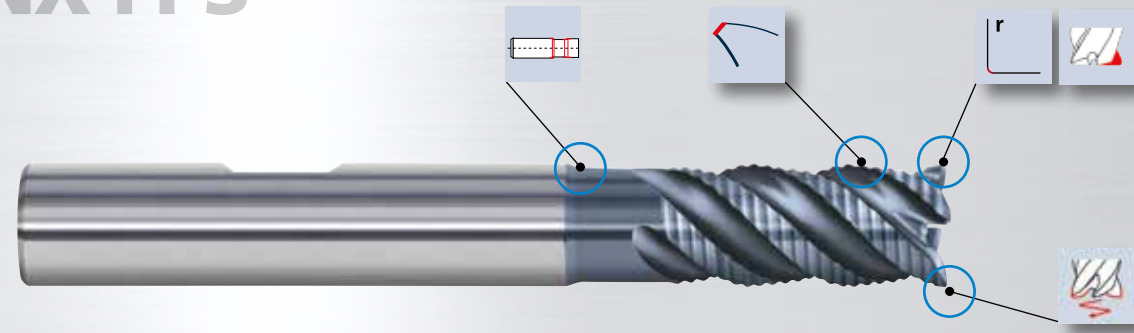


NX-FPS



Small corner radius

- The cylindrical tool has a small corner radius to reinforce the cutting edge
- Greater thermal and mechanical workload and therefore increased efficiency

High-performance penetration edge

- Easy-cutting, high-performance penetration edge for high penetration angles
- Higher performance, longer tool life and improved process reliability for penetration
- High functionality with ToolExpert-HelixRamp cutting data

Milling tool with partially polished teeth

- Reinforcement of the exposed cutting edge
- Absorption of higher cutting forces

Milling tool with special protective chamfer

- Reinforcement of the main cutting edge against chipping
- High tooth feed rates for smooth-edged tools

Tools with a short shank

- Tools with release feature from the end of the cutting edge to the shaft neck
- Enables repositioning for deeper infeds beyond the length of the cutting edge
- Expansion of the tools range of applications

NX-FPS tools have an easy-cut geometry and are ideally suitable for use in soft and hardened steels, tool steels, stainless steels, cast iron, and titanium.

HRC < 24	HRC 24-34	HRC 34-42	HRC 42-48				Inox Stainless	Ti Titanium	Cast Iron Tool Steel
----------	-----------	-----------	-----------	--	--	--	----------------	-------------	----------------------



Here, you will be provided with further information on the FRAISA Group.



The fastest way to our E-Shop can be found here.

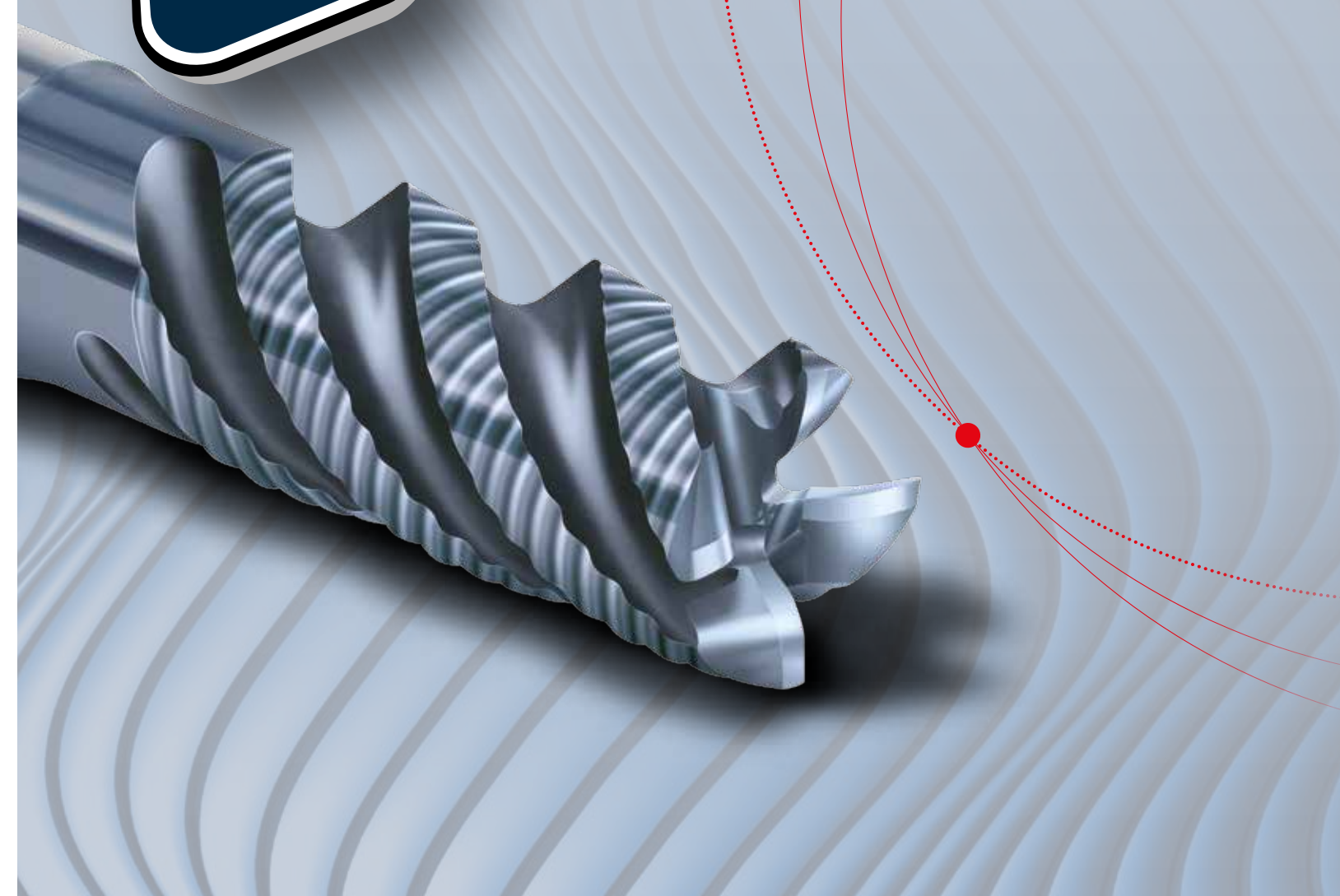


FRAISA USA, Inc.
 711 5th Street SW, Suite 1 | New Brighton, MN 55112
 Phone: (651) 636 84 88 | Fax: (651) 636 85 88
 mail: info@fraisausa.com | fraisa.com |

You also find us at:
[facebook.com/fraisagroup](https://www.facebook.com/fraisagroup)
[youtube.com/fraisagroup](https://www.youtube.com/fraisagroup)

NX-FPS High-Performance Mill

HPC milling in a new performance dimension!



Productivity boost in HPC roughing thanks to the NX-FPS mill

The new NX-FPS mill expands our range of tools equipped with a high-performance penetration edge. The redesigned penetration edge in conjunction with the other technological features, opens up new horizons for performance in HPC roughing.

Penetration jobs can be conducted up to 15 times faster than before – while maintaining the same high level of process reliability and reproducibility that the NX-FPS model before it had featured.

The easy-cut geometry specifically tailored to handle the machining load, in combination with the extremely wear-resistant FRAISA POLYCHROM hard coating, facilitates high-performance milling in soft and hardened steel, tool steel, stainless steel, cast iron, and titanium.

The success of NX-FPS (P5979) stands out in comparison with rival products. The material removal rate and therefore productivity are 50% higher – while the service life of the tool is almost 300% longer. Thanks to our continued development of the S-shaped penetration edge the greatly reduced mechanical and thermal loads can be transformed into higher productivity and a longer tool life.

These new performance horizons of the contoured NX-FPS milling tool open up great opportunities to **boost your productivity**.

The advantages:

- **Maximum productivity and competitiveness** thanks to a high-performance tool with contoured cutting edge and penetration edge
- **Improved tool life, process reliability and reproducibility** thanks to contoured cutting edge
- **Wide variety of machinable materials ranging from steel through tool steel, stainless steel, titanium to cast iron** thanks to the easy-cut geometry and heavy-duty POLYCHROM coating
- **Smaller 'tool kit', reduced capital lockup and shorter setup times** thanks to an extended range of applications
- **Optimum utilization of machines** with limited dynamics or spindle speed
- **Reduced costs** thanks to enhanced tool utilization and time savings in the production process
- **Optimal life cycle** with ToolCare® tool management



Reliable cutting data
ToolExpert HelixRamp

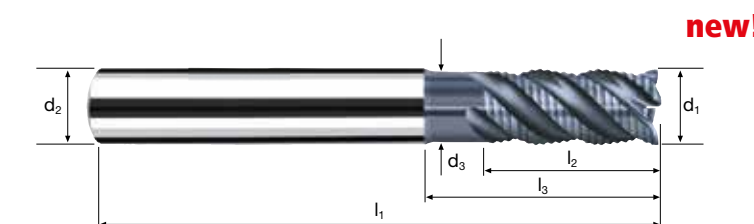
Application	Material	d1 [in]	fl	Speed [ft/min]	FPT [in]	ADOC [in]	RDOC [in]	RPM [min ⁻¹]	Feed [in/min]	MRR [in ³ /min]	φZ [°]	φA [°]
ADOC RDOC	Steel up to 24 HRC	1/4	4	590	0.0010	0.375	0.150	9015	36	2.025	20°	
		5/16	4	590	0.0012	0.469	0.186	7210	35	3.053	20°	
		3/8	4	590	0.0019	0.563	0.232	6010	46	6.008	20°	
		1/2	4	590	0.0023	0.750	0.302	4505	41	9.286	20°	
		5/8	4	590	0.0021	0.838	0.388	3605	30	10.918	20°	
3/4	4	590	0.0022	1.125	0.461	3005	26	13.484	20°			
see ToolExpert HelixRamp (www.fraisa.com)												
φZ	Steel 24 - 34 HRC	1/4	4	490	0.0010	0.375	0.150	7485	30	1.687	18°	
		5/16	4	490	0.0012	0.469	0.186	5990	29	2.530	18°	
		3/8	4	490	0.0019	0.563	0.232	4990	38	4.963	18°	
		1/2	4	490	0.0023	0.750	0.302	3745	34	7.701	18°	
		5/8	4	490	0.0021	0.938	0.388	2995	25	9.099	18°	
3/4	4	490	0.0022	1.125	0.461	2495	22	11.410	18°			
see ToolExpert HelixRamp (www.fraisa.com)												
φZ	Steel 34 - 42 HRC	1/4	4	395	0.0010	0.375	0.150	6035	24	1.350	14°	
		5/16	4	395	0.0012	0.469	0.186	4830	23	2.006	14°	
		3/8	4	395	0.0019	0.563	0.232	4025	31	4.049	14°	
		1/2	4	395	0.0023	0.750	0.302	3020	28	6.342	14°	
		5/8	4	395	0.0021	0.938	0.388	2415	20	7.279	14°	
3/4	4	395	0.0022	1.125	0.461	2010	18	9.335	14°			
see ToolExpert HelixRamp (www.fraisa.com)												
φZ	Cold work tool steel (12% Cr) high alloyed [D 2]	1/4	4	260	0.0010	0.375	0.150	3975	16	0.900	12°	
		5/16	4	260	0.0012	0.469	0.186	3180	15	1.309	12°	
		3/8	4	260	0.0019	0.563	0.232	2650	20	2.612	12°	
		1/2	4	260	0.0023	0.750	0.302	1985	18	4.077	12°	
		5/8	4	260	0.0021	0.938	0.388	1590	13	4.731	12°	
3/4	4	260	0.0022	1.125	0.461	1325	12	6.223	12°			
see ToolExpert HelixRamp (www.fraisa.com)												

Application	Material	d1 [in]	fl	Speed [ft/min]	FPT [in]	ADOC [in]	RDOC [in]	RPM [min ⁻¹]	Feed [in/min]	MRR [in ³ /min]	φR [°]	LR [in]
ADOC	Steel up to 24 HRC	1/4	4	490	0.0010	0.312	0.250	7485	30	2.340	26°	0.640
		5/16	4	490	0.0012	0.388	0.313	5990	29	3.522	26°	0.796
		3/8	4	490	0.0019	0.483	0.375	4990	38	6.883	26°	0.990
		1/2	4	490	0.0023	0.628	0.500	3745	34	10.676	26°	1.288
		5/8	4	490	0.0021	0.809	0.625	2995	25	12.641	26°	1.659
3/4	4	490	0.0022	0.960	0.750	2495	22	15.840	26°	1.968		
see ToolExpert HelixRamp (www.fraisa.com)												
φR	Steel 24 - 34 HRC	1/4	4	330	0.0008	0.312	0.250	5040	16	1.248	24°	0.701
		5/16	4	330	0.0010	0.388	0.313	4035	16	1.943	24°	0.871
		3/8	4	330	0.0011	0.483	0.375	3360	15	2.717	24°	1.085
		1/2	4	330	0.0017	0.628	0.500	2520	17	5.338	24°	1.411
		5/8	4	330	0.0020	0.809	0.625	2015	16	8.090	24°	1.817
3/4	4	330	0.0021	0.960	0.750	1680	14	10.080	24°	2.156		
see ToolExpert HelixRamp (www.fraisa.com)												
φR	Steel 34 - 42 HRC	1/4	4	260	0.0008	0.312	0.250	3975	13	1.014	19°	0.906
		5/16	4	260	0.0010	0.388	0.313	3180	13	1.579	19°	1.127
		3/8	4	260	0.0011	0.483	0.375	2650	12	2.173	19°	1.403
		1/2	4	260	0.0017	0.628	0.500	1985	13	4.082	19°	1.824
		5/8	4	260	0.0020	0.809	0.625	1590	13	6.573	19°	2.350
3/4	4	260	0.0021	0.960	0.750	1325	11	7.920	19°	2.788		
see ToolExpert HelixRamp (www.fraisa.com)												
φR	Cold work tool steel (12% Cr) high alloyed [D 2]	1/4	4	195	0.0008	0.312	0.250	2980	10	0.780	14°	1.251
		5/16	4	195	0.0010	0.388	0.313	2385	10	1.214	14°	1.556
		3/8	4	195	0.0011	0.483	0.375	1985	9	1.630	14°	1.937
		1/2	4	195	0.0017	0.628	0.500	1490	10	3.140	14°	2.519
		5/8	4	195	0.0020	0.809	0.625	1190	10	5.056	14°	3.245
3/4	4	195	0.0021	0.960	0.750	995	8	5.760	14°	3.850		
see ToolExpert HelixRamp (www.fraisa.com)												

Square end mills NX-FPS

Profiled, standard length with short neck
High-performance penetration edge

HM MG10
λ 45°
γ 0°



HRC < 24	HRC 24-34	HRC 34-42	HRC 42-48					Inox Stainless	Ti Titanium	Cast Iron Tool Steel
----------	-----------	-----------	-----------	--	--	--	--	----------------	-------------	----------------------

Order-N°	d1 e8	d2 h6	d3	l1	l2	l3	r	fl	ReTool®	POLYCHROM
P98384312	1/4	1/4	0.225	2 1/4	1/2	3/4	0.006	4		●
P98384372	5/16	5/16	0.290	2 1/2	5/8	1	0.006	4		●
P98484432	3/8	3/8	0.345	2 3/4	3/4	1 1/8	0.008	4	●	●
P98484530	1/2	1/2	0.460	3 1/4	1	1 3/8	0.008	4	●	●
P98484605	5/8	5/8	0.585	3 1/2	1 1/8	1 9/16	0.008	4	●	●
P98484652	3/4	3/4	0.710	4	1 3/8	1 7/8	0.008	4	●	●



Where is it possible to ask questions concerning the product?

If you have any question, please send an email to info@fraisausa.com. You may also directly contact our local customer consultant.

The FRAISA application engineers will be happy to advise you.

For further information, please refer to fraisa.com

