



MillLine



For more information

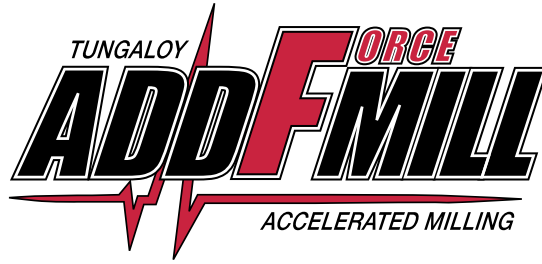
Solid carbide endmill

SOLIDMEISTERPRO

High performance end mills engineered for maximum productivity in high speed machining of difficult to cut materials







SOLIDMEISTERPRO



SolidMeisterPro - our carbide endmills enhance your machining efficiency and stability in a broad spectrum of applications.

Silver Composition PVD Coating – TiAlCrN

Titanium Aluminum Chromium Nitride (TiAlCrN) coatings provide high-performance protection for cutting tools. These silver-colored coatings are applied using Physical Vapor Deposition (PVD) technology to improve hardness (up to 35 GPa), wear resistance, and oxidation stability at elevated temperatures.

Allows machining in gummy and abrasive materials, specifically designed for today's difficult to machine aerospace materials.

Key Properties and Benefits of TiAlCrN Coatings:

High Thermal Stability

The combination of Chromium (Cr) and Aluminum (Al) forms a dense layer that handles higher temperatures with increased lubricity and durability to improve overall tool life in all applications over traditional PVD coatings.

Technical Specifications

Micro Hardness – HV .05 – 3300

Coefficient v Steel - .4

Thickness um – 2-4

Thermal Threshold – 800°C - 1470°C

Key Characteristic – High hardness, High oxidation resistance

Key Material Uses – Inconel, Stainless steel, Titanium and Cast iron



Series Selector

Reference the chart below to select the best series for your application

ISO	Workpiece Material	Finish Cuts	Medium D.O.C.	Heavy D.O.C	Slotting	Facing	Circular Interpolation	High Feed/ High Speed Machining (HSM)
P	Steel 1018 thru 1095, 12L14, A-36, Hot Rolled	5SH	5SH	5SH	5SH	5SH 6SH	5SH	5SH
	Steel Alloys 4140 thru 8820, Steel Alloys <45 HRC, Cobalt Chrome	5SH	5SH	5SH	5SH	5SH 6SH	5SH	5SH
	Tool & Mold Steels H-13, O-1, A-2, D-2, S7, P20	6SH	5SH	5SH	5SH	5SH 6SH	5SH	5SH
M	Stainless Steel 303, 304, 316, 410, 420, 440, 13-8, 15-5, 17-4 Ph	5SH 6SH	5SH	5SH	5SH	5SH 6SH	5SH	5SH 6SH
K	Cast Iron Gray Cast, Malleable & Ductile Iron	6SH	5SH	5SH	5SH	5SH	5SH	5SH
S	High Temp Titanium Alloys 6Al4V, 5553, 99	5SH 6SH 7TH	5SH	5SH	5SH	5SH	5SH	7TH
	High Temp Nickel Based Alloys Inconel 100, 625, 718, 925, Hastelloy-B, Rene 77, Jethete M252, Haynes 75, Waspalloy, Monel 400	5SH 6SH	5SH	5SH	5SH	5SH 6SH	5SH	6SH
	High Temp Iron Based Alloys Aeromet 100, A286, Jethete M152	5SH 6SH	5SH 6SH	5SH	5SH	5SH 6SH	5SH	6SH
	High Temp Cobalt Based Alloys Kovar, L-405, L-605, Stellite SF-12	5SH 6SH	5SH 6SH	5SH	5SH	5SH 6SH	5SH	6SH
H	Tool & Mold Steels AR-450, Steels >45 HRC	6SH	5SH	5SH	5SH	5SH	5SH	5SH

Notes:

For best results when facing, use tools with a corner radius or a chamfer.

The primary material for SolidMeisterPro is superalloys, but it is also suitable for steel, stainless steel, hardened steel, and cast iron.

SolidMeisterPro by Series and Performance

Series	Performance Category	# of flutes	End Type	Chipbreaker	Helix Deg	Variable Index	Variable Helix	Right hand cut	Center cutting	Coating	Primary Material
5SH	Extreme Performance	5	Square & CR	No	37	Yes	Yes	Yes	Yes	S2	Nickel/Iron/ Cobalt Alloys
6SH	Extreme Performance	6	Square & CR	No	37	Yes	Yes	Yes	Yes	S2	Nickel/Iron/ Cobalt Alloys
7TH	Extreme Performance	7	Square & CR	No	37	Yes	Yes	Yes	No	nACRo	Titanium

Cutting Parameters

ISO	Material Group	Starting SFM	Recommended Maximum Chip Thickness (in./tooth)				
			0.250"	0.375"	0.500"	0.625"	0.750"
P	Carbon Steel (1018-1095, 12L14, A36, Hot Rolled)	800	0.0025	0.0037	0.0050	0.0062	0.0075
	Alloy Steel (<32 HRC) (4140-8820, 4340, 8620, Alloy Steels)	600	0.0022	0.0033	0.0044	0.0055	0.0066
	Tool & Mold Steel (32-45 HRC) (H13, O1, A2, D2, S7, P20)	450	0.0018	0.0027	0.0036	0.0045	0.0054
M	Austenitic Stainless (303, 304, 316)	450	0.0013	0.0020	0.0026	0.0033	0.0040
	PH & Martensitic Stainless (410, 420, 440, 13-8, 15-5, 17-4 PH)	400	0.0015	0.0022	0.0030	0.0037	0.0045
K	Gray Cast Iron (Class 20-50 Gray Iron)	800	0.0025	0.0037	0.0050	0.0062	0.0075
	Ductile & Malleable Iron (Ductile Iron, Malleable Iron)	650	0.0021	0.0031	0.0042	0.0052	0.0063
S	Titanium (6Al4V, 6-6-2, 5553, 6242, CP)	350	0.0015	0.0022	0.0030	0.0037	0.0045
	Nickel-based Super Alloys (Inconel 718, Rene 41, Haynes 230, Monel K500)	110	0.0010	0.0015	0.0020	0.0025	0.0030

High Speed Machining Guidelines

- Radial engagement: 8-15% of cutter diameter
- Axial depth: Up to 3xD when using low radial engagement
- Increase feed using radial chip thinning compensation
- As radial engagement increases, reduce axial depth accordingly

Radial Chip Thinning Calculation

Programmed IPT = Maximum Chip Thickness × Chip Thinning Multiplier

Radial Width of Cut	Multiplier
5%	2.29
10%	1.67
15%	1.40
20%	1.25
25%	1.15

Please note: High Efficiency Machining recommendations are intended for radial engagements of 25% of the cutter diameter or less.

Feed Rate Calculation for Additional Radial Widths

$$f_z = \frac{h_m}{2\sqrt{\left(\frac{a_e}{D}\right)^2 - \left(\frac{a_e}{D}\right)^2}}$$

Fz = Programmed feed rate

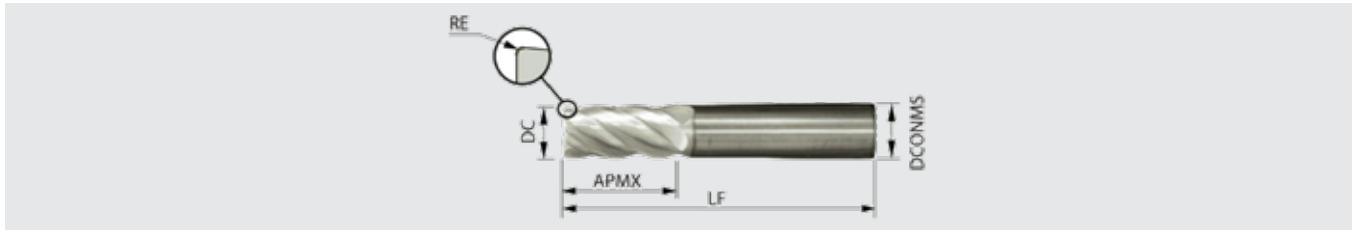
Hm = Recommended maximum chip thickness from chart

Ae = Radial width (expressed as a decimal measurement, not percent)

D = Cutter diameter

5SH Series

5 Flute design, 37deg helix angle, Variable Index/Variable helix., Eccentric Relief, Sharp or Radius Corners



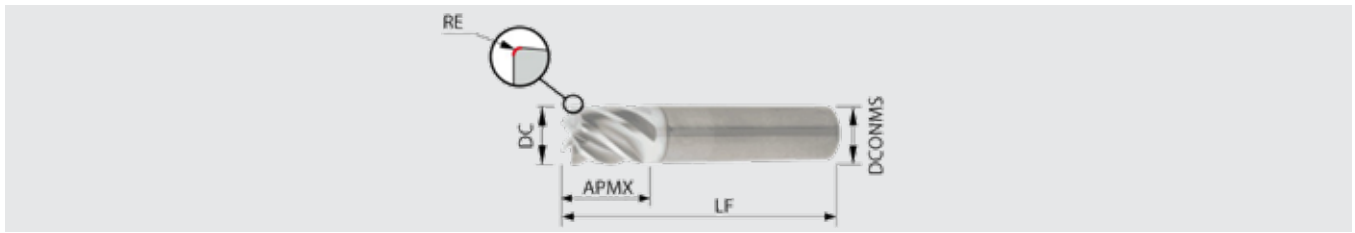
Inch Designation	ASH725	DC	DCONMS	NOF	RE	APMX	LF	Shank
5SH250-0.75-L2.5-C000	●	0.250	0.250	5.000	0.000	0.750	2.5	Cylindrical
5SH250-0.75-L2.5-C150	●	0.250	0.250	5.000	0.015	0.750	2.5	Cylindrical
5SH250-0.75-L2.5-C300	●	0.250	0.250	5.000	0.030	0.750	2.5	Cylindrical
5SH250-1.25-L3.0-C000	●	0.250	0.250	5.000	0.000	1.250	3	Cylindrical
5SH375-1.00-L2.5-C000	●	0.375	0.375	5.000	0.000	1.000	2.5	Cylindrical
5SH375-1.00-L2.5-C150	●	0.375	0.375	5.000	0.015	1.000	2.5	Cylindrical
5SH375-1.00-L2.5-C300	●	0.375	0.375	5.000	0.030	1.000	2.5	Cylindrical
5SH375-1.50-L2.5-C600	●	0.375	0.375	5.000	0.060	1.500	2.5	Cylindrical
5SH500-0.62-L2.5-C000	●	0.500	0.500	5.000	0.000	0.620	2.5	Cylindrical
5SH500-0.62-L2.5-C150	●	0.500	0.500	5.000	0.015	0.620	2.5	Cylindrical
5SH500-0.62-L2.5-C300	●	0.500	0.500	5.000	0.030	0.620	2.5	Cylindrical
5SH500-0.62-L2.5-C600	●	0.500	0.500	5.000	0.060	0.620	2.5	Cylindrical
5SH500-1.00-L3.0-C000	●	0.500	0.500	5.000	0.000	1.000	3	Cylindrical
5SH500-1.00-L3.0-C150	●	0.500	0.500	5.000	0.015	1.000	3	Cylindrical
5SH500-1.00-L3.0-C300	●	0.500	0.500	5.000	0.030	1.000	3	Cylindrical
5SH500-1.00-L3.0-C600	●	0.500	0.500	5.000	0.060	1.000	3	Cylindrical
5SH500-1.25-L3.0-C150	●	0.500	0.500	5.000	0.015	1.250	3	Cylindrical
5SH500-1.25-L3.0-C300	●	0.500	0.500	5.000	0.030	1.250	3	Cylindrical
5SH500-1.25-L3.0-C600	●	0.500	0.500	5.000	0.060	1.250	3	Cylindrical
5SH500-1.25-L4.0-C000	●	0.500	0.500	5.000	0.015	1.500	4	Cylindrical
5SH500-1.50-L4.0-C150	●	0.500	0.500	5.000	0.030	1.500	4	Cylindrical
5SH500-1.50-L4.0-C300	●	0.500	0.500	5.000	0.060	1.500	4	Cylindrical
5SH500-1.50-L4.0-C600	●	0.500	0.500	5.000	0.000	1.750	4	Cylindrical
5SH500-1.75-L4.0-C000	●	0.500	0.500	5.000	0.015	1.750	4	Cylindrical
5SH500-1.75-L4.0-C150	●	0.500	0.500	5.000	0.030	1.750	4	Cylindrical
5SH500-1.75-L4.0-C300	●	0.500	0.500	5.000	0.060	1.750	4	Cylindrical
5SH500-1.75-L4.0-C600	●	0.500	0.500	5.000	0.000	1.250	4	Cylindrical
5SH500-2.00-L4.0-C300	●	0.500	0.500	5.000	0.030	2.000	4	Cylindrical
5SH625-1.25-L3.5-C000	●	0.625	0.625	5.000	0.000	1.250	3.5	Cylindrical
5SH625-1.25-L3.5-C150	●	0.625	0.625	5.000	0.015	1.250	3.5	Cylindrical
5SH625-1.25-L3.5-C300	●	0.625	0.625	5.000	0.030	1.250	3.5	Cylindrical
5SH625-1.25-L3.5-C600	●	0.625	0.625	5.000	0.060	1.250	3.5	Cylindrical
5SH625-1.75-L4.0-C000	●	0.625	0.625	5.000	0.000	1.750	4	Cylindrical
5SH625-1.75-L4.0-C150	●	0.625	0.625	5.000	0.015	1.750	4	Cylindrical
5SH625-1.75-L4.0-C300	●	0.625	0.625	5.000	0.030	1.750	4	Cylindrical
5SH625-1.75-L4.0-C600	●	0.625	0.625	5.000	0.060	1.750	4	Cylindrical
5SH750-1.00-L3.0-C300	●	0.750	0.750	5.000	0.030	1.000	3	Cylindrical
5SH750-1.00-L4.0-C600	●	0.750	0.750	5.000	0.060	1.000	4	Cylindrical
5SH750-1.50-L4.0-C000	●	0.750	0.750	5.000	0.000	1.500	4	Cylindrical
5SH750-1.50-L4.0-C150	●	0.750	0.750	5.000	0.015	1.500	4	Cylindrical
5SH750-1.50-L4.0-C300	●	0.750	0.750	5.000	0.030	1.500	4	Cylindrical
5SH750-1.50-L4.0-C600	●	0.750	0.750	5.000	0.060	1.500	4	Cylindrical
5SH750-2.25-L5.0-C000	●	0.750	0.750	5.000	0.000	2.250	5	Cylindrical
5SH750-2.25-L5.0-C150	●	0.750	0.750	5.000	0.015	2.250	5	Cylindrical
5SH750-2.25-L5.0-C300	●	0.750	0.750	5.000	0.030	2.250	5	Cylindrical
5SH750-2.25-L5.0-C600	●	0.750	0.750	5.000	0.060	2.250	5	Cylindrical

(Unit: Inch)

● : Line up

6SH Series

6 Flute design, 37deg helix angle, Variable Index/Variable helix., Eccentric Relief, Sharp or Radius Corners



Inch Designation	ASH725	DC	DCONMS	NOF	RE	APMX	LF	Shank
6SH250-0.50-L2.0-C000	●	0.250	0.250	6.000	0.000	0.500	2	Cylindrical
6SH250-0.50-L2.0-C150	●	0.250	0.250	6.000	0.015	0.500	2	Cylindrical
6SH250-0.50-L2.0-C300	●	0.250	0.250	6.000	0.030	0.500	2	Cylindrical
6SH250-0.75-L2.5-C000	●	0.250	0.250	6.000	0.000	0.750	2.5	Cylindrical
6SH250-0.75-L2.5-C150	●	0.250	0.250	6.000	0.015	0.750	2.5	Cylindrical
6SH250-0.75-L2.5-C300	●	0.250	0.250	6.000	0.030	0.750	2.5	Cylindrical
6SH375-0.56-L2.0-C000	●	0.375	0.375	6.000	0.000	0.563	2	Cylindrical
6SH375-0.56-L2.0-C150	●	0.375	0.375	6.000	0.015	0.563	2	Cylindrical
6SH375-0.56-L2.0-C300	●	0.375	0.375	6.000	0.030	0.563	2	Cylindrical
6SH375-0.56-L2.0-C600	●	0.375	0.375	6.000	0.060	0.563	2	Cylindrical
6SH375-1.00-L2.5-C000	●	0.375	0.375	6.000	0.000	1.000	2.5	Cylindrical
6SH375-1.00-L2.5-C150	●	0.375	0.375	6.000	0.015	1.000	2.5	Cylindrical
6SH375-1.00-L2.5-C300	●	0.375	0.375	6.000	0.030	1.000	2.5	Cylindrical
6SH375-1.00-L2.5-C600	●	0.375	0.375	6.000	0.060	1.000	2.5	Cylindrical
6SH500-0.62-L2.5-C000	●	0.500	0.500	6.000	0.000	0.625	2.5	Cylindrical
6SH500-0.62-L2.5-C150	●	0.500	0.500	6.000	0.015	0.625	2.5	Cylindrical
6SH500-0.62-L2.5-C300	●	0.500	0.500	6.000	0.030	0.625	2.5	Cylindrical
6SH500-0.62-L2.5-C600	●	0.500	0.500	6.000	0.060	0.625	2.5	Cylindrical
6SH500-1.00-L3.0-C000	●	0.500	0.500	6.000	0.000	1.000	3	Cylindrical
6SH500-1.00-L3.0-C150	●	0.500	0.500	6.000	0.015	1.000	3	Cylindrical
6SH500-1.00-L3.0-C300	●	0.500	0.500	6.000	0.030	1.000	3	Cylindrical
6SH500-1.00-L3.0-C600	●	0.500	0.500	6.000	0.060	1.000	3	Cylindrical
6SH500-1.25-L3.0-C000	●	0.500	0.500	6.000	0.000	1.250	3	Cylindrical
6SH500-1.25-L3.0-C150	●	0.500	0.500	6.000	0.015	1.250	3	Cylindrical
6SH500-1.25-L3.0-C300	●	0.500	0.500	6.000	0.030	1.250	3	Cylindrical
6SH500-1.25-L3.0-C600	●	0.500	0.500	6.000	0.060	1.250	3	Cylindrical
6SH500-2.00-L4.0-C000	●	0.500	0.500	6.000	0.000	2.000	4	Cylindrical
6SH500-2.00-L4.0-C150	●	0.500	0.500	6.000	0.015	2.000	4	Cylindrical
6SH500-2.00-L4.0-C300	●	0.500	0.500	6.000	0.030	2.000	4	Cylindrical
6SH500-2.00-L4.0-C600	●	0.500	0.500	6.000	0.060	2.000	4	Cylindrical
6SH625-0.75-L3.0-C000	●	0.625	0.625	6.000	0.000	0.750	3	Cylindrical
6SH625-0.75-L3.0-C150	●	0.625	0.625	6.000	0.015	0.750	3	Cylindrical
6SH625-0.75-L3.0-C300	●	0.625	0.625	6.000	0.030	0.750	3	Cylindrical
6SH625-0.75-L3.0-C600	●	0.625	0.625	6.000	0.060	0.750	3	Cylindrical
6SH625-1.25-L3.5-C000	●	0.625	0.625	6.000	0.000	1.250	3.5	Cylindrical
6SH625-1.25-L3.5-C150	●	0.625	0.625	6.000	0.015	1.250	3.5	Cylindrical
6SH625-1.25-L3.5-C300	●	0.625	0.625	6.000	0.030	1.250	3.5	Cylindrical
6SH625-1.25-L3.5-C600	●	0.625	0.625	6.000	0.060	1.250	3.5	Cylindrical
6SH625-1.75-L4.0-C000	●	0.625	0.625	6.000	0.000	1.750	4	Cylindrical
6SH625-1.75-L4.0-C150	●	0.625	0.625	6.000	0.015	1.750	4	Cylindrical
6SH625-1.75-L4.0-C300	●	0.625	0.625	6.000	0.030	1.750	4	Cylindrical
6SH625-1.75-L4.0-C600	●	0.625	0.625	6.000	0.060	1.750	4	Cylindrical
6SH750-1.00-L3.0-C000	●	0.750	0.750	6.000	0.000	1.000	3	Cylindrical
6SH750-1.00-L3.0-C150	●	0.750	0.750	6.000	0.015	1.000	3	Cylindrical
6SH750-1.00-L3.0-C300	●	0.750	0.750	6.000	0.030	1.000	3	Cylindrical
6SH750-1.00-L3.0-C600	●	0.750	0.750	6.000	0.060	1.000	3	Cylindrical
6SH750-1.50-L4.0-C000	●	0.750	0.750	6.000	0.000	1.750	4	Cylindrical
6SH750-1.50-L4.0-C150	●	0.750	0.750	6.000	0.015	1.750	4	Cylindrical
6SH750-1.50-L4.0-C300	●	0.750	0.750	6.000	0.030	1.750	4	Cylindrical
6SH750-1.50-L4.0-C600	●	0.750	0.750	6.000	0.060	1.750	4	Cylindrical
6SH750-1.75-L4.0-C000	●	0.750	0.750	6.000	0.000	1.500	4	Cylindrical
6SH750-1.75-L4.0-C150	●	0.750	0.750	6.000	0.015	1.500	4	Cylindrical
6SH750-1.75-L4.0-C300	●	0.750	0.750	6.000	0.030	1.500	4	Cylindrical
6SH750-1.75-L4.0-C600	●	0.750	0.750	6.000	0.060	1.500	4	Cylindrical

(Unit: Inch) ● : Line up

7TH Series

7 Flute design, 37deg helix angle, Variable Index/Variable helix., Eccentric Relief, Sharp or Radius Corners



Inch Designation	AH725	DC	DCONMS	NOF	RE	APMX	LF	Shank
7TH375-1.62-L3.0-C000	●	0.375	0.375	7.000	0.000	1.625	3	Cylindrical
7TH500-0.62-L2.5-C000	●	0.500	0.500	7.000	0.000	0.625	2.5	Cylindrical
7TH500-0.62-L2.5-C150	●	0.500	0.500	7.000	0.015	0.625	2.5	Cylindrical
7TH500-0.62-L2.5-C300	●	0.500	0.500	7.000	0.030	0.625	2.5	Cylindrical
7TH500-0.62-L2.5-C600	●	0.500	0.500	7.000	0.060	0.625	2.5	Cylindrical
7TH500-1.00-L3.0-C000	●	0.500	0.500	7.000	0.000	1.000	3	Cylindrical
7TH500-1.00-L3.0-C150	●	0.500	0.500	7.000	0.015	1.000	3	Cylindrical
7TH500-1.00-L3.0-C300	●	0.500	0.500	7.000	0.030	1.000	3	Cylindrical
7TH500-1.00-L3.0-C600	●	0.500	0.500	7.000	0.060	1.000	3	Cylindrical
7TH500-1.25-L3.0-C000	●	0.500	0.500	7.000	0.000	1.250	3	Cylindrical
7TH500-1.25-L3.0-C150	●	0.500	0.500	7.000	0.015	1.250	3	Cylindrical
7TH500-1.25-L3.0-C300	●	0.500	0.500	7.000	0.030	1.250	3	Cylindrical
7TH500-1.25-L3.0-C600	●	0.500	0.500	7.000	0.060	1.250	3	Cylindrical
7TH500-1.50-L4.0-C000	●	0.500	0.500	7.000	0.000	1.500	4	Cylindrical
7TH500-1.50-L4.0-C150	●	0.500	0.500	7.000	0.015	1.500	4	Cylindrical
7TH500-1.50-L4.0-C300	●	0.500	0.500	7.000	0.030	1.500	4	Cylindrical
7TH500-1.50-L4.0-C600	●	0.500	0.500	7.000	0.060	1.500	4	Cylindrical
7TH500-2.00-L4.0-C000	●	0.500	0.500	7.000	0.000	2.000	4	Cylindrical
7TH500-2.00-L4.0-C150	●	0.500	0.500	7.000	0.015	2.000	4	Cylindrical
7TH500-2.00-L4.0-C300	●	0.500	0.500	7.000	0.030	2.000	4	Cylindrical
7TH500-2.00-L4.0-C600	●	0.500	0.500	7.000	0.060	2.000	4	Cylindrical
7TH500-2.25-L5.0-C300	●	0.500	0.500	7.000	0.030	2.250	5	Cylindrical
7TH750-1.50-L4.0-C000	●	0.750	0.750	7.000	0.000	1.500	4	Cylindrical
7TH750-2.25-L5.0-C600	●	0.750	0.750	7.000	0.060	2.250	5	Cylindrical

(Unit: Inch)

● : Line up

Tungaloy-NTK America Inc.

United States

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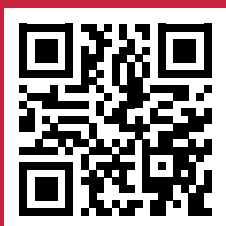
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