

High-Performance HSS-E Taps • **WIDIA-GTD™**

Our family of Exotic Material (EM) taps are specially designed to thread a broad assortment of materials for unrivaled high-performance tapping.

EM-SS available until stock is depleted.

See EM-SS cross reference list to VariTap™ on pages A52–A62.



EM Series

- Enhanced tool geometry.
- Less tapping torque.
- Better chip removal.



Unmatched Performance

The WIDIA-GTD™ EM Series taps are designed and manufactured to successfully thread high- and low-volume applications in aluminum, stainless steel, nickel alloys, titanium alloys, mold steels, irons, brass, bronze, and plastics. The formulation of premium steel tap base material is unique for every application. The combination of a special geometry, tap surface treatment, and premium steep gives these taps the highest level of performance.

Premium Steels

EM Series taps use special HSS-E compositions containing high-vanadium and/or cobalt content depending on the application. The right combination improves tap-life as measured by product finish and/or pitch diameter size.

Broad Offering of Diameter Limits

Pitch diameters from H2–H7 and metric pitch diameters from D3–D7 are stocked as standards in many styles, at no premium in price. With rigid setups, higher pitch diameter limits can be used for longer tool life. The EM Series offers many size options to produce the class of thread desired.



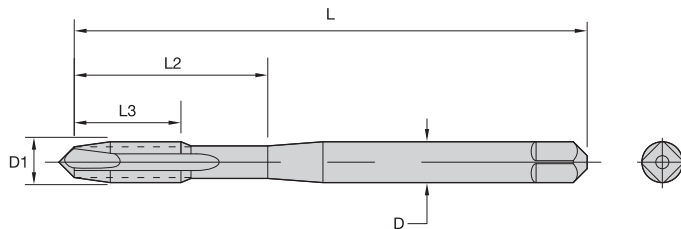
High-Performance Taps

EM-SS GUN™ Taps • Through Holes



High-Performance Taps

Available until stock is depleted.
See VariTap™ cross reference chart
on pages A52–A62.



- first choice
- alternate choice

Series 8301 • Machine Screw and Fractional • Plug Chamfer

				inch dimensions					number of flutes	pitch diameter limit
TiCN	TiN	oxide	uncoated	D1 TPI	L	L3	L2	D		
—	—	82623	—	2 - 56	1.75	.26	.44	.141	2	H2
—	—	82624	—	2 - 56	1.75	.26	.44	.141	2	H3
—	—	82636	—	2 - 56	1.75	.26	.44	.141	2	H4
—	—	82600	—	3 - 48	1.81	.30	.50	.141	2	H2
82301	82901	82601	82601B	4 - 40	1.88	.34	.56	.141	2	H2
—	—	82602	—	4 - 40	1.88	.34	.56	.141	2	H3
—	—	82612	—	4 - 40	1.88	.34	.56	.141	2	H4
—	—	82634	82634B	4 - 40	1.88	.34	.56	.141	2	H5
—	—	82638	—	4 - 40	1.88	.34	.56	.141	2	H6
—	—	82683	—	4 - 48	1.88	.34	.56	.141	2	H2
—	—	82641	—	4 - 48	1.88	.34	.56	.141	2	H4
—	—	82603	—	5 - 40	1.94	.37	.63	.141	3	H2
—	—	82604	—	6 - 32	2.00	.41	.69	.141	3	H2
82305	82905	82605	82605B	6 - 32	2.00	.41	.69	.141	3	H3
—	—	82608	—	6 - 32	2.00	.41	.69	.141	3	H4
—	—	82635	82635B	6 - 32	2.00	.41	.69	.141	3	H5
—	—	82659	—	6 - 32	2.00	.41	.69	.141	3	H6
—	—	82665	82665B	6 - 32	2.00	.41	.69	.141	3	H7
—	—	82684	—	6 - 40	2.00	.41	.69	.141	3	H2
—	—	82642	—	6 - 40	2.00	.41	.69	.141	3	H3
—	—	82606	—	8 - 32	2.13	.45	.75	.168	3	H2
82307	82907	82607	82607B	8 - 32	2.13	.45	.75	.168	3	H3
—	—	82629	—	8 - 32	2.13	.45	.75	.168	3	H4
—	—	82637	82637B	8 - 32	2.13	.45	.75	.168	3	H5
—	—	82660	—	8 - 32	2.13	.45	.75	.168	3	H6
—	—	82667	—	8 - 32	2.13	.45	.75	.168	3	H7
—	—	82686	—	8 - 36	2.13	.45	.75	.168	3	H2
82309	82909	82609	82609B	10 - 24	2.38	.53	.88	.194	3	H3
—	—	82657	—	10 - 24	2.38	.53	.88	.194	3	H4
—	—	82639	82639B	10 - 24	2.38	.53	.88	.194	3	H5
—	—	82690	—	10 - 24	2.38	.53	.88	.194	3	H6
—	—	82669	—	10 - 24	2.38	.53	.88	.194	3	H7

(continued)

High-Performance Taps

EM-SS GUN™ Taps • Through Holes



(Series 8301 • Machine Screw and Fractional • Plug Chamfer continued)

High-Performance Taps

						inch dimensions				number of flutes	pitch diameter limit	
		TiCN	TiN	oxide	uncoated	D1 TPI	L	L3	L2			D
—	—	—	—	82678	—	3/8 - 24	2.94	.75	1.25	.381	3	H7
82319	82919	82619	82619B	82619	82619B	7/16 - 14	3.16	.89	—	.323	3	H3
—	—	82649	82649B	82671	—	7/16 - 14	3.16	.89	—	.323	3	H5
—	—	82671	—	—	—	7/16 - 14	3.16	.89	—	.323	3	H7
82320	82920	82620	82620B	82620	82620B	7/16 - 20	3.16	.89	—	.323	3	H3
—	—	82650	82650B	82650	82650B	7/16 - 20	3.16	.89	—	.323	3	H5
—	—	82691	—	82691	—	7/16 - 20	3.16	.89	—	.323	3	H6
—	—	82680	—	82680	—	7/16 - 20	3.16	.89	—	.323	3	H7
82321	82921	82621	82621B	82621	82621B	1/2 - 13	3.38	.98	—	.367	3	H3
—	—	82651	82651B	82651	82651B	1/2 - 13	3.38	.98	—	.367	3	H5
—	—	82681	—	82681	—	1/2 - 13	3.38	.98	—	.367	3	H7
82322	82922	82622	82622B	82622	82622B	1/2 - 20	3.38	.98	—	.367	3	H3
—	—	82652	82652B	82652	82652B	1/2 - 20	3.38	.98	—	.367	3	H5
—	—	82692	—	82692	—	1/2 - 20	3.38	.98	—	.367	3	H6
—	—	82682	—	82682	—	1/2 - 20	3.38	.98	—	.367	3	H7
82353	82953	82653	82653B	82653	82653B	9/16 - 12	3.59	.98	—	.429	3	H3
82354	82954	82654	82654B	82654	82654B	9/16 - 18	3.59	.98	—	.429	3	H3
82325	82925	82625	82625B	82625	82625B	5/8 - 11	3.81	1.08	—	.480	3	H3
—	—	82655	82655B	82655	82655B	5/8 - 11	3.81	1.08	—	.480	3	H5
—	—	82672	—	82672	—	5/8 - 11	3.81	1.08	—	.480	3	H7
82326	82926	82626	82626B	82626	82626B	5/8 - 18	3.81	1.08	—	.480	3	H3
—	—	82656	82656B	82656	82656B	5/8 - 18	3.81	1.08	—	.480	3	H5
—	—	82694	—	82694	—	5/8 - 18	3.81	1.08	—	.480	3	H6
—	—	82677	—	82677	—	5/8 - 18	3.81	1.08	—	.480	3	H7
82327	82927	82627	82627B	82627	82627B	3/4 - 10	4.25	1.20	—	.590	3	H3
—	—	81657	—	81657	—	3/4 - 10	4.25	1.20	—	.590	3	H5
82328	82928	82628	82628B	82628	82628B	3/4 - 16	4.25	1.20	—	.590	3	H3
82395	82995	82695	82695B	82695	82695B	7/8 - 9	4.69	1.34	—	.697	3	H4
82396	82996	82696	82696B	82696	82696B	7/8 - 14	4.69	1.34	—	.697	3	H4
82397	82997	82697	82697B	82697	82697B	1 - 8	5.13	1.50	—	.800	3	H4
—	—	82679	—	82679	—	1 - 12	5.13	1.50	—	.800	3	H4
—	—	—	82700B	—	82700B	1 1/8 - 7	5.44	2.56	—	.896	4	H6
—	—	—	82701B	—	82701B	1 1/8 - 12	5.44	2.56	—	.896	4	H5
—	—	—	82702B	—	82702B	1 1/4 - 7	5.75	2.56	—	1.021	4	H6
—	—	—	82703B	—	82703B	1 1/4 - 12	5.75	2.56	—	1.021	4	H5
—	—	—	82705B	—	82705B	1 3/8 - 6	6.06	3.00	—	1.108	4	H6
—	—	—	82706B	—	82706B	1 3/8 - 12	6.06	3.00	—	1.108	4	H5
—	—	—	82707B	—	82707B	1 1/2 - 6	6.38	3.00	—	1.233	4	H6
—	—	—	82708B	—	82708B	1 1/2 - 12	6.38	3.00	—	1.233	4	H5
—	—	—	82709B	—	82709B	1 3/4 - 5	7.00	3.19	—	1.430	4	H7
—	—	—	82710B	—	82710B	2 - 4 1/2	7.63	3.56	—	1.644	4	H7

NOTE: EM taps for 3B class of fit are suitable for UNJ aerospace internal threading applications.
See pages A274–A275 for the recommended pitch diameter limit for 2B or 3B class of fit.