706	45/64	0,76	3/4 - 16	0,68	21/32	3/16
9200066106	9210066506	1/2 - 20									
9200065907	9210066307	9/16 - 12	3/4 - 16	0,81	64707	45/64	0,76	3/4 - 16	0,94	21/32	3/16
9200066107	9210066507	9/16 - 18									
9200065908	9210066308	5/8 - 11	7/8 - 14	0,87	64708	53/64	0,88	7/8 - 14	1,00	25/32	5/16
9200066108	9210066508	5/8 - 18									
9200065909	9210066309	3/4 - 10	1-1/8 - 12	1,12	64709	1-1/16	1,14	1-1/8 - 12	1,31	31/32	5/16
9200066109	9210066509	3/4 - 16									
9200065910	9210066310	7/8 - 9	1-1/4 - 12	1,25	64710	1-3/16	1,27	1-1/4 - 12	1,44	1-3/32	5/16
9200066110	9210066510	7/8 - 14									
9200065911	9210066311	1" - 8	1-3/8 - 12	1,37	64711	1-5/16	1,39	1-3/8 - 12	1,56	1-7/32	5/16
9200066111	9210066511	1" - 12									
9200066112	-	1" - 14									
9200065913	-	1-1/8 - 7	1-1/2 - 12	1,62	64713	1-7/16	1,52	1-1/2 - 12	1,84	1-11/32	5/16
9200066113	-	1-1/8 - 12									
9200065914	-	1-1/4 - 7	1-5/8 - 12	1,81	64714	1-9/16	1,64	1-5/8 - 12	2,06	1-15/32	5/16
9200066114	-	1-1/4 - 12									
9200065916	-	1-1/2 - 6	1-7/8 - 12	2,00	64716	1-13/16	1,89	1-7/8 - 12	2,28	1-23/32	5/16
9200066116	-	1-1/2 - 12									

 Tap drill hole tolerance: Inch
0.234 to 0.500 = +0.004/-0.001 - Over 0.500 = +0.005/-0.001

UNC-UNF / NON-LOCKING / EXTRA HEAVY DUTY

PART NUMBER		INSERT			INSTALLATION					REMOVAL	
Carbon Steel	Stainless Steel	Internal Thread Class 2B	External Thread (Mod.) Class 2A	Length	Installation Tool Part No.	Tap Drill Size ²	C'Sink Dia. +0.010 -0.000	Thread Tap		Drill	
								Size Class 2B	Min. Depth	Size	Depth
9600065931	9610066331	6 - 32	5/16 - 18	0,31	64731	0.272	0,32	5/16 - 18	0,37	7/32	1/8
9600065932	9610066332	8 - 32	3/8 - 16	0,31	64732	0,332	0,38	3/8 - 16	0,37	9/32	1/8
9600065933	9610066333	10 - 24	7/16 - 14	0,31	64733	0,397	0,44	7/16 - 14	0,37	11/32	3/16
9600066133	9610066533	10 - 32									
9600065934	9610066334	1/4 - 20	1/2 - 13	0,37	64734	29/64	0,51	1/2 - 13	0,43	13/32	3/16
9600066134	9610066534	1/4 - 28									
9600065935	9610066335	5/16 - 18	9/16 - 12	0,43	64735	33/64	0,57	9/16 - 12	0,50	15/32	3/16
9600066135	9610066535	5/16 - 24									
9600065936	9610066336	3/8 - 16	5/8 - 11	0,50	64736	37/64	0,63	5/8 - 11	0,56	17/32	3/16
9600066136	9610066536	3/8 - 24									
9600065937	9610066337	7/16 - 14	3/4 - 16	0,62	64737	45/64	0,76	3/4 - 16	0,68	21/32	3/16
9600066137	9610066537	7/16 - 20									
9600065938	9610066338	1/2 - 13	7/8 - 14	0,68	64738	53/64	0,88	7/8 - 14	0,75	25/32	5/16
9600066138	9610066538	1/2 - 20									
9600065939	9610066339	9/16 - 12	7/8 - 14	0,81	64739	53/64	0,88	7/8 - 14	0,94	25/32	5/16
9600066139	9610066539	9/16 - 18									
9600065940	9610066340	5/8 - 11	1" - 12	0,87	64740	15/16	1,02	1" - 12	1,00	27/32	5/16
9600066140	9610066540	5/8 - 18									
9600065941	9610066341	3/4 - 10	1-1/4 - 12	1,12	64741	1-3/16	1,27	1-1/4 - 12	1,31	1-3/32	5/16
9600066141	9610066541	3/4 - 16									
9600065942	9610066342	7/8 - 9	1-3/8 - 12	1,25	64742	1-5/16	1,39	1-3/8 - 12	1,44	1-7/32	5/16
9600066142	9610066542	7/8 - 14									
9600065943	9610066343	1" - 8	1-1/2 - 12	1,37	64743	1-7/16	1,52	1-1/2 - 12	1,56	1-11/32	5/16
9600066143	9610066543	1" - 12									

UNC-UNF / SELF-LOCKING / THINWALL

PART NUMBER		INSERT			INSTALLATION					REMOVAL	
Stainless Steel	Internal Thread Class 2B	External Thread (Mod.) Class 2A	Length	Installation Tool Part No.	Tap Drill Size 2	C'Sink Dia. +0.010 -0.000	Thread Tap		Drill		
							Size Class 2B	Min. Depth	Size	Depth	
9110169321	10 - 24	5/16 - 18	0,31	64721	0,272	0,32	5/16 - 18	0,37	7/32	1/8	
9110169521	10 - 32										
9110169322	1/4 - 20	3/8 - 16	0,37	64722	0,332	0,38	3/8 - 16	0,43	9/32	3/16	
9110169522	1/4 - 28										
9110169323	5/16 - 18	7/16 - 14	0,43	64723	0,397	0,44	7/16 - 14	0,50	11/32	3/16	
9110169523	5/16 - 24										
9110169324	3/8 - 16	1/2 - 13	0,50	64724	29/64	0,51	1/2 - 13	0,56	13/32	3/16	
9110169524	3/8 - 24										
9110169325	7/16 - 14	9/16 - 12	0,56	64725	33/64	0,57	9/16 - 12	0,62	15/32	3/16	
9110169525	7/16 - 20										
9110169326	1/2 - 13	5/8 - 11	0,62	64726	37/64	0,63	5/8 - 11	0,68	17/32	3/16	
9110169526	1/2 - 20										

UNC-UNF / SELF-LOCKING / HEAVY DUTY

PART NUMBER	INSERT			INSTALLATION				REMOVAL		
Stainless Steel	Internal Thread Class 2B	External Thread (Mod.) Class 2A	Length	Installation Tool Part No.	Tap Drill Size ²	C'Sink Dia. +0.010 -0.000	Thread Tap		Drill	
							Size Class 2B	Min. Depth	Size	Depth
9210169300	8 - 32	5/16 - 18	0,31	64700	0,272	0,32	5/16 - 18	0,37	7/32	1/8
9210169301	10 - 24	3/8 - 16	0,31	64701	0,332	0,38	3/8 - 16	0,37	9/32	1/8
9210169501	10 - 32									
9210169302	1/4 - 20	7/16 - 14	0,37	64702	0,397	0,44	7/16 - 14	0,43	11/32	3/16
9210169502	1/4 - 28									
9210169303	5/16 - 18	1/2 - 13	0,43	64703	29/64	0,51	1/2 - 13	0,50	13/32	3/16
9210169503	5/16 - 24									
9210169304	3/8 - 16	9/16 - 12	0,50	64704	33/64	0,57	9/16 - 12	0,56	15/32	3/16
9210169504	3/8 - 24									
9210169305	7/16 - 14	5/8 - 11	0,62	64705	37/64	0,63	5/8 - 11	0,68	17/32	3/16
9210169505	7/16 - 20									
9210169306	1/2 - 13	3/4 - 16	0,62	64706	45/64	0,76	3/4 - 16	0,68	21/32	3/16
9210169506	1/2 - 20									
9210169307	9/16 - 12	3/4 - 16	0,81	64707	45/64	0,76	3/4 - 16	0,94	21/32	3/16
9210169507	9/16 - 18									
9210169308	5/8 - 11	7/8 - 14	0,87	64708	53/64	0,88	7/8 - 14	1,00	25/32	5/16
9210169508	5/8 - 18									
9210169309	3/4 - 10	1-1/8 - 12	1,12	64709	1-1/16	1,14	1-1/8 - 12	1,31	31/32	5/16
9210169509	3/4 - 16									
9210169310	7/8 - 9	1-1/4 - 12	1,25	64710	1-3/16	1,27	1-1/4 - 12	1,44	1-3/32	5/16
9210169510	7/8 - 14									
9210169311	1" - 8	1-3/8 - 12	1,37	64711	1-5/16	1,39	1-3/8 - 12	1,56	1-7/32	5/16
9210169511	1" - 12									

² Tap drill hole tolerance: Inch
0.234 to 0.500 = +0.004/-0.001 - Over 0.500 = +0.005/-0.001

MS/NAS STYLE KEY-LOCKING THREADED INSERTS 303 CRES

METRIC / MINIATURE

MATERIAL: >INSERTS: 303 CRES >KEYS: 302 CRES

KEYS: Miniature Inserts are furnished with 2 locking keys

FINISH: Passivated

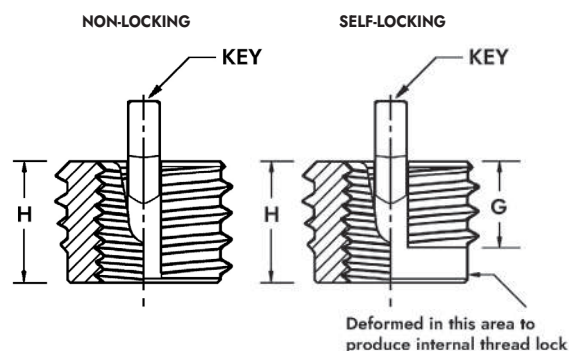
TOLERANCES: ± 0.25 mm unless specified otherwise

DIMENSIONS: All dimensions below are in millimeters

INTERNAL THREADS: Per Fed Std H28/21, MJ Form

LUBRICATION: Dry Film Lube on Self-Locking Inserts only

PERFORMANCE: Compliant with NA0147, NA0149 and NA0151



PART NUMBER		INSERT				INSTALLATION					REMOVAL	
Non- Locking	Self- Locking	Internal Thread Class 4H6H	External Thread Class 4h	G Thread Length	H Length	Install Tool Part No.	Tap Drill Size +0.080 -0.025	C'Sink Dia. +0.25 -0.00	Thread Tap		Drill	
									Size Class 6H	Min. Depth	Size	Depth
9010202040	9014102040	M 2x0.4	M 4x0.7	2,20	3,00	72682	3,4	4,1	M 4x0.7	4,0	2,8	2,00
9010225045	9014125045	M 2.5x0.45	M 4.5x0.75	2,70	3,81	72683	3,9	4,6	M 4.5x0.75	5,0	3,0	2,00
9010203050	9014103050	M 3x0.5	M 5x0.8	3,10	4,25	72684	4,4	5,1	M 5x0.8	5,5	3,5	2,25
9010204070	9014104070	M 4x0.7	M 6x0.75	4,11	5,25	72686	5,5	6,1	M 6x0.75	6,5	4,6	2,50

METRIC / LIGHTWEIGHT

MATERIAL: >INSERTS: 303 CRES >KEYS: 302 CRES

KEYS: Inserts with an internal thread size of M 6 and smaller are furnished with 2 locking keys. Larger sizes have 4 locking keys.

FINISH: Passivated

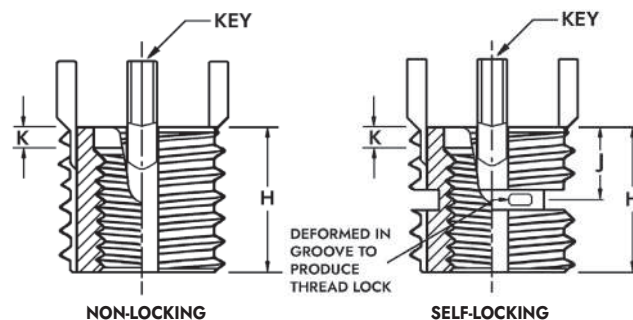
TOLERANCES: ± 0.25 mm unless specified otherwise

DIMENSIONS: All dimensions below are in millimeters

INTERNAL THREADS: Per Fed Std H28/21, MJ Form

LUBRICATION: Dry Film Lube on Self-Locking Inserts only

PERFORMANCE: Compliant with NA0147, NA0149 and NA0151



PART NUMBER		INSERT					INSTALLATION					REMOVAL	
Non- Locking	Self- Locking	Internal Thread1 Class 4H5H	External Thread Class 4h	H Length	J ± 0.76	K C'Bore Depth	Install Tool Part No.	Tap Drill Size 1	C'Sink Dia. +0.25 -0.00	Thread Tap		Drill	
										Size Class 6H	Min. Depth	Size	Depth
9110205080	9114305080	M 5x0.8	M 8x1.25	8,0	3,73	1,27	72651	6,90	8,25	M 8x1.25	9,5	5,50	4,00
9110205050	9114305050	M 5x0.5											
9110206100	9114306100	M 6x1.0	M 10x1.25	10,0	6,02	1,78	72652	8,80	10,25	M 10x1.25	11,5	7,50	4,75
9110206075	9114306075	M 6x0.75											
9110208125	9114308125	M 8x1.25	M 12x1.25	12,0	6,28	1,78	72653	10,80	12,25	M 12x1.25	13,5	9,50	4,75
9110208100	9114308100	M 8x1.0											
9110210150	9114310150	M 10x1.5	M 14x1.5	14,0	6,46	2,29	72655	12,80	14,25	M 14x1.5	15,5	11,50	4,75
9110210125	9114310125	M 10x1.25											
9110212175	9114312175	M 12x1.75	M 16x1.5	16,0	6,46	2,29	72656	14,75	16,25	M 16x1.5	17,5	13,50	4,75
9110212125	9114312125	M 12x1.25											

Note: There is no NAS for Metric key-locking inserts manufactured from 303 CRES.

METRIC / HEAVY DUTY

MATERIAL: >INSERTS: 303 CRES >KEYS: 302 CRES

KEYS: Inserts with an internal thread size of M 6 and smaller are furnished with 2 locking keys. Larger sizes have 4 locking keys.

FINISH: Passivated

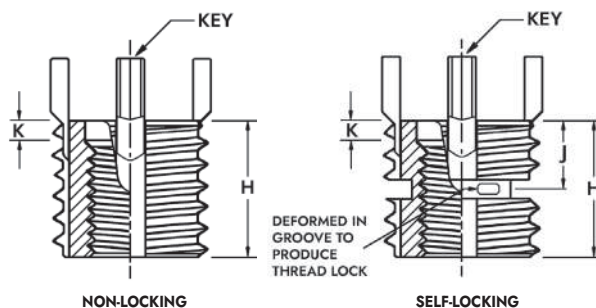
TOLERANCES: ± 0.25 mm unless specified otherwise

DIMENSIONS: All dimensions below are in millimeters

INTERNAL THREADS: Per Fed Std H28/21, MJ Form

LUBRICATION: Dry Film Lube on Self-Locking Inserts only

PERFORMANCE: Compliant with NA0147, NA0149 and NA0151

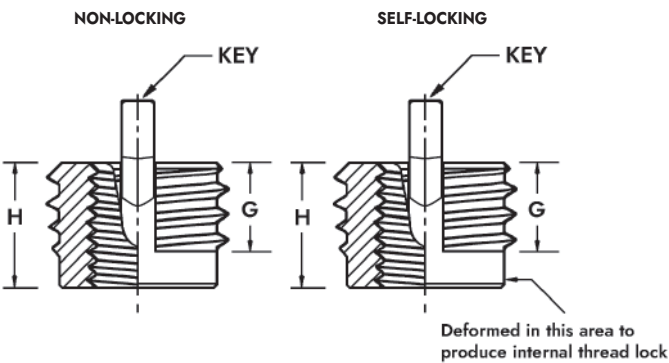


PART NUMBER		INSERT					INSTALLATION					REMOVAL	
Non- Locking	Self- Locking	Internal Thread ¹ Class 4H5H	External Thread Class 4h	H Length	J ± 0.76	K C'Bore Depth	Install Tool Part No.	Tap Drill Size ¹	C'Sink Dia. +0.25 -0.00	Thread Tap		Drill	
										Size Class 6H	Min. Depth	Size	Depth
9210204070	9214304070	M 4x0.7	M 8x1.25	8,0	5,00	1,27	72663	6,90	8,25	M 8x1.25	9,5	5,50	4,00
9210205080	9214305080	M 5x0.8	M 10x1.25	10,0	5,50	1,27	72664	8,80	10,25	M 10x1.25	12,5	7,50	4,75
9210206100	9214306100	M 6x1.0	M 12x1.25	12,0	6,46	1,78	72665	10,80	12,25	M 12x1.25	14,5	9,50	4,75
9210208125	9214308125	M 8x1.25	M 14x1.5	14,0	6,46	1,78	72666	12,80	14,25	M 14x1.5	16,5	11,50	4,75
9210208100	9214308100	M 8x1.0											
9210210150	9214310150	M 10x1.5	M 16x1.5	16,0	6,46	2,29	72667	14,75	16,25	M 16x1.5	18,5	13,50	4,75
9210210125	9214310125	M 10x1.25											
9210212175	9214312175	M 12x1.75	M 18x1.5	18,0	7,23	2,29	72669	16,75	18,25	M 18x1.5	20,5	15,50	4,75
9210212125	9214312125	M 12x1.25											
9210214200	9214314200	M 14x2.0	M 20x1.5	20,0	7,73	2,79	72670	18,75	20,25	M 20x1.5	22,5	17,50	4,75
9210214150	9214314150	M 14x1.5											
9210216200	9214316200	M 16x2.0	M 22x1.5	22,0	8,50	2,79	72671	20,50	22,25	M 22x1.5	24,5	17,75	6,35
9210216150	9214316150	M 16x1.5											
9210218150	9214318150	M 18x1.5	M 24x2.0	24,0	9,25	2,79	72672	22,50	24,25	M 24x2.0	28,5	19,75	6,35
9210220250	9214320250	M 20x2.5	M 30x2.0	30,0	12,51	2,79	72673	28,00	30,25	M 30x2.0	34,5	25,75	6,35
9210220150	9214320150	M 20x1.5											
9210222150	9214322150	M 22x1.5	M 32x2.0	32,0	12,51	2,79	72674	30,00	32,25	M 32x2.0	36,5	27,75	6,35
9210224300	9214324300	M 24x3.0	M 33x2.0	33,0	13,97	3,81	72675	31,00	33,25	M 33x2.0	37,5	28,75	6,35
9210224200	9214324200	M 24x2.0											

¹ Tap drill hole tolerance: Metric
6.90 to 10.80 = +0.100/-0.025 - Over 12.80 = +0.130/-0.025

UNC-UNF / MINIATURE

MATERIAL: >**INSERTS:** 303 CRES >**KEYS:** 302 CRES
KEYS: Miniature Inserts are furnished with 2 locking keys
FINISH: Passivated
TOLERANCES: ± 0.010 inch unless specified otherwise
INTERNAL THREADS: Per SAE AS8879
DIMENSIONS: All dimensions below are in inches
LUBRICATION: Dry Film Lube on Self-Locking Inserts only
PERFORMANCE: MIL-I-45914A (MS51830)



PART NUMBER		INSERT				INSTALLATION					REMOVAL	
Non- Locking	Self- Locking	Internal Thread Class 3B	External Thread Class 2A	G Thread Length	H Length	Install Tool Part No.1	Tap Drill Size +0.003 -0.001	C'Sink Dia. +0.010 -0.000	Thread Tap		Drill	
									Size Class 2B	Min. Depth	Size	Depth
9010276283	9014177283	2 - 56	8 - 32	0,090	0,120	72552	0,134	0,166	8 - 32	0,140	# 33	1/16
9010276284	9014177284	4 - 40	10 - 32	0,125	0,170	72554	0,161	0,194	10 - 32	0,160	# 29	3/32
9010276285	9014177285	6 - 32	12 - 28	0,125	0,170	72556	0,187	0,220	12 - 28	0,160	# 21	3/32
9010276286	9014177286	8 - 32	1/4 - 28w	0,175	0,220	72558	0,228	0,255	1/4 - 28	0,210	# 8	1/8

Lightweight, Heavy duty and Extra heavy-duty also available on request

PART NUMBERS & CROSS REFERENCES
> UNC/UNF – MS51830 / MINIATURE

NON- LOCKING		SELF- LOCKING	
CLAVSERT No.	MS No.	CLAVSERT No.	MS No.
9010276283	MS 51830-101	9014177283	MS 51830-101L
9010276284	MS 51830-102	9014177284	MS 51830-102L
9010276285	MS 51830-103	9014177285	MS 51830-103L
9010276286	MS 51830-104	9014177286	MS 51830-104L



SPECIFIC USE - SOLID KEY-LOCKING INSERTS



METRIC

MATERIAL:

>**INSERTS:** Carbon Steel - C1215 or Equiv, Stainless Steel - 303 CRES

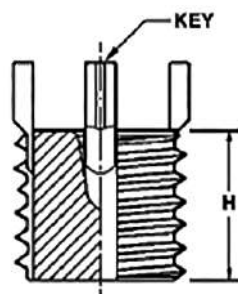
>**KEYS:** 302 CRES

FINISH: ± 0.25 mm unless specified otherwise.

TOLERANCES: Carbon Steel - Zinc Phosphate Stainless Steel - Passivated.

DIMENSIONS: Are in millimeters

KEYS: Inserts with an external thread size of M 12 and larger have 4 locking keys. Smaller sizes have 2 locking keys.



PART NUMBER		INSERT		INSTALLATION					REMOVAL	
Carbon Steel	Stainless Steel	External Thread Class 6g	Length	Installation Tool Part No.	Tap Drill Size 1	C'Sink Dia. +0.25 -0.00	Thread Tap		Drill	
							Size Class 6H	Min. Depth	Size	Depth
9300008125	9310008125	M 8x1.25	8,0	64821	6,90	8,25	M 8x1.25	9,5	5,50	4,00
9300010125	9310010125	M 10x1.25	10,0	64822	8,80	10,25	M 10x1.25	12,5	7,50	4,75
9300012125	9310012125	M 12x1.25	12,0	64823	10,80	12,25	M 12x1.25	14,5	9,50	4,75
9300014150	9310014150	M 14x1.5	14,0	64824	12,80	14,25	M 14x1.5	16,5	11,50	4,75
9300016150	9310016150	M 16x1.5	16,0	64825	14,75	16,25	M 16x1.5	18,5	13,50	4,75
9300018150	9310018150	M 18x1.5	18,0	64826	16,75	18,25	M 18x1.5	20,5	15,50	4,75
9300020150	9310020150	M 20x1.5	20,0	64827	18,75	20,25	M 20x1.5	22,5	17,50	4,75
9300022150	9310022150	M 22x1.5	22,0	64828	20,50	22,25	M 22x1.5	24,5	17,75	6,35
9300024150	9310024150	M 24x1.5	24,0	64829	22,50	24,25	M 24x1.5	26,5	19,75	6,35
9300030200	9310030200	M 30x2.0	30,0	64830	28,00	30,25	M 30x2.0	34,5	25,75	6,35
9300032200	9310032200	M 32x2.0	32,0	64831	30,00	32,25	M 32x2.0	36,5	27,75	6,35
9300033200	9310033200	M 33x2.0	33,0	64832	31,00	33,25	M 33x2.0	37,5	28,75	6,35



1 Tap drill hole tolerance: Metric
6.90 to 10.80 = +0.100/-0.025 - Over 12.80 = +0.130/-0.025

REPAIR KIT

To repair damaged tappings, CLAVSERT key-locking threaded inserts are available in repair kit.

They contain a selection of various size inserts and the proper installation tools. Instructions for installation and removal are also included.



REPAIR KIT / METRIC / THINWALL

CARBON STEEL KIT PART NUMBER: 91064983 - **STAINLESS STEEL KIT PART NUMBER:** 91064993

INTERNAL THREAD CLASS 6H	EXTERNAL THREAD CLASS 6G	LENGTH	QUANTITY OF INSERTS PER KIT	INSTALL TOOL PART NO
M 5x0.8	M 8x1.25	8,0	8	64751
M 6x1.0	M 10x1.25	10,0	8	64752
M 8x1.25	M 12x1.25	12,0	6	64753
M 8x1.0			6	
M 10x1.5	M 14x1.5	14,0	4	64755
M 10x1.25			4	
M 12x1.75	M 16x1.5	16,0	3	64756
M 12x1.25			3	

REPAIR KIT / UNC / HEAVY DUTY

CARBON STEEL KIT PART NUMBER: 92064951 - **STAINLESS STEEL KIT PART NUMBER:** 92164961

INTERNAL THREAD CLASS 2B	EXTERNAL THREAD (MOD.) CLASS 2A	LENGTH	QUANTITY OF INSERTS PER KIT	INSTALL TOOL PART NO
10 - 24	3/8 - 16	0,31	5	64701
1/4 - 20	7/16 - 14	0,37	10	64702
5/16 - 18	1/2 - 13	0,43	10	64703
3/8 - 16	9/16 - 12	0,50	10	64704
1/2 - 13	3/4 - 16	0,62	10	64706
5/8 - 11	7/8 - 14	0,87	10	64708
3/4 - 10	1-1/8 - 12	1,12	5	64709

REPAIR KIT / UNF / HEAVY DUTY

CARBON STEEL KIT PART NUMBER: 92064952 - **STAINLESS STEEL KIT PART NUMBER:** 92164962

INTERNAL THREAD CLASS 2B	EXTERNAL THREAD (MOD.) CLASS 2A	LENGTH	QUANTITY OF INSERTS PER KIT	INSTALL TOOL PART NO
10 - 32	3/8 - 16	0,31	5	64701
1/4 - 28	7/16 - 14	0,37	10	64702
5/16 - 24	1/2 - 13	0,43	10	64703
3/8 - 24	9/16 - 12	0,50	10	64704
1/2 - 20	3/4 - 16	0,62	10	64706
5/8 - 18	7/8 - 14	0,87	10	64708
3/4 - 16	1-1/8 - 12	1,12	5	64709

INSTALLATION TOOLS

AMECA offers a complete line of installation and removal tools.



MS/NAS STYLE INSERT TOOL

Found on pages 10 to 12



STANDARD STYLE INSERT TOOL

Found on pages 4 to 9 and page 13

Semi-automatic installation tools available on request

INSTALLATION AND REMOVAL

INSTALLATION:

1. Drill with a standard tap drill and countersink with a standard 82° - 100° countersink (90° for Miniature Inserts).

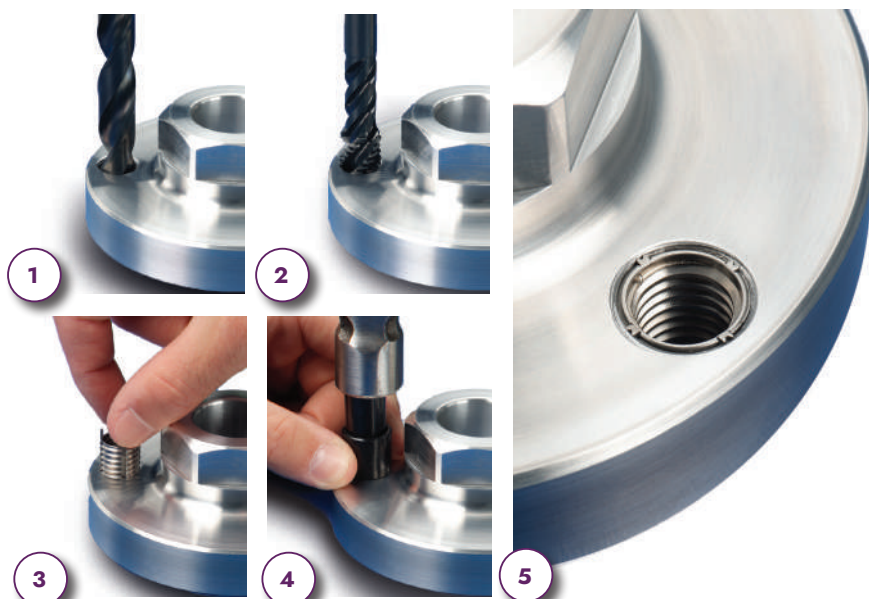
NOTE: Drill is oversize, see charts for proper dimensions.

2. Tap new threads with a standard tap. **Note:** See charts for proper size and depth.

3. Screw in the insert until it is 0.010-0.030 (0.005-0.015 for Miniature Inserts) below the surface. Keys locate the proper depth.

4. Drive keys down with several hammer taps on the proper installation tool.

5. Properly installed insert.



REMOVAL:

If necessary, CLAVSERT Key-locking Inserts can be removed without damage to the parent material:

1. Drill out material between keys and internal thread with a standard drill to specified depth (refer to charts for proper size and depth).
2. Bend the keys inward and break off.
3. Remove the old insert using a screw extractor or similar device.
4. Install a replacement insert into the original tapped hole and drive keys down.

YOU HAVE A QUESTION OR A PROJECT?

Contact us via our website, our sales team or directly by phone.
We'll be happy to support and advise you on your projects.

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RELIABILITY AND SAFETY MANUFACTURER



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