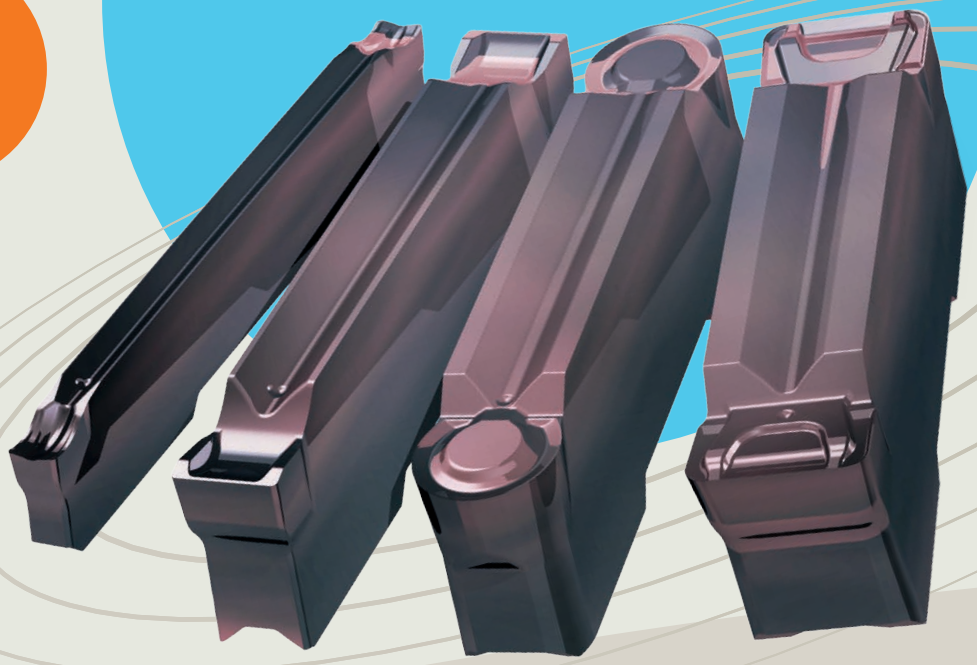
DORMER PRAMET™

G8415 grade

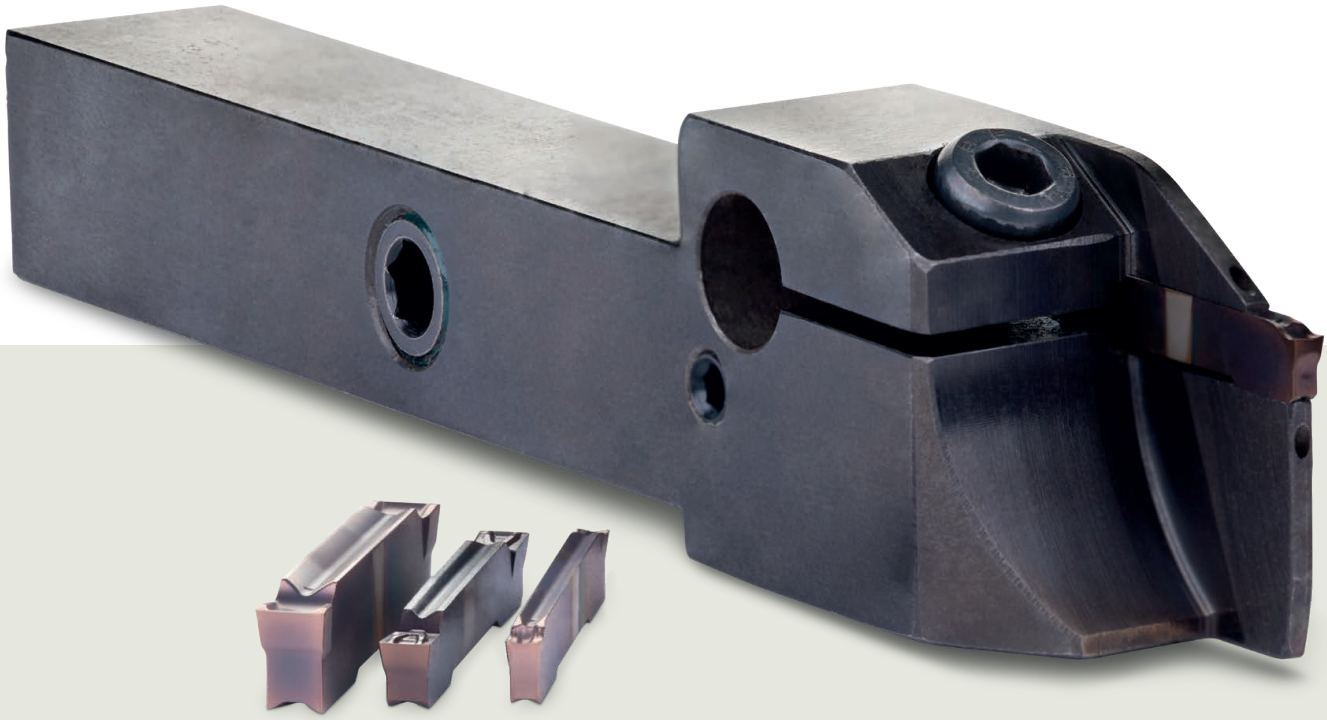
New unique PVD grade for parting-off and grooving applications



Certainty
at every turn™

New unique PVD grade for parting-off and grooving applications

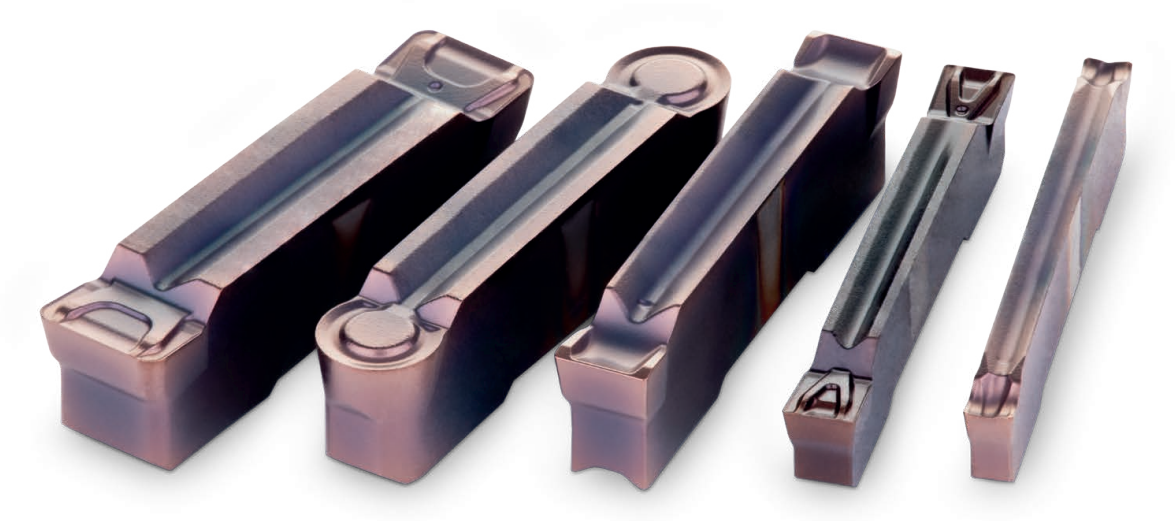
Elevate your machining efficiency with reliable performance



The new G8415 grade delivers consistent and reliable performance in steels, stainless steel, cast iron, heat-resistant and hardened materials. Featuring a unique TiBN sliding top layer and durable multi-layer PVD coating, it offers excellent wear resistance and stability, even in challenging conditions.

Available with all GL chipbreakers, the G8415 is a practical and efficient choice for parting-off, grooving and copy profiling applications.

Related products



GL. D-PR

Double-ended insert for parting-off and grooving

GL. D-PM

Double-ended insert for deep parting-off

GL. D-MM

Double-ended insert for grooving and copy profiling

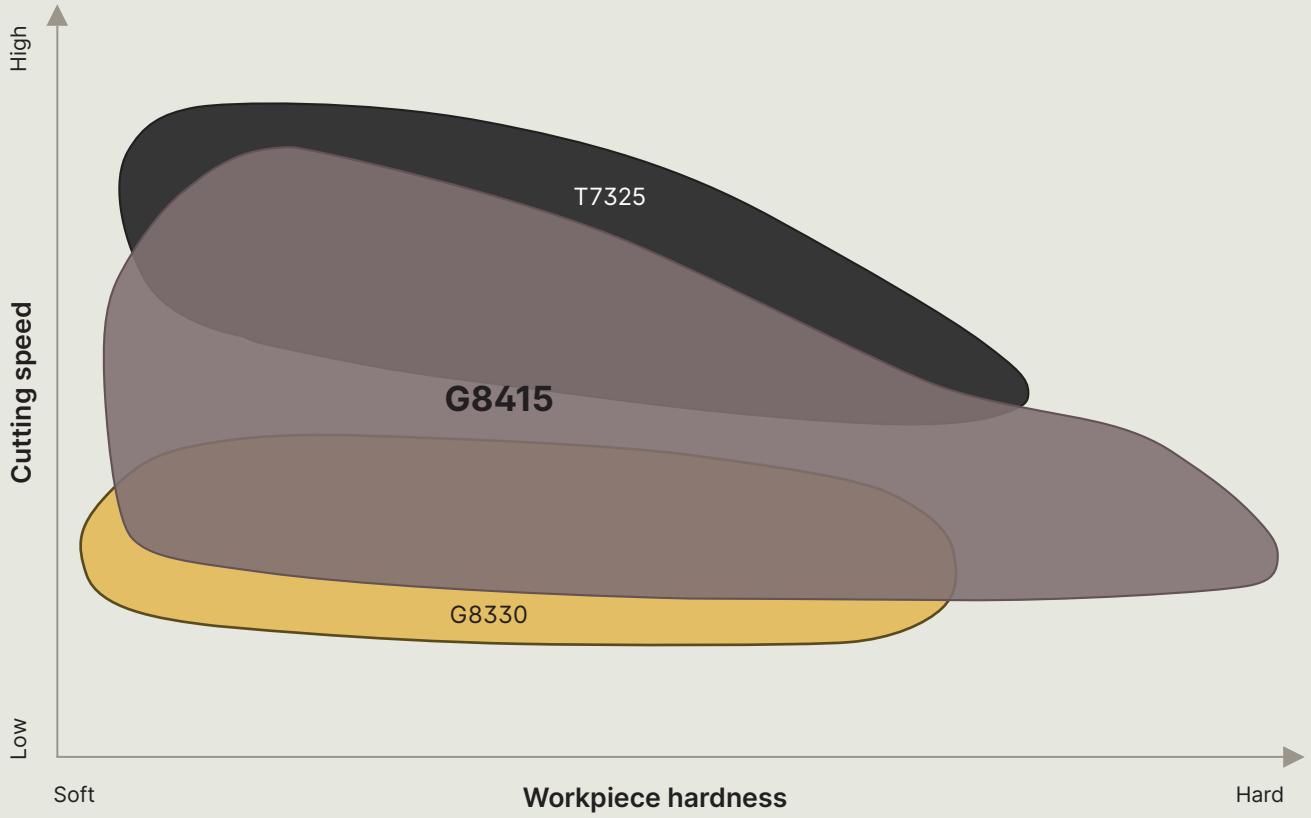
GL. D-GM

Double-ended insert for grooving and longitudinal turning

Features & benefits

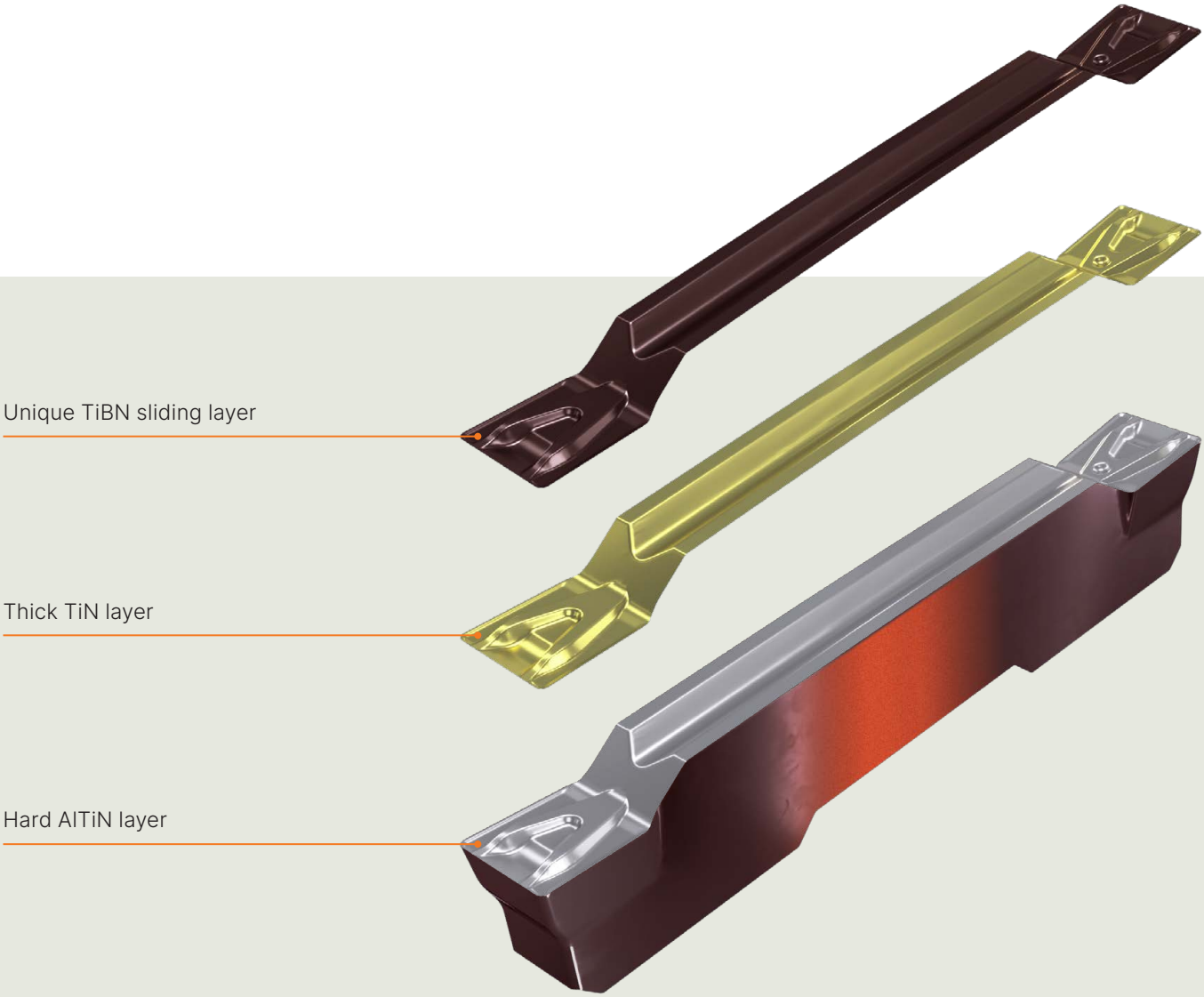
New generation multi-layered PVD coating combined with high-end sub-micron carbide grade.	→	**Versatile use** for a broad range of workpieces.
Unique TiBN sliding top layer reduces built-up edge formation.	→	**Enhanced cutting performance** ensures smooth chip flow and improved quality of machined surfaces.
Thick TiN layer with low compressive residual stress, and hard AlTiN layer with newly developed composition.	→	**Extended tool life** even in adverse cutting conditions.
Available chipbreakers (PM, PR, GM, MM) optimize performance per application.	→	**Application-specific versatility** ensures reliable performance for parting-off, grooving and profiling tasks.

Application area of G8415 turning grades



Grade composition

Precision-engineered coating layers for maximum tool life and performance



Success stories

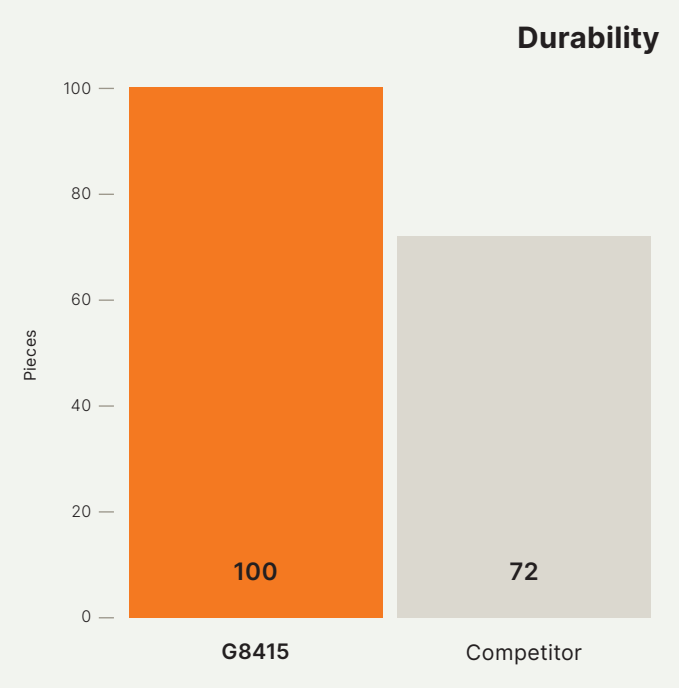
Increase tool life by **39%** with superior durability

Customer result: The G8415 grade significantly outperformed the competitor's solution, extending tool life by 39% in threaded pin machining operations. This improvement reduces tool changes and downtime, leading to enhanced productivity and lower cost per part in steel parting-off applications.

Segment	General engineering
Application	Parting-off
Component	Threaded pin
Material	SAE 1045
Coolant	Yes
Dormer Pramet solution	GL3-D300M02-PM:G8415

Machining data			
n	f_n	CD	CW
1350	0.035	8.0	3.0

P2.2



n = spindle speed (rev/min), f_n = feed per revolution (mm/rev), CD = cutting depth (mm), CW = cutting width (mm)

Success stories

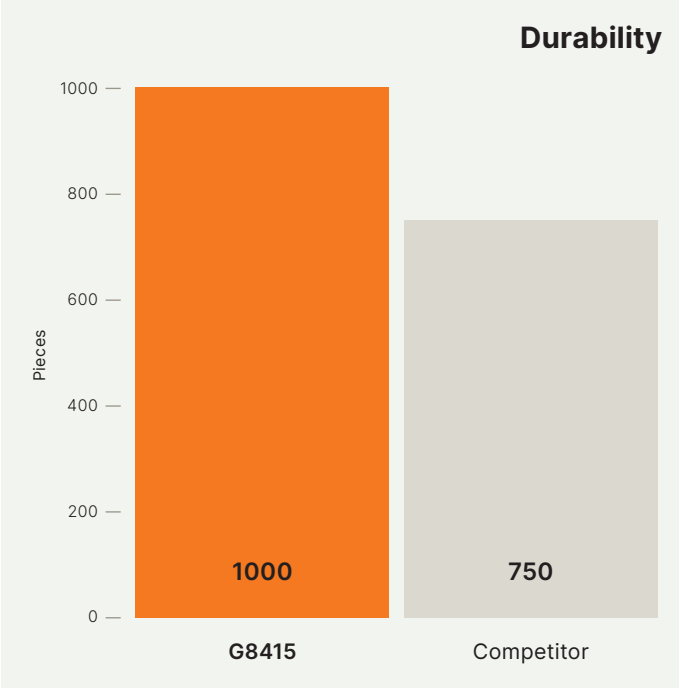
Extend tool life by **33%** while ensuring consistent results

Customer result: The G8415 delivered outstanding performance compared to the competitor's solution. It demonstrated 33% longer tool life, with each cutting edge achieving 1000 cuts before being replaced, compared to 750 cuts with the competitor's grade. This improvement allowed the customer to replace the cutting edges far less frequently, leading to reduced downtime.

Segment	Automotive
Application	Parting-off
Component	Ring
Material	18NiCrMo5
Coolant	Yes
Dormer Pramet solution	GL3-D300M02-PR:G8415

Machining data			
n	f_n	CD	CW
656	0.2	15.0	3.0

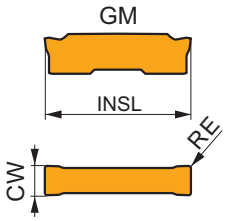
P3.2



n = spindle speed (rev/min), f_n = feed per revolution (mm/rev), CD = cutting depth (mm), CW = cutting width (mm)

GL. D - GM

	CW (mm)	CWTOLL (mm)	CWTOLU (mm)	INSL (mm)
200	2.00	-0.05	0.05	25.0
300	3.00	-0.05	0.05	25.0
400	4.00	-0.05	0.05	25.0
500	5.00	-0.05	0.05	25.0
600	6.00	-0.05	0.05	25.0



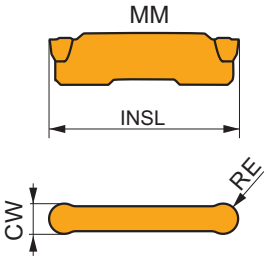
Suitability and starting values for cutting speed (vc), feed (f) and depth of cut (ap). Refer to our Machining Calculator app for further calculations.

Product	●	⚙	✱	RE (mm)	P vc (m/min)	P f (mm/rev)	P ap (mm)	M vc (m/min)	M f (mm/rev)	M ap (mm)	K vc (m/min)	K f (mm/rev)	K ap (mm)	N vc (m/min)	N f (mm/rev)	N ap (mm)	S vc (m/min)	S f (mm/rev)	S ap (mm)	H vc (m/min)	H f (mm/rev)	H ap (mm)
GL2-D200M02-GM:G8415	●			0.2	■ 155	0.15	0.8	■ 80	0.14	0.8	■ 140	0.15	0.8	–	–	–	◪ 35	0.11	0.6	–	–	–
GL3-D300M02-GM:G8415	●			0.2	■ 155	0.20	1.0	■ 80	0.18	1.0	■ 140	0.20	1.0	–	–	–	◪ 35	0.14	0.8	–	–	–
GL3-D300M04-GM:G8415	●			0.4	■ 155	0.20	1.0	■ 80	0.18	1.0	■ 140	0.20	1.0	–	–	–	◪ 35	0.14	0.8	–	–	–
GL4-D400M04-GM:G8415	●			0.4	■ 155	0.25	1.2	■ 80	0.23	1.2	■ 140	0.25	1.2	–	–	–	◪ 35	0.18	1.0	–	–	–
GL5-D500M08-GM:G8415	●			0.8	■ 155	0.30	1.2	■ 80	0.27	1.2	■ 140	0.30	1.2	–	–	–	◪ 35	0.21	1.0	–	–	–
GL6-D600M08-GM:G8415	●			0.8	■ 155	0.30	1.2	■ 80	0.27	1.2	■ 140	0.30	1.2	–	–	–	◪ 35	0.21	1.0	–	–	–

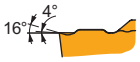
GM versatile geometry for grooving and longitudinal turning, and continuous to interrupted cuts.

GL. D - MM

	CW (mm)	CWTOLL (mm)	CWTOLU (mm)	INSL (mm)
200	2.00	-0.05	0.05	25.0
300	3.00	-0.05	0.05	25.0
400	4.00	-0.05	0.05	25.0
500	5.00	-0.05	0.05	26.0
600	6.00	-0.05	0.05	26.0



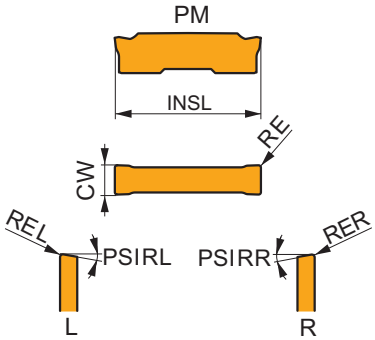
Suitability and starting values for cutting speed (vc), feed (f) and depth of cut (ap). Refer to our Machining Calculator app for further calculations.

Product	●	⚙	✱	RE (mm)	P vc (m/min)	P f (mm/rev)	P ap (mm)	M vc (m/min)	M f (mm/rev)	M ap (mm)	K vc (m/min)	K f (mm/rev)	K ap (mm)	N vc (m/min)	N f (mm/rev)	N ap (mm)	S vc (m/min)	S f (mm/rev)	S ap (mm)	H vc (m/min)	H f (mm/rev)	H ap (mm)
																						
GL2-D200MM0-MM:G8415		⚙		1.0	■ 155	0.10	1.0	■ 80	0.09	1.0	■ 140	0.10	1.0	–	–	–	◪ 35	0.08	0.8	–	–	–
GL3-D300MM0-MM:G8415		⚙		1.5	■ 155	0.20	1.2	■ 80	0.18	1.2	■ 140	0.20	1.2	–	–	–	◪ 35	0.14	1.0	–	–	–
GL4-D400MM0-MM:G8415		⚙		2.0	■ 155	0.20	1.2	■ 80	0.18	1.2	■ 140	0.20	1.2	–	–	–	◪ 35	0.14	1.0	–	–	–
GL5-D500MM0-MM:G8415		⚙		2.5	■ 155	0.25	1.2	■ 80	0.23	1.2	■ 140	0.25	1.2	–	–	–	◪ 35	0.18	1.0	–	–	–
GL6-D600MM0-MM:G8415		⚙		3.0	■ 155	0.30	1.2	■ 80	0.27	1.2	■ 140	0.30	1.2	–	–	–	◪ 35	0.21	1.0	–	–	–

● Stable working conditions ⚙ Unstable working conditions ✱ Heavy working conditions ■ Primary use ◪ Possible use

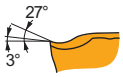
GL. D - PM

	CW (mm)	CWTOLL (mm)	CWTOLU (mm)	INSL (mm)
200	2.00	-0.05	0.05	25.0
300	3.00	-0.05	0.05	25.0
400	4.00	-0.05	0.05	25.0



Suitability and starting values for cutting speed (vc) and feed (f). Refer to our Machining Calculator app for further calculations.

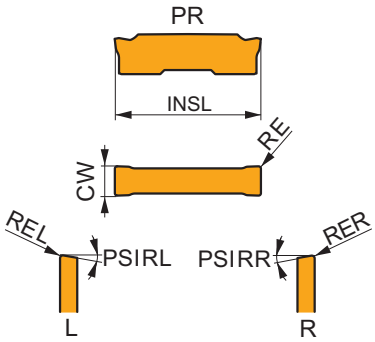
Product	●	RE (mm)	P vc (m/min)	P f (mm/rev)	M vc (m/min)	M f (mm/rev)	K vc (m/min)	K f (mm/rev)	N vc (m/min)	N f (mm/rev)	S vc (m/min)	S f (mm/rev)	H vc (m/min)	H f (mm/rev)	PSIRR (°)	PSIRL (°)
GL2-D200M02-PM:G8415	●	0.2	155	0.08	80	0.07	140	0.08	390	0.10	35	0.06	–	–	–	–
GL3-D300M02-PM:G8415	●	0.2	155	0.10	80	0.09	140	0.10	390	0.12	35	0.07	–	–	–	–
GL4-D400M02-PM:G8415	●	0.2	155	0.12	80	0.11	140	0.12	390	0.14	35	0.10	–	–	–	–



PM geometry with highly positive rake, first choice for parting-off, and continuous to slightly interrupted cuts.

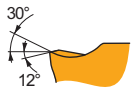
GL. D - PR

	CW (mm)	CWTOLL (mm)	CWTOLU (mm)	INSL (mm)
200	2.00	-0.05	0.05	25.0
300	3.00	-0.05	0.05	25.0
400	4.00	-0.05	0.05	25.0



Suitability and starting values for cutting speed (vc) and feed (f). Refer to our Machining Calculator app for further calculations.

Product	●	RE (mm)	P vc (m/min)	P f (mm/rev)	M vc (m/min)	M f (mm/rev)	K vc (m/min)	K f (mm/rev)	N vc (m/min)	N f (mm/rev)	S vc (m/min)	S f (mm/rev)	H vc (m/min)	H f (mm/rev)	PSIRR (°)	PSIRL (°)
GL2-D200M02-PR:G8415	●	0.2	155	0.10	80	0.09	140	0.10	–	–	–	–	25	0.07	–	–
GL3-D300M02-PR:G8415	●	0.2	155	0.12	80	0.11	140	0.12	–	–	–	–	25	0.08	–	–
GL4-D400M02-PR:G8415	●	0.2	155	0.15	80	0.14	140	0.15	–	–	–	–	25	0.11	–	–



PR geometry with negative T-land, first choice for difficult grooving and parting-off, and continuous to interrupted cuts.

ISO group		WMG (Work Material Group)				Hardness (HB or HRC)	Ultimate Tensile Strength (MPa)
P	P1	P1.1	Free machining steel (carbon steels with increased machinability)		Sulfurized	< 240 HB	≤ 830
		P1.2			Sulfurized and phosphorized	< 180 HB	≤ 620
		P1.3			Sulfurized/phosphorized and leaded	< 180 HB	≤ 620
	P2	P2.1	Plain carbon steel (steels comprised of mainly iron and carbon)		Containing <0.25 % C	< 180 HB	≤ 620
		P2.2			Containing <0.55 % C	< 240 HB	≤ 830
		P2.3			Containing >0.55 % C	< 300 HB	≤ 1030
	P3	P3.1	Alloy steel (carbon steels with an alloying content ≤ 10%)		Annealed	< 180 HB	≤ 620
		P3.2			Hardened and tempered	180 – 260 HB	> 620 ≤ 900
		P3.3				260 – 360 HB	> 900 ≤ 1240
	P4	P4.1	Tool steel (special alloy steel for tools, dies and molds)		Annealed	< 26 HRC	≤ 900
		P4.2			Hardened and tempered	26 – 39 HRC	> 900 ≤ 1240
		P4.3				39 – 45 HRC	> 1240 ≤ 1450
M	M1	M1.1	Ferritic stainless steel (straight chromium non-hardenable alloys)			< 160 HB	≤ 520
		M1.2				160 – 220 HB	> 520 ≤ 700
	M2	M2.1	Martensitic stainless steel (straight chromium hardenable alloys)		Annealed	< 200 HB	≤ 670
		M2.2			Quenched and tempered	200 – 280 HB	> 670 ≤ 950
		M2.3			Precipitation-hardened	280 – 380 HB	> 950 ≤ 1300
	M3	M3.1	Austenitic stainless steel (chromium-nickel and chromium-nickel-manganese alloys)			< 200 HB	≤ 750
		M3.2				200 – 260 HB	> 750 ≤ 870
		M3.3				260 – 300 HB	> 870 ≤ 1040
	M4	M4.1	Austenitic-ferritic (DUPLEX) or super-austenitic stainless steel			< 300 HB	≤ 990
		M4.2	Precipitation hardening austenitic stainless steel			300 – 380 HB	≤ 1320
K	K1	K1.1	Gray iron or Automotive Gray iron (GG) (iron-carbon castings with a lamellar graphite microstructure)		Ferritic or ferritic-pearlitic	< 180 HB	≤ 190
		K1.2			Ferritic-pearlictic or pearlitic	180 – 240 HB	> 190 ≤ 310
		K1.3			Pearlitic	240 – 280 HB	> 310 ≤ 390
	K2	K2.1	Malleable iron (GTS/GTW) (iron-carbon castings with a graphite-free microstructure)		Ferritic	< 160 HB	≤ 400
		K2.2			Ferritic or pearlitic	160 – 200 HB	> 400 ≤ 550
		K2.3			Pearlitic	200 – 240 HB	> 550 ≤ 660
	K3	K3.1	Ductile iron (GGG) (iron-carbon castings with a nodular graphite microstructure)		Ferritic	< 180 HB	≤ 560
		K3.2			Ferritic or pearlitic	180 – 220 HB	> 560 ≤ 680
		K3.3			Pearlitic	220 – 260 HB	> 680 ≤ 800
	K4	K4.1	Austenitic gray iron (ASTM A436) (iron-carbon alloy castings with an austenitic lamellar graphite microstructure)			< 180 HB	≤ 190
		K4.2	Austenitic ductile iron (ASTM A439 or ASTM A571) (iron-carbon alloy castings with an austenitic nodular graphite microstructure)			< 240 HB	≤ 740
		K4.3	Austempered ductile iron (ASTM A897) (iron-carbon alloy castings with an ausferrite microstructure)			< 280 HB	> 840 ≤ 980
		K4.4				280 – 320 HB	> 980 ≤ 1130
		K4.5				320 – 360 HB	> 1130 ≤ 1280
	K5	K5.1	Compacted graphite iron CGI (ASTM A842) (iron-carbon castings with a vermicular graphite structure)		Ferritic	< 180 HB	≤ 400
		K5.2			Ferritic-pearlitic	180 – 220 HB	> 400 ≤ 450
		K5.3			Pearlitic	220 – 260 HB	> 450 ≤ 500
N	N1	N1.1	Commercially pure wrought aluminium			< 60 HB	≤ 240
		N1.2	Wrought aluminium alloys		Half hard tempered	60 – 100 HB	> 240 ≤ 400
		N1.3			Full hard tempered	100 – 150 HB	> 400 ≤ 590
	N2	N2.1	Cast aluminium alloys			< 75 HB	≤ 240
		N2.2				75 – 90 HB	> 240 ≤ 270
		N2.3				90 – 140 HB	> 270 ≤ 440
	N3	N3.1	Free-cutting copper-alloys materials with excellent machining properties			–	–
		N3.2	Short-chip copper-alloys with good to moderate machining properties			–	–
		N3.3	Electrolytic copper and long-chip copper-alloys with moderate to poor machining properties			–	–
	N4	N4.1	Thermoplastic polymers			–	–
		N4.2	Thermosetting polymers			–	–
		N4.3	Reinforced polymers or composites			–	–
	N5	N5.1	Graphite			–	–
S	S1	S1.1	Titanium or titanium alloys			< 200 HB	≤ 660
		S1.2				200 – 280 HB	> 660 ≤ 950
		S1.3				280 – 360 HB	> 950 ≤ 1200
	S2	S2.1	Fe-based high-temperature alloys			< 200 HB	≤ 690
		S2.2				200 – 280 HB	> 690 ≤ 970
	S3	S3.1	Ni-based high-temperature alloys			< 280 HB	≤ 940
		S3.2				280 – 360 HB	> 940 ≤ 1200
	S4	S4.1	Co-based high-temperature alloys			< 240 HB	≤ 800
		S4.2				240 – 320 HB	> 800 ≤ 1070
H	H1	H1.1	Chilled cast iron			< 440 HB	–
	H2	H2.1	Hardened cast iron			< 55 HRC	–
		H2.2				> 55 HRC	–
	H3	H3.1	Hardened steel < 55 HRC			< 51 HRC	–
		H3.2				51 – 55 HRC	–
	H4	H4.1	Hardened steel > 55 HRC			55 – 59 HRC	–
		H4.2				> 59 HRC	–

DORMER PRAMET™

Certainty at every turn

Together we will keep our world turning, now and into the future. We want to help our community feel confident they can get the job done with simplified access to the right advice, tools and training whenever and wherever they need it. Delivering certainty to help our customers achieve their goals today – and be ready for tomorrow.

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