

# The all-rounder

for small batch sizes

## Universal application

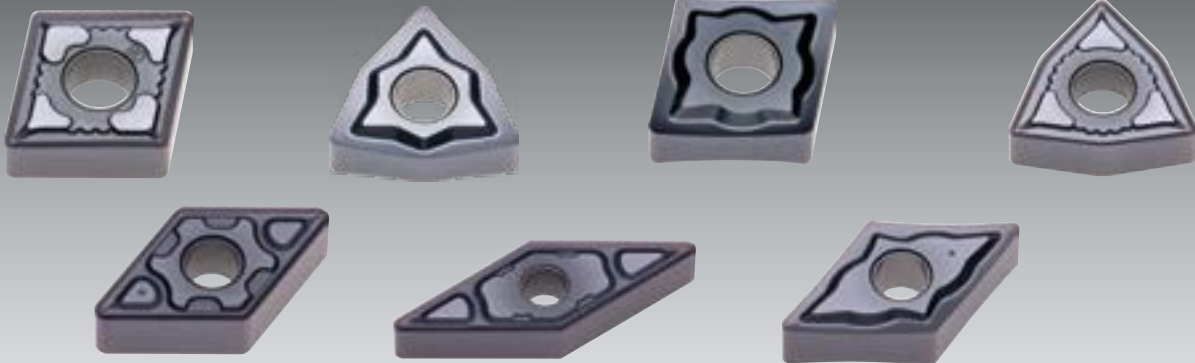
The carbide grade TF P041 15 is suitable for machining

- Steel
- Stainless steel
- Heat-resistant materials

**Optimum geometry** for finishing and medium machining due to sharp and stable cutting edge geometry

**Lower costs** through reduced consumption of indexable inserts and omission of changing tools and set-up times

With the **TF P041 15 carbide grade** nothing is left unprocessed!



# Overview TF PO41 15

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CNMG 1204...							Product family 711			
Radius mm	Machining	Grade	Type	Holder	a <sub>p</sub> Cutting depth*		f <sub>n</sub> Feed*			
					mm		mm/rev			
					min	Start - max	min	Start - max		
0.40		TF PO41 15	CNMG 120404-DL TF PO41 15	PCLNR/L1616.12 PCLNR/L2020.12 PCLNR/L2525.12	0.20	<b>0.50</b>	1.50	0.08	<b>0.11</b>	0.15
		TF PO41 15	CNMG 120404-DM TF PO41 15		0.35	<b>1.00</b>	2.50	0.10	<b>0.18</b>	0.25
0.80		TF PO41 15	CNMG 120408-DL TF PO41 15	DCLNR/L2020.12 DCLNR/L2525.12 DCLNR/L3232.12	0.20	<b>0.50</b>	1.50	0.08	<b>0.11</b>	0.15
		TF PO41 15	CNMG 120408-DM TF PO41 15		0.35	<b>1.00</b>	2.50	0.10	<b>0.18</b>	0.25
1.20		TF PO41 15	CNMG 120412-DL TF PO41 15	A20R PCLNR/L12 A25SPCLNR/L12 A32TPCLNR/L12 A40TPCLNR/L12	0.20	<b>0.50</b>	1.50	0.08	<b>0.11</b>	0.15
		TF PO41 15	CNMG 120412-DM TF PO41 15		0.35	<b>1.00</b>	2.50	0.10	<b>0.18</b>	0.25

DNMG 1504...							Product family 711			
Radius mm	Machining	Grade	Type	Holder	a <sub>p</sub> Cutting depth*		f <sub>n</sub> Feed*			
					mm		mm/rev			
					min	Start - max	min	Start - max		
0.40		TF PO41 15	DNMG 150404-DL TF PO41 15	PDJNR/L2020.15 PDJNR/L2525.15 DDJNR/L2020.15 DDJNR/L2525.15 DDJNR/L3225.15	0.30	<b>0.50</b>	2.50	0.10	<b>0.15</b>	0.30
0.80		TF PO41 15	DNMG 150408-DL TF PO41 15		0.60	<b>1.00</b>	2.50	0.15	<b>0.25</b>	0.40
		TF PO41 15	DNMG 150408-DM TF PO41 15	0.35	<b>1.00</b>	2.50	0.10	<b>0.18</b>	0.25	
1.20		TF PO41 15	DNMG 150412-DL TF PO41 15	A25SPDUNR/L15 A32TPDUNR/L15 A40TPDUNR/L15	0.80	<b>1.50</b>	2.50	0.15	<b>0.28</b>	0.50
		TF PO41 15	DNMG 150412-DM TF PO41 15		0.35	<b>1.00</b>	2.50	0.10	<b>0.18</b>	0.25

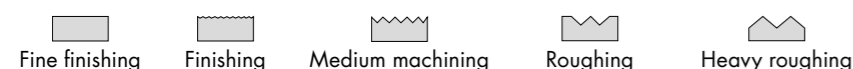
CNMG 1606...							Product family 711			
Radius mm	Machining	Grade	Type	Holder	a <sub>p</sub> Cutting depth*		f <sub>n</sub> Feed*			
					mm		mm/rev			
					min	Start - max	min	Start - max		
0.80		TF PO41 15	CNMG 160608-DL TF PO41 15	PCLNR/L1616.12 PCLNR/L2020.12 PCLNR/L2525.12	0.50	<b>3.00</b>	5.50	0.15	<b>0.25</b>	0.40
		TF PO41 15	CNMG 160608-DM TF PO41 15		0.60	<b>3.50</b>	6.50	0.15	<b>0.25</b>	0.40
1.20		TF PO41 15	CNMG 160612-DL TF PO41 15	DCLNR/L2020.12 DCLNR/L2525.12 DCLNR/L3232.12	1.00	<b>3.00</b>	5.50	0.15	<b>0.28</b>	0.50
		TF PO41 15	CNMG 160612-DM TF PO41 15		1.00	<b>3.50</b>	6.50	0.20	<b>0.30</b>	0.50

DNMG 1506...							Product family 711			
Radius mm	Machining	Grade	Type	Holder	a <sub>p</sub> Cutting depth*		f <sub>n</sub> Feed*			
					mm		mm/rev			
					min	Start - max	min	Start - max		
0.40		TF PO41 15	DNMG 150604-DL TF PO41 15	PDJNR/L2020.15 PDJNR/L2525.15 DDJNR/L2020.15 DDJNR/L2525.15 DDJNR/L3225.15	0.30	<b>0.50</b>	2.50	0.10	<b>0.15</b>	0.30
0.80		TF PO41 15	DNMG 150608-DL TF PO41 15		0.20	<b>0.50</b>	1.50	0.08	<b>0.11</b>	0.15
		TF PO41 15	DNMG 150608-DM TF PO41 15	0.35	<b>1.00</b>	2.50	0.10	<b>0.18</b>	0.25	
1.20		TF PO41 15	DNMG 150612-DL TF PO41 15	A25SPDUNR/L15 A32TPDUNR/L15 A40TPDUNR/L15	0.80	<b>1.50</b>	2.50	0.15	<b>0.28</b>	0.50
		TF PO41 15	DNMG 150612-DM TF PO41 15		0.35	<b>1.00</b>	2.50	0.10	<b>0.18</b>	0.25

CNMG 1906...							Product family 711			
Radius mm	Machining	Grade	Type	Holder	a <sub>p</sub> Cutting depth*		f <sub>n</sub> Feed*			
					mm		mm/rev			
					min	Start - max	min	Start - max		
0.80		TF PO41 15	CNMG 190608-DL TF PO41 15	PCLNR/L1616.12 PCLNR/L2020.12 PCLNR/L2525.12 DCLNR/L2020.12 DCLNR/L2525.12 DCLNR/L3232.12	0.60	<b>3.50</b>	6.00	0.15	<b>0.25</b>	0.40
1.20		TF PO41 15	CNMG 190612-DL TF PO41 15		A20R PCLNR/L12 A25SPCLNR/L12 A32TPCLNR/L12 A40TPCLNR/L12	1.00	<b>3.50</b>	6.00	0.15	<b>0.28</b>

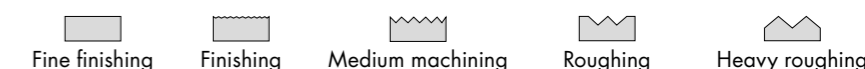
SNMG 1204...							Product family 711			
Radius mm	Machining	Grade	Type	Holder	a <sub>p</sub> Cutting depth*		f <sub>n</sub> Feed*			
					mm		mm/rev			
					min	Start - max	min	Start - max		
0.40		TF PO41 15	SNMG 120404-DM TF PO41 15	PSSNR/L 1616.12 PSSNR/L 2020.12 PSSNR/L 2525.12	0.40	<b>2.50</b>	4.50	0.12	<b>0.18</b>	0.30
0.80		TF PO41 15	SNMG 120408-DM TF PO41 15		0.60	<b>2.50</b>	4.50	0.15	<b>0.25</b>	0.40
1.20		TF PO41 15	SNMG 120412-DM TF PO41 15		1.00	<b>2.50</b>	4.50	0.20	<b>0.30</b>	0.50

VNMG 1604...							Product family 711			
Radius mm	Machining	Grade	Type	Holder	a <sub>p</sub> Cutting depth*		f <sub>n</sub> Feed*			
					mm		mm/rev			
					min	Start - max	min	Start - max		
0.40		TF PO41 15	VNMG 160404-DL TF PO41 15	DVJNR/L 2020.16 DVJNR/L 2525.16	0.30	<b>0.50</b>	2.50	0.10	<b>0.15</b>	0.30
0.80		TF PO41 15	VNMG 160408-DL TF PO41 15		0.60	<b>1.00</b>	2.50	0.15	<b>0.25</b>	0.40
		TF PO41 15	VNMG 160408-DM TF PO41 15		0.35	<b>1.00</b>	2.50	0.10	<b>0.18</b>	0.25
1.20		TF PO41 15	VNMG 160412-DL TF PO41 15		0.80	<b>1.50</b>	2.50	0.15	<b>0.25</b>	0.40
		TF PO41 15	VNMG 160412-DM TF PO41 15		0.35	<b>1.00</b>	2.50	0.10	<b>0.18</b>	0.25








\* Cutting speed v<sub>c</sub>: P. 4

\* Cutting speed v<sub>c</sub>: P. 4



# The all-rounder

WNMG0804...					Product family	711				
Radius mm	Machining	Grade	Type	Holder	a <sub>p</sub> Cutting depth*		f <sub>s</sub> Feed*			
					mm		mm/rev			
					min	Start	max	min	Start	max
0.4		TF PO41 15	WNMG 080404-DL TF PO41 15	PWLNR/L 2020.08 PWLNR/L 2.525.08 DWLNR/L 2020.08 DWLNR/L 2.525.08  A25SPWLNR/L08 A32TPWLNR/L08 A40TPWLNR/L08	0.30	<b>0.50</b>	2.50	0.10	<b>0.15</b>	0.30
0.80		TF PO41 15	WNMG 080408-DL TF PO41 15		0.20	<b>0.50</b>	1.50	0.08	<b>0.11</b>	0.15
		TF PO41 15	WNMG 080408-DM TF PO41 15		0.35	<b>1.00</b>	2.50	0.10	<b>0.18</b>	0.25
1.20		TF PO41 15	WNMG 080412-DL TF PO41 15		0.80	<b>1.50</b>	2.50	0.15	<b>0.28</b>	0.50
		TF PO41 15	WNMG 080412-DM TF PO41 15		0.35	<b>1.00</b>	2.50	0.10	<b>0.18</b>	0.25

## Vc for Negative Indexable Inserts

Iso	Material	Tensile strength N/mm <sup>2</sup>	Cutting speed V <sub>c</sub> (m/min)	
			TF PO41 15	
P	St52, C45, 16MnCr5	≤ 750	160	<b>230</b> - 290
	42CrMo4, 1.2080, 1.2312, 1.2343, 1.2379	≤ 1200	110	<b>140</b> - 200
	Tool steels, Q & T	≤ 1700 50 HRC	50	<b>70</b> - 130
M	1.4000, 1.4021, 1.4034, 1.4510, 1.4301, 1.4305, 1.4310, 1.4541	≤ 750	70	<b>130</b> - 180
	1.4401, 1.4435, 1.4571, 1.4583	≤ 850	60	<b>110</b> - 140
	1.4362, 1.4460, 1.4462	≤ 850	45	<b>90</b> - 135
S	Titanium	≤ 850	35	<b>45</b> - 70
	Inconel	≤ 1300	20	<b>40</b> - 55

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