

# HCF-TN-4

# SPEEDS & FEEDS

## Contour Finishers - 4 Flute - Ball - Tapered Neck

HCF-TN-4								
Material Guide		Hardness	SFM	Inches per Tooth (IPT)				
				1/8	3/16	1/4	5/16	3/8
				Fin	Fin	Fin	Fin	Fin
CARBON STEEL	10XX, 11XX, 12XX, 12LXX, ASTM A27, ASTM A36	< 75 HRB	800	.0014	.0017	.0019	.0020	.0022
		75 - 98 HRB	750	.0013	.0014	.0016	.0018	.0019
		21 - 36 HRC	700	.0010	.0012	.0013	.0014	.0015
LOW ALLOY STEEL	13XX, 41XX, 43XX, 51XX, 86XX, 93XX	75 - 98 HRB	600	.0012	.0014	.0015	.0016	.0017
		21 - 36 HRC	550	.0010	.0012	.0013	.0014	.0015
		36 - 50 HRC	400	.0010	.0011	.0012	.0013	.0014
		> 50 HRC	350	.0008	.0009	.0011	.0012	.0013
TOOL STEEL	A2, H13, L6, P20, S7	75 - 98 HRB	550	.0012	.0014	.0015	.0016	.0017
		21 - 36 HRC	500	.0011	.0012	.0014	.0014	.0015
		36 - 50 HRC	450	.0009	.0011	.0012	.0013	.0014
		> 50 HRC	400	.0008	.0009	.0011	.0012	.0013
SPECIALTY STEEL	300M, Invar 36, Kovar, Maraging 200, Maraging 250, Maraging 300, Maraging 350	< 75 HRB	450	.0014	.0015	.0017	.0018	.0020
		75 - 98 HRB	500	.0011	.0013	.0014	.0015	.0016
		21 - 36 HRC	450	.0011	.0012	.0014	.0014	.0015
		36 - 50 HRC	400	.0010	.0011	.0013	.0014	.0014
		> 50 HRC	350	.0008	.0009	.0010	.0011	.0012
AUSTENITIC STAINLESS STEEL	Nitronic 50, Nitronic 60, 301, 303, 304, 304L, Incoloy 27-7MO, 316, 316L, 321, 347	75 - 98 HRB	500	.0012	.0014	.0015	.0016	.0017
		21 - 36 HRC	450	.0011	.0013	.0014	.0015	.0016
		36 - 50 HRC	400	.0010	.0011	.0013	.0014	.0014
MARTENSITIC & FERRITIC STAINLESS STEEL	403, 410, 416, 420, 440, 430, 446	75 - 98 HRB	750	.0012	.0014	.0015	.0016	.0017
		21 - 36 HRC	650	.0011	.0013	.0014	.0015	.0016
PH STAINLESS STEEL	15-5, 17-4, Carpenter 450, Carpenter 465	21 - 36 HRC	450	.0010	.0011	.0013	.0014	.0014
		36 - 50 HRC	400	.0010	.0011	.0013	.0013	.0014
GRAY CAST IRON	SAE J431, ASTM A48	75 - 98 HRB	600	.0015	.0017	.0019	.0021	.0023
		21 - 36 HRC	550	.0011	.0013	.0014	.0015	.0016
MALLEABLE CAST IRON	ASTM A47, ASTM A220, ASTM A602	75 - 98 HRB	550	.0012	.0014	.0015	.0016	.0017
		21 - 36 HRC	450	.0011	.0013	.0014	.0015	.0016
NODULAR (DUCTILE) CAST IRON	ASTM A536, ASTM 897	75 - 98 HRB	500	.0013	.0014	.0015	.0017	.0018
		21 - 36 HRC	450	.0010	.0011	.0013	.0014	.0014
		36 - 50 HRC	400	.0008	.0009	.0010	.0011	.0012
PURE NICKEL	Nickel 200, Nickel 201	< 75 HRB	600	.0014	.0015	.0018	.0019	.0021
		75 - 98 HRB	550	.0013	.0014	.0016	.0018	.0019
NICKEL ALLOY	Hastelloy C-22, Inconel 625, Waspaloy, René 41, Inconel 718, Incoloy 20	75 - 98 HRB	200	.0010	.0011	.0013	.0014	.0014
		21 - 36 HRC	180	.0010	.0011	.0013	.0014	.0014
		36 - 50 HRC	150	.0009	.0010	.0012	.0013	.0014
PURE TITANIUM	Ti Grade 1, Ti Grade 2, Ti Grade 3, Ti Grade 4, Ti Grade 7, Ti Grade 12	< 75 HRB	350	.0016	.0018	.0021	.0023	.0024
		75 - 98 HRB	400	.0015	.0017	.0019	.0020	.0022
		21 - 36 HRC	325	.0013	.0014	.0016	.0018	.0019
TITANIUM ALLOY	Ti 3Al-2.5V, Ti 6Al-4V, Ti 10V-2Fe-3Al	21 - 36 HRC	300	.0012	.0013	.0014	.0016	.0017
		36 - 50 HRC	250	.0011	.0013	.0014	.0015	.0016
COBALT ALLOY	ASTM F562, ASTM F90, ASTM F75, ASTM F799	75 - 98 HRB	225	.0011	.0012	.0014	.0014	.0015
		21 - 36 HRC	150	.0010	.0012	.0014	.0014	.0015
		36 - 50 HRC	90	.0008	.0010	.0011	.0012	.0013

MILLING PROCESS	ADOC	RDOC
Fin (Finishing)	Up to Max LOC	4%-6% Diameter
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**NOTES:**

ADOC and RDOC are recommended starting values, and should be adjusted according to your finish requirements