4G MILL END MILLS

SEM846 SERIES PLAIN SHANK / GLATTER ZYLINDERSCHAFT

CARBIDE, 2 FLUTE BALL NOSE with EXTENDED NECK

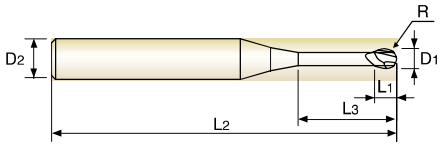
VOLLHARTMETALL, 2 SCHNEIDEN STIRNRADIUS mit LANG ABGESETZTEM SCHAFTTETL

Fraise carbure, 2 dents, hémisphérique, détalonnée

MD, 2 TAGLIENTI, SEMISFERICA, SCARICATA

- New coating and tool geometry applied resulting outstanding cutting abilities and wear resistance.
- With its unique ball nose geometry and cutting edges the cutting force has decreased, also increasing wear resistance.
- Excellent performance when cutting prehardened steels, up to HRc55 which are used for molds & dies.

- Aufgrund einer neuartigen Beschichtung und neuer Werkzeuggeometrien hervorragende Schnittleistung und Verschleißfestigkeit.
- Aufgrund der einzigartigen Kugelgeometrie und Schneidkantenpräparation wird die Schniitkraft reduziert und die Verschleißfestigkeit erhöht.
- Hervorragende Leistung bei der Zerspanung von vorvergüteten Stählen bis HRc55, welche im Werkzeug- und Formenbau Verwendung finden.



NG HM | 2 | 30° | R ±0.005 (R0.05~R3) | R ±0.010 (R4~R6) | PLAIN

P.908-915

Unit : mm

EDP No.	Radius of Ball Nose R	Mill Diameter D1	Shank Diameter D2	Length of Cut L1	Length Below Shank L3	Overall Length L2
SEM846001002E	R0.05	0.1	4	0.1	0.2	40
SEM846001003E	R0.05	0.1	4	0.1	0.3	40
SEM846001005E	R0.05	0.1	4	0.1	0.5	40
SEM84600101E	R0.05	0.1	4	0.1	1	40
★ SEM846002005E	R0.1	0.2	4	0.2	0.5	40
★ SEM84600201E	R0.1	0.2	4	0.2	1	40
SEM846002015E	R0.1	0.2	4	0.2	1.5	40
★ SEM84600202E	R0.1	0.2	4	0.2	2	40
SEM84600203E	R0.1	0.2	4	0.2	3	40
★ SEM84600301E	R0.15	0.3	4	0.3	1	40
★ SEM846003015E	R0.15	0.3	4	0.3	1.5	40
★ SEM84600302E	R0.15	0.3	4	0.3	2	40
SEM846003025E	R0.15	0.3	4	0.3	2.5	40
★ SEM84600303E	R0.15	0.3	4	0.3	3	40
★ SEM84600304E	R0.15	0.3	4	0.3	4	40
SEM84600305E	R0.15	0.3	4	0.3	5	40
★ SEM84600401E	R0.2	0.4	4	0.4	1	40
★ SEM846004015E	R0.2	0.4	4	0.4	1.5	40
★ SEM84600402E	R0.2	0.4	4	0.4	2	40
★ SEM846004025E	R0.2	0.4	4	0.4	2.5	40
★ SEM84600403E	R0.2	0.4	4	0.4	3	40
★ SEM84600404E	R0.2	0.4	4	0.4	4	40
★ SEM84600405E	R0.2	0.4	4	0.4	5	40
★ SEM84600406E	R0.2	0.4	4	0.4	6	40
SEM84600408E	R0.2	0.4	4	0.4	8	40
SEM84600410E	R0.2	0.4	4	0.4	10	40
★ SEM84600501E	R0.25	0.5	4	0.5	1	45
SEM846005015E	R0.25	0.5	4	0.5	1.5	45
★ SEM84600502E	R0.25	0.5	4	0.5	2	45

▶ ★ Stock Item

▶ NEXT PAGE

◎ : Excellent ○ : Good

P					H	M	K	N					S	
Carbon Steels	Alloy Steels	Prehardened Steels	Hardened Steels		High Hardened Steels	Stainless Steels	Cast Iron	Copper	Graphite	Aluminum	Acrylic	CFRP	Titanium	High Temperature Alloy
~HB225	HB225~325	HRc30~40	HRc40~45	HRc45~55	HRc55~70									
○	◎	◎	◎	○			○							

4G MILL END MILLS

SEM846 SERIES PLAIN SHANK / GLATTER ZYLINDERSCHAFT

CARBIDE, 2 FLUTE BALL NOSE with EXTENDED NECK

VOLLHARTMETALL, 2 SCHNEIDEN STIRNRADIUS mit LANG ABGESETZTEM SCHAFTTETL

Fraise carbure, 2 dents, hémisphérique, détalonnée

MD, 2 TAGLIENTI, SEMISFERICA, SCARICATA

- New coating and tool geometry applied resulting outstanding cutting abilities and wear resistance.
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- Aufgrund einer neuartigen Beschichtung und neuer Werkzeuggeometrien hervorragende Schnittleistung und Verschleißfestigkeit.
- Aufgrund der einzigartigen Kugelgeometrie und Schneidkantenpräparation wird die Schniitkraft reduziert und die Verschleißfestigkeit erhöht.
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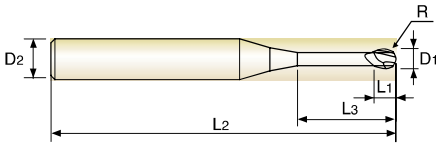

NG HM | 2 | 30° | R ±0.005 (R0.05~R3) | R ±0.010 (R4~R6) | PLAIN | P.908-915

Unit : mm

EDP No.	Radius of Ball Nose R	Mill Diameter D1	Shank Diameter D2	Length of Cut L1	Length Below Shank L3	Overall Length L2
SEM846005025E	R0.25	0.5	4	0.5	2.5	45
★ SEM846005O3E	R0.25	0.5	4	0.5	3	45
★ SEM846005O4E	R0.25	0.5	4	0.5	4	45
★ SEM846005O5E	R0.25	0.5	4	0.5	5	45
★ SEM846005O6E	R0.25	0.5	4	0.5	6	45
★ SEM846005O8E	R0.25	0.5	4	0.5	8	45
★ SEM846005I0E	R0.25	0.5	4	0.5	10	45
SEM846005I2E	R0.25	0.5	4	0.5	12	45
SEM846005I4E	R0.25	0.5	4	0.5	14	45
SEM846005I6E	R0.25	0.5	4	0.5	16	45
★ SEM846006O1E	R0.3	0.6	4	0.6	1	45
★ SEM846006O2E	R0.3	0.6	4	0.6	2	45
★ SEM846006O3E	R0.3	0.6	4	0.6	3	45
★ SEM846006O4E	R0.3	0.6	4	0.6	4	45
★ SEM846006O5E	R0.3	0.6	4	0.6	5	45
★ SEM846006O6E	R0.3	0.6	4	0.6	6	45
★ SEM846006O8E	R0.3	0.6	4	0.6	8	45
★ SEM846006I0E	R0.3	0.6	4	0.6	10	45
★ SEM846006I2E	R0.3	0.6	4	0.6	12	45
SEM846006I4E	R0.3	0.6	4	0.6	14	45
SEM846006I6E	R0.3	0.6	4	0.6	16	45
★ SEM846007O2E	R0.35	0.7	4	0.7	2	45
★ SEM846007O4E	R0.35	0.7	4	0.7	4	45
★ SEM846007O6E	R0.35	0.7	4	0.7	6	45
SEM846007O8E	R0.35	0.7	4	0.7	8	45
SEM846007I0E	R0.35	0.7	4	0.7	10	45
SEM846007I2E	R0.35	0.7	4	0.7	12	45
SEM846008O1E	R0.4	0.8	4	0.8	1	45
★ SEM846008O2E	R0.4	0.8	4	0.8	2	45

▶ ★ Stock Item

▶ NEXT PAGE

◎ : Excellent ○ : Good

P					H	M	K	N					S	
Carbon Steels	Alloy Steels	Prehardened Steels	Hardened Steels		High Hardened Steels	Stainless Steels	Cast Iron	Copper	Graphite	Aluminum	Acrylic	CFRP	Titanium	High Temperature Alloy
~HB225	HB225~325	HRc30~40	HRc40~45	HRc45~55	HRc55~70									
○	◎	◎	◎	○			○							

4G MILL END MILLS

SEM846 SERIES PLAIN SHANK / GLATTER ZYLINDERSCHAFT

CARBIDE, 2 FLUTE BALL NOSE with EXTENDED NECK

VOLLHARTMETALL, 2 SCHNEIDEN STIRNRADIUS mit LANG ABGESETZTEM SCHAFTTETL

Fraise carbure, 2 dents, hémisphérique, détalonnée

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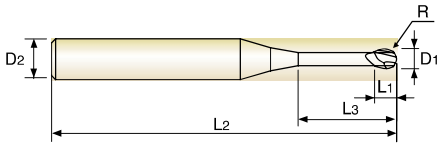

NG HM | 2 | 30° | R ±0.005 (R0.05~R3) | R ±0.010 (R4~R6) | PLAIN

P.908-915

Unit : mm

EDP No.	Radius of Ball Nose R	Mill Diameter D1	Shank Diameter D2	Length of Cut L1	Length Below Shank L3	Overall Length L2
★ SEM84600803E	R0.4	0.8	4	0.8	3	45
★ SEM84600804E	R0.4	0.8	4	0.8	4	45
★ SEM84600805E	R0.4	0.8	4	0.8	5	45
★ SEM84600806E	R0.4	0.8	4	0.8	6	45
★ SEM84600808E	R0.4	0.8	4	0.8	8	45
★ SEM84600810E	R0.4	0.8	4	0.8	10	45
★ SEM84600812E	R0.4	0.8	4	0.8	12	45
SEM84600814E	R0.4	0.8	4	0.8	14	45
SEM84600816E	R0.4	0.8	4	0.8	16	45
SEM84600820E	R0.4	0.8	4	0.8	20	45
★ SEM84600904E	R0.45	0.9	4	0.9	4	45
SEM84600906E	R0.45	0.9	4	0.9	6	45
★ SEM84600908E	R0.45	0.9	4	0.9	8	45
SEM84600910E	R0.45	0.9	4	0.9	10	45
★ SEM84601002E	R0.5	1.0	4	1	2	50
★ SEM84601003E	R0.5	1.0	4	1	3	50
★ SEM84601004E	R0.5	1.0	4	1	4	50
★ SEM84601005E	R0.5	1.0	4	1	5	50
★ SEM84601006E	R0.5	1.0	4	1	6	50
★ SEM84601007E	R0.5	1.0	4	1	7	50
★ SEM84601008E	R0.5	1.0	4	1	8	50
SEM84601009E	R0.5	1.0	4	1	9	50
★ SEM84601010E	R0.5	1.0	4	1	10	50
★ SEM84601012E	R0.5	1.0	4	1	12	50
★ SEM84601014E	R0.5	1.0	4	1	14	50
★ SEM84601016E	R0.5	1.0	4	1	16	50
★ SEM84601018E	R0.5	1.0	4	1	18	50
★ SEM84601020E	R0.5	1.0	4	1	20	50
SEM84601022E	R0.5	1.0	4	1	22	60

▶ ★ Stock Item

▶ NEXT PAGE

◎ : Excellent ○ : Good

P					H	M	K	N					S	
Carbon Steels	Alloy Steels	Prehardened Steels	Hardened Steels		High Hardened Steels	Stainless Steels	Cast Iron	Copper	Graphite	Aluminum	Acrylic	CFRP	Titanium	High Temperature Alloy
~HB225	HB225~325	HRc30~40	HRc40~45	HRc45~55	HRc55~70									
○	◎	◎	◎	○			○							

4G MILL END MILLS

SEM846 SERIES PLAIN SHANK / GLATTER ZYLINDERSCHAFT

CARBIDE, 2 FLUTE BALL NOSE with EXTENDED NECK

VOLLHARTMETALL, 2 SCHNEIDEN STIRNRADIUS mit LANG ABGESETZTEM SCHAFTTETL

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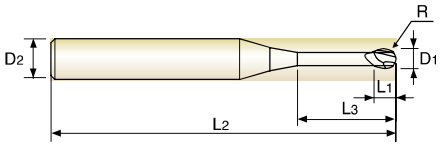

NG HM | 2 | 30° | R ±0.005 (R0.05~R3) | R ±0.010 (R4~R6) | PLAIN | P.908-915

Unit : mm

EDP No.	Radius of Ball Nose R	Mill Diameter D1	Shank Diameter D2	Length of Cut L1	Length Below Shank L3	Overall Length L2
★ SEM84601026E	R0.5	1.0	4	1	26	60
★ SEM84601030E	R0.5	1.0	4	1	30	70
SEM84601040E	R0.5	1.0	4	1	40	80
SEM84601050E	R0.5	1.0	4	1	50	100
★ SEM84601204E	R0.6	1.2	4	1.2	4	50
★ SEM84601206E	R0.6	1.2	4	1.2	6	50
★ SEM84601208E	R0.6	1.2	4	1.2	8	50
★ SEM84601210E	R0.6	1.2	4	1.2	10	50
★ SEM84601212E	R0.6	1.2	4	1.2	12	50
★ SEM84601216E	R0.6	1.2	4	1.2	16	50
SEM84601220E	R0.6	1.2	4	1.2	20	50
SEM84601226E	R0.6	1.2	4	1.2	26	60
SEM84601406E	R0.7	1.4	4	1.4	6	50
SEM84601408E	R0.7	1.4	4	1.4	8	50
SEM84601410E	R0.7	1.4	4	1.4	10	50
SEM84601412E	R0.7	1.4	4	1.4	12	50
SEM84601416E	R0.7	1.4	4	1.4	16	50
★ SEM84601503E	R0.75	1.5	4	1.5	3	50
★ SEM84601504E	R0.75	1.5	4	1.5	4	50
★ SEM84601505E	R0.75	1.5	4	1.5	5	50
★ SEM84601506E	R0.75	1.5	4	1.5	6	50
SEM84601507E	R0.75	1.5	4	1.5	7	50
★ SEM84601508E	R0.75	1.5	4	1.5	8	50
★ SEM84601510E	R0.75	1.5	4	1.5	10	50
★ SEM84601512E	R0.75	1.5	4	1.5	12	50
★ SEM84601514E	R0.75	1.5	4	1.5	14	50
★ SEM84601516E	R0.75	1.5	4	1.5	16	50
★ SEM84601518E	R0.75	1.5	4	1.5	18	50
★ SEM84601520E	R0.75	1.5	4	1.5	20	50

▶ ★ Stock Item

▶ NEXT PAGE

◎ : Excellent ○ : Good

P					H	M	K	N					S	
Carbon Steels	Alloy Steels	Prehardened Steels	Hardened Steels		High Hardened Steels	Stainless Steels	Cast Iron	Copper	Graphite	Aluminum	Acrylic	CFRP	Titanium	High Temperature Alloy
~HB225	HB225~325	HRc30~40	HRc40~45	HRc45~55	HRc55~70									
○	◎	◎	◎	○			○							

4G MILL END MILLS

SEM846 SERIES PLAIN SHANK / GLATTER ZYLINDERSCHAFT

CARBIDE, 2 FLUTE BALL NOSE with EXTENDED NECK

VOLLHARTMETALL, 2 SCHNEIDEN STIRNRADIUS mit LANG ABGESETZTEM SCHAFTTETL

Fraise carbure, 2 dents, hémisphérique, détalonnée

MD, 2 TAGLIENTI, SEMISFERICA, SCARICATA

- Due to new coating and new tool geometry, outstanding cutting ability and wear resistance.
- Due to unique ball nose geometry and cutting edges, cutting force decreased, and so wear resistance increased.
- Excellent performance when cutting prehardened steels, up to HRc55 which are used for molds & dies.

- Aufgrund einer neuartigen Beschichtung und neuer Werkzeuggeometrien hervorragende Schnittleistung und Verschleißfestigkeit.
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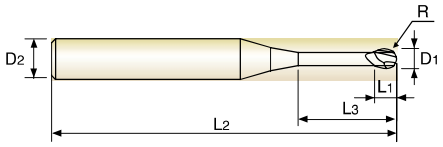

NG HM | 2 | 30° | R ±0.005 (R0.05~R3) | R ±0.010 (R4~R6) | PLAIN

P.908-915

Unit : mm

EDP No.	Radius of Ball Nose R	Mill Diameter D1	Shank Diameter D2	Length of Cut L1	Length Below Shank L3	Overall Length L2
SEM84601522E	R0.75	1.5	4	1.5	22	60
SEM84601526E	R0.75	1.5	4	1.5	26	60
SEM84601530E	R0.75	1.5	4	1.5	30	70
SEM84601535E	R0.75	1.5	4	1.5	35	70
SEM84601540E	R0.75	1.5	4	1.5	40	80
SEM84601604E	R0.8	1.6	4	1.6	4	50
SEM84601606E	R0.8	1.6	4	1.6	6	50
★ SEM84601608E	R0.8	1.6	4	1.6	8	50
SEM84601610E	R0.8	1.6	4	1.6	10	50
★ SEM84601612E	R0.8	1.6	4	1.6	12	50
★ SEM84601616E	R0.8	1.6	4	1.6	16	50
SEM84601620E	R0.8	1.6	4	1.6	20	50
★ SEM84601804E	R0.9	1.8	4	1.8	4	50
SEM84601806E	R0.9	1.8	4	1.8	6	50
★ SEM84601808E	R0.9	1.8	4	1.8	8	50
SEM84601810E	R0.9	1.8	4	1.8	10	50
★ SEM84601812E	R0.9	1.8	4	1.8	12	50
★ SEM84601816E	R0.9	1.8	4	1.8	16	50
SEM84601820E	R0.9	1.8	4	1.8	20	50
★ SEM84602004E	R1.0	2.0	4	2	4	50
★ SEM84602006E	R1.0	2.0	4	2	6	50
★ SEM84602008E	R1.0	2.0	4	2	8	50
★ SEM84602010E	R1.0	2.0	4	2	10	50
★ SEM84602012E	R1.0	2.0	4	2	12	50
★ SEM84602014E	R1.0	2.0	4	2	14	50
★ SEM84602016E	R1.0	2.0	4	2	16	50
★ SEM84602018E	R1.0	2.0	4	2	18	50
★ SEM84602020E	R1.0	2.0	4	2	20	50
SEM84602022E	R1.0	2.0	4	2	22	60

▶ ★ Stock Item

▶ NEXT PAGE

◎ : Excellent ○ : Good

P					H	M	K	N					S	
Carbon Steels	Alloy Steels	Prehardened Steels	Hardened Steels		High Hardened Steels	Stainless Steels	Cast Iron	Copper	Graphite	Aluminum	Acrylic	CFRP	Titanium	High Temperature Alloy
~HB225	HB225~325	HRc30~40	HRc40~45	HRc45~55	HRc55~70									
○	◎	◎	◎	○			○							

4G MILL END MILLS

SEM846 SERIES PLAIN SHANK / GLATTER ZYLINDERSCHAFT

CARBIDE, 2 FLUTE BALL NOSE with EXTENDED NECK

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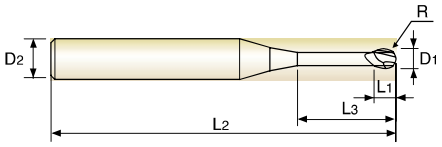


NG HM | 2 | 30° | R ±0.005 (R0.05~R3) | R ±0.010 (R4~R6) | PLAIN | P.908-915

Unit : mm

EDP No.	Radius of Ball Nose R	Mill Diameter D1	Shank Diameter D2	Length of Cut L1	Length Below Shank L3	Overall Length L2
★ SEM84602026E	R1.0	**2.0**	4	2	26	60
★ SEM84602030E	R1.0	**2.0**	4	2	30	70
★ SEM84602035E	R1.0	**2.0**	4	2	35	70
SEM84602040E	R1.0	**2.0**	4	2	40	80
SEM84602045E	R1.0	**2.0**	4	2	45	90
SEM84602050E	R1.0	**2.0**	4	2	50	100
SEM84602060E	R1.0	**2.0**	4	2	60	110
★ SEM84602508E	R1.25	**2.5**	4	2.5	8	50
★ SEM84602510E	R1.25	**2.5**	4	2.5	10	50
★ SEM84602512E	R1.25	**2.5**	4	2.5	12	50
★ SEM84602516E	R1.25	**2.5**	4	2.5	16	50
★ SEM84602520E	R1.25	**2.5**	4	2.5	20	50
SEM84602522E	R1.25	**2.5**	4	2.5	22	60
SEM84602526E	R1.25	**2.5**	4	2.5	26	60
SEM84602530E	R1.25	**2.5**	4	2.5	30	70
SEM84602535E	R1.25	**2.5**	4	2.5	35	70
SEM84602540E	R1.25	**2.5**	4	2.5	40	80
SEM84602545E	R1.25	**2.5**	4	2.5	45	90
SEM84602550E	R1.25	**2.5**	4	2.5	50	100
★ SEM84603006E	R1.5	**3.0**	6	3	6	50
★ SEM84603008E	R1.5	**3.0**	6	3	8	50
★ SEM84603010E	R1.5	**3.0**	6	3	10	50
★ SEM84603012E	R1.5	**3.0**	6	3	12	50
★ SEM84603014E	R1.5	**3.0**	6	3	14	60
★ SEM84603016E	R1.5	**3.0**	6	3	16	60
★ SEM84603018E	R1.5	**3.0**	6	3	18	60
★ SEM84603020E	R1.5	**3.0**	6	3	20	60
★ SEM84603022E	R1.5	**3.0**	6	3	22	65
★ SEM84603026E	R1.5	**3.0**	6	3	26	65

▶ ★ Stock Item

▶ NEXT PAGE

◎ : Excellent ○ : Good

P					H	M	K	N					S	
Carbon Steels	Alloy Steels	Prehardened Steels	Hardened Steels		High Hardened Steels	Stainless Steels	Cast Iron	Copper	Graphite	Aluminum	Acrylic	CFRP	Titanium	High Temperature Alloy
~HB225	HB225~325	HRc30~40	HRc40~45	HRc45~55	HRc55~70									
○	◎	◎	◎	○			○							

4G MILL END MILLS

SEM846 SERIES PLAIN SHANK / GLATTER ZYLINDERSCHAFT

CARBIDE, 2 FLUTE BALL NOSE with EXTENDED NECK

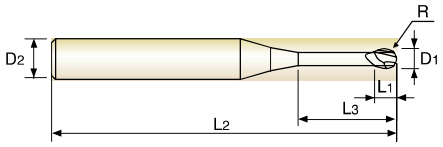
VOLLHARTMETALL, 2 SCHNEIDEN STIRNRADIUS mit LANG ABGESETZTEM SCHAFTTETL

Fraise carbure, 2 dents, hémisphérique, détalonnée

MD, 2 TAGLIENTI, SEMISFERICA, SCARICATA

- New coating and tool geometry applied resulting outstanding cutting abilities and wear resistance.
- With its unique ball nose geometry and cutting edges the cutting force has decreased, also increasing wear resistance.
- Excellent performance when cutting prehardened steels, up to HRc55 which are used for molds & dies.

- Aufgrund einer neuartigen Beschichtung und neuer Werkzeuggeometrien hervorragende Schnittleistung und Verschleißfestigkeit.
- Aufgrund der einzigartigen Kugelgeometrie und Schneidkantenpräparation wird die Schniitkraft reduziert und die Verschleißfestigkeit erhöht.
- Hervorragende Leistung bei der Zerspanung von vorvergüteten Stählen bis HRc55, welche im Werkzeug- und Formenbau Verwendung finden.



NG HM | 2 | 30° | R ±0.005 (R0.05~R3) | R ±0.010 (R4~R6) | PLAIN

P.908-915

Unit : mm

EDP No.	Radius of Ball Nose R	Mill Diameter D1	Shank Diameter D2	Length of Cut L1	Length Below Shank L3	Overall Length L2
★ SEM84603030E	R1.5	3.0	6	3	30	70
★ SEM84603035E	R1.5	3.0	6	3	35	70
★ SEM84603040E	R1.5	3.0	6	3	40	80
★ SEM84603045E	R1.5	3.0	6	3	45	90
★ SEM84603050E	R1.5	3.0	6	3	50	100
SEM84603060E	R1.5	3.0	6	3	60	100
★ SEM84604008E	R2.0	4.0	6	4	8	50
★ SEM84604010E	R2.0	4.0	6	4	10	50
★ SEM84604012E	R2.0	4.0	6	4	12	50
★ SEM84604014E	R2.0	4.0	6	4	14	60
★ SEM84604016E	R2.0	4.0	6	4	16	60
★ SEM84604018E	R2.0	4.0	6	4	18	60
★ SEM84604020E	R2.0	4.0	6	4	20	60
★ SEM84604022E	R2.0	4.0	6	4	22	65
★ SEM84604026E	R2.0	4.0	6	4	26	65
★ SEM84604030E	R2.0	4.0	6	4	30	70
★ SEM84604035E	R2.0	4.0	6	4	35	70
★ SEM84604040E	R2.0	4.0	6	4	40	80
SEM84604045E	R2.0	4.0	6	4	45	90
★ SEM84604050E	R2.0	4.0	6	4	50	100
SEM84604055E	R2.0	4.0	6	4	55	100
SEM84604060E	R2.0	4.0	6	4	60	100
SEM84605015E	R2.5	5.0	6	6	15	60
★ SEM84605020E	R2.5	5.0	6	6	20	60
★ SEM84605026E	R2.5	5.0	6	6	26	65
★ SEM84605030E	R2.5	5.0	6	6	30	70
★ SEM84605035E	R2.5	5.0	6	6	35	70
★ SEM84605040E	R2.5	5.0	6	6	40	80
SEM84605045E	R2.5	5.0	6	6	45	90

▶ ★ Stock Item

▶ NEXT PAGE

◎ : Excellent ○ : Good

P					H	M	K	N					S	
Carbon Steels	Alloy Steels	Prehardened Steels	Hardened Steels		High Hardened Steels	Stainless Steels	Cast Iron	Copper	Graphite	Aluminum	Acrylic	CFRP	Titanium	High Temperature Alloy
~HB225	HB225~325	HRc30~40	HRc40~45	HRc45~55	HRc55~70									
○	◎	◎	◎	○			○							

4G MILL END MILLS

SEM846 SERIES PLAIN SHANK / GLATTER ZYLINDERSCHAFT

CARBIDE, 2 FLUTE BALL NOSE with EXTENDED NECK

VOLLHARTMETALL, 2 SCHNEIDEN STIRNRADIUS mit LANG ABGESETZTEM SCHAFTTETL

Fraise carbure, 2 dents, hémisphérique, détalonnée

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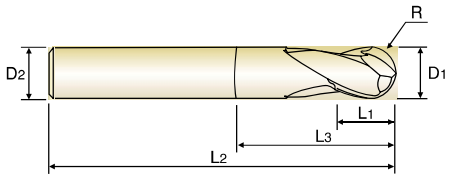
- Aufgrund einer neuartigen Beschichtung und neuer Werkzeuggeometrien hervorragende Schnittleistung und Verschleißfestigkeit.
- Aufgrund der einzigartigen Kugelgeometrie und Schneidkantenpräparation wird die Schniitkraft reduziert und die Verschleißfestigkeit erhöht.
- Hervorragende Leistung bei der Zerspanung von vorvergüteten Stählen bis HRc55, welche im Werkzeug- und Formenbau Verwendung finden.



NG HM | 2 | 30° | R ±0.005 (R0.05~R3) | R ±0.010 (R4~R6) | PLAIN | P.908-915

Unit : mm

EDP No.	Radius of Ball Nose R	Mill Diameter D1	Shank Diameter D2	Length of Cut L1	Length Below Shank L3	Overall Length L2
★ SEM84605050E	R2.5	**5.0**	6	6	50	100
SEM84605055E	R2.5	**5.0**	6	6	55	100
SEM84605060E	R2.5	**5.0**	6	6	60	100
★ SEM84606020E	R3.0	**6.0**	6	8	20	60
★ SEM84606030E	R3.0	**6.0**	6	8	30	60
★ SEM846060200090E	R3.0	**6.0**	6	12	20	90
★ SEM846060300090E	R3.0	**6.0**	6	12	30	90
★ SEM84608025E	R4.0	**8.0**	8	10	25	70
★ SEM84608035E	R4.0	**8.0**	8	10	35	70
SEM846080251100E	R4.0	**8.0**	8	14	25	100
★ SEM846080351100E	R4.0	**8.0**	8	14	35	100
★ SEM84610030E	R5.0	**10.0**	10	12	30	75
★ SEM84610040E	R5.0	**10.0**	10	12	40	75
★ SEM846100301100E	R5.0	**10.0**	10	18	30	100
★ SEM846100401100E	R5.0	**10.0**	10	18	40	100
★ SEM84612032E	R6.0	**12.0**	12	14	32	80
SEM84612045E	R6.0	**12.0**	12	14	45	80
★ SEM846120321100E	R6.0	**12.0**	12	22	32	110
★ SEM846120451100E	R6.0	**12.0**	12	22	45	110

▶ ★ Stock Item

Size	Radius Tolerance (mm)	Mill Dia. Tolerance (mm)	Shank Dia. Tolerance
up to R3	±0.005	0~−0.012	h6
over R3	±0.010	0~−0.015	

◎ : Excellent ○ : Good

P					H	M	K	N					S	
Carbon Steels	Alloy Steels	Prehardened Steels	Hardened Steels		High Hardened Steels	Stainless Steels	Cast Iron	Copper	Graphite	Aluminum	Acrylic	CFRP	Titanium	High Temperature Alloy
~HB225	HB225~325	HRc30~40	HRc40~45	HRc45~55	HRc55~70									
○	◎	◎	◎	○			○							

4G MILL END MILLS

RECOMMENDED CUTTING CONDITIONS
EMPFOHLENE SCHNEIDKONDITIONEN

CARBIDE, 2 FLUTE BALL NOSE with EXTENDED NECK
VOLLHARTMETALL, 2 SCHNEIDEN STIRNRADIUS mit ABGESETZTEM SCHAFTTETL

SEM846 SERIES

MATERIAL		P									
		NON-ALLOYED STEELS ALLOY STEELS					ALLOY STEELS HEAT RESISTANT STEELS				
HARDNESS		~ HRc 35					HRc 35 ~ HRc 45				
STRENGTH		~ 1100N/mm²					1110 ~ 1500N/mm²				
DIA.	LBS	RPM	FEED	Vc	fz	ap(mm)	RPM	FEED	Vc	fz	ap(mm)
0.1	0.2	50000	240	16	0.002	0.009	50000	215	16	0.002	0.007
0.1	0.3	50000	240	16	0.002	0.009	50000	215	16	0.002	0.007
0.1	0.5	50000	240	16	0.002	0.006	50000	215	16	0.002	0.005
0.1	1	45000	195	14	0.002	0.002	45000	175	14	0.002	0.002
0.2	0.5	50000	335	31	0.003	0.018	50000	310	31	0.003	0.014
0.2	1	50000	335	31	0.003	0.013	50000	310	31	0.003	0.010
0.2	1.5	45000	270	28	0.003	0.007	45000	250	28	0.003	0.006
0.2	2	45000	270	28	0.003	0.005	45000	250	28	0.003	0.004
0.2	3	45000	270	28	0.003	0.003	45000	250	28	0.003	0.003
0.3	1	50000	475	47	0.005	0.019	50000	430	47	0.004	0.015
0.3	1.5	50000	475	47	0.005	0.019	50000	430	47	0.004	0.015
0.3	2	45000	385	42	0.004	0.011	45000	350	42	0.004	0.008
0.3	2.5	45000	385	42	0.004	0.007	45000	350	42	0.004	0.005
0.3	3	45000	385	42	0.004	0.007	45000	350	42	0.004	0.005
0.3	4	40000	305	38	0.004	0.004	40000	275	38	0.003	0.003
0.3	5	30000	200	28	0.003	0.003	30000	180	28	0.003	0.002
0.4	1	41000	490	52	0.006	0.036	38800	425	49	0.005	0.028
0.4	1.5	41000	490	52	0.006	0.025	38800	425	49	0.005	0.020
0.4	2	41000	490	52	0.006	0.025	38800	425	49	0.005	0.020
0.4	2.5	36900	395	46	0.005	0.014	34920	345	44	0.005	0.011
0.4	3	36900	395	46	0.005	0.014	34920	345	44	0.005	0.011
0.4	4	36900	395	46	0.005	0.009	34920	345	44	0.005	0.007
0.4	5	32800	315	41	0.005	0.009	31040	270	39	0.004	0.007
0.4	6	32800	315	41	0.005	0.005	31040	270	39	0.004	0.004
0.4	8	24600	205	31	0.004	0.004	23280	180	29	0.004	0.003
0.4	10	12300	90	15	0.004	0.004	11640	75	15	0.003	0.003
0.5	1	34200	685	54	0.010	0.045	32300	580	51	0.009	0.035
0.5	1.5	34200	685	54	0.010	0.045	32300	580	51	0.009	0.035
0.5	2	34200	685	54	0.010	0.032	32300	580	51	0.009	0.025
0.5	2.5	34200	685	54	0.010	0.032	32300	580	51	0.009	0.025
0.5	3	30780	555	48	0.009	0.018	29070	470	46	0.008	0.014
0.5	4	30780	555	48	0.009	0.018	29070	470	46	0.008	0.014
0.5	5	30780	555	48	0.009	0.011	29070	470	46	0.008	0.009
0.5	6	27360	440	43	0.008	0.011	25840	370	41	0.007	0.009
0.5	8	20520	290	32	0.007	0.007	19380	245	30	0.006	0.005
0.5	10	20520	290	32	0.007	0.005	19380	245	30	0.006	0.004
0.5	12	10260	125	16	0.006	0.005	9690	105	15	0.005	0.004
0.5	14	10260	125	16	0.006	0.005	9690	105	15	0.005	0.004
0.5	16	3420	35	5	0.005	0.005	3230	30	5	0.005	0.004
0.6	1	34200	1025	64	0.015	0.038	32300	840	61	0.013	0.029
0.6	2	34200	1025	64	0.015	0.038	32300	840	61	0.013	0.029
0.6	3	34200	1025	64	0.015	0.038	32300	840	61	0.013	0.029
0.6	4	30780	830	58	0.013	0.022	29070	680	55	0.012	0.017
0.6	5	30780	830	58	0.013	0.014	29070	680	55	0.012	0.011
0.6	6	30780	830	58	0.013	0.014	29070	680	55	0.012	0.011
0.6	8	27360	655	52	0.012	0.008	25840	540	49	0.010	0.006
0.6	10	20520	430	39	0.010	0.005	19380	355	37	0.009	0.004
0.6	12	20520	430	39	0.010	0.005	19380	355	37	0.009	0.004
0.6	14	10260	185	19	0.009	0.005	9690	150	18	0.008	0.004
0.6	16	10260	185	19	0.009	0.005	9690	150	18	0.008	0.004
0.7	2	34200	1130	75	0.017	0.063	32300	930	71	0.014	0.049
0.7	4	30780	915	68	0.015	0.025	29070	755	64	0.013	0.020
0.7	6	30780	915	68	0.015	0.016	29070	755	64	0.013	0.012

DIA. = Diameter LBS = Length Below Shank RPM = rev./min FEED = mm/min. Vc = m/min. fz = mm/tooth

4G MILL END MILLS

RECOMMENDED CUTTING CONDITIONS
EMPFOHLENE SCHNEIDKONDITIONEN

CARBIDE, 2 FLUTE BALL NOSE with EXTENDED NECK
VOLLHARTMETALL, 2 SCHNEIDEN STIRNRADIUS mit ABGESETZTEM SCHAFTTETL

SEM846 SERIES

MATERIAL		P					K				
		HARDENED STEELS					CAST IRON				
HARDNESS		HRc 45 ~ HRc 55									
STRENGTH		1500 ~ 2000N/mm²									
DIA.	LBS	RPM	FEED	Vc	fz	ap(mm)	RPM	FEED	Vc	fz	ap(mm)
0.1	0.2	50000	190	16	0.002	0.005	50000	240	16	0.002	0.009
0.1	0.3	50000	190	16	0.002	0.005	50000	240	16	0.002	0.009
0.1	0.5	50000	190	16	0.002	0.004	50000	240	16	0.002	0.006
0.1	1	45000	155	14	0.002	0.001	45000	195	14	0.002	0.002
0.2	0.5	43200	260	27	0.003	0.010	50000	335	31	0.003	0.018
0.2	1	43200	260	27	0.003	0.007	50000	335	31	0.003	0.013
0.2	1.5	38880	210	24	0.003	0.004	45000	270	28	0.003	0.007
0.2	2	38880	210	24	0.003	0.003	45000	270	28	0.003	0.005
0.2	3	38880	210	24	0.003	0.002	45000	270	28	0.003	0.003
0.3	1	42800	365	40	0.004	0.011	50000	475	47	0.005	0.019
0.3	1.5	42800	365	40	0.004	0.011	50000	475	47	0.005	0.019
0.3	2	38520	295	36	0.004	0.006	45000	385	42	0.004	0.011
0.3	2.5	38520	295	36	0.004	0.004	45000	385	42	0.004	0.007
0.3	3	38520	295	36	0.004	0.004	45000	385	42	0.004	0.007
0.3	4	34240	235	32	0.003	0.002	40000	305	38	0.004	0.004
0.3	5	25680	155	24	0.003	0.002	30000	200	28	0.003	0.003
0.4	1	34200	340	43	0.005	0.020	41000	490	52	0.006	0.036
0.4	1.5	34200	340	43	0.005	0.014	41000	490	52	0.006	0.025
0.4	2	34200	340	43	0.005	0.014	41000	490	52	0.006	0.025
0.4	2.5	30780	275	39	0.004	0.008	36900	395	46	0.005	0.014
0.4	3	30780	275	39	0.004	0.008	36900	395	46	0.005	0.014
0.4	4	30780	275	39	0.004	0.005	36900	395	46	0.005	0.009
0.4	5	27360	220	34	0.004	0.005	32800	315	41	0.005	0.009
0.4	6	27360	220	34	0.004	0.003	32800	315	41	0.005	0.005
0.4	8	20520	145	26	0.004	0.002	24600	205	31	0.004	0.004
0.4	10	10260	60	13	0.003	0.002	12300	90	15	0.004	0.004
0.5	1	28500	515	45	0.009	0.025	34200	685	54	0.010	0.045
0.5	1.5	28500	515	45	0.009	0.025	34200	685	54	0.010	0.045
0.5	2	28500	515	45	0.009	0.018	34200	685	54	0.010	0.032
0.5	2.5	28500	515	45	0.009	0.018	34200	685	54	0.010	0.032
0.5	3	25650	415	40	0.008	0.010	30780	555	48	0.009	0.018
0.5	4	25650	415	40	0.008	0.010	30780	555	48	0.009	0.018
0.5	5	25650	415	40	0.008	0.006	30780	555	48	0.009	0.011
0.5	6	22800	330	36	0.007	0.006	27360	440	43	0.008	0.011
0.5	8	17100	215	27	0.006	0.004	20520	290	32	0.007	0.007
0.5	10	17100	215	27	0.006	0.003	20520	290	32	0.007	0.005
0.5	12	8550	95	13	0.006	0.003	10260	125	16	0.006	0.005
0.5	14	8550	95	13	0.006	0.003	10260	125	16	0.006	0.005
0.5	16	2850	25	4	0.004	0.003	3420	35	5	0.005	0.005
0.6	1	28500	685	54	0.012	0.021	34200	1025	64	0.015	0.038
0.6	2	28500	685	54	0.012	0.021	34200	1025	64	0.015	0.038
0.6	3	28500	685	54	0.012	0.021	34200	1025	64	0.015	0.038
0.6	4	25650	555	48	0.011	0.012	30780	830	58	0.013	0.022
0.6	5	25650	555	48	0.011	0.008	30780	830	58	0.013	0.014
0.6	6	25650	555	48	0.011	0.008	30780	830	58	0.013	0.014
0.6	8	22800	440	43	0.010	0.005	27360	655	52	0.012	0.008
0.6	10	17100	290	32	0.008	0.003	20520	430	39	0.010	0.005
0.6	12	17100	290	32	0.008	0.003	20520	430	39	0.010	0.005
0.6	14	8550	125	16	0.007	0.003	10260	185	19	0.009	0.005
0.6	16	8550	125	16	0.007	0.003	10260	185	19	0.009	0.005
0.7	2	28500	765	63	0.013	0.035	34200	1130	75	0.017	0.063
0.7	4	25650	620	56	0.012	0.014	30780	915	68	0.015	0.025
0.7	6	25650	620	56	0.012	0.009	30780	915	68	0.015	0.016

DIA. = Diameter LBS = Length Below Shank RPM = rev./min FEED = mm/min. Vc = m/min. fz = mm/tooth

4G MILL END MILLS

RECOMMENDED CUTTING CONDITIONS
EMPFOHLENE SCHNEIDKONDITIONEN

CARBIDE, 2 FLUTE BALL NOSE with EXTENDED NECK
VOLLHARTMETALL, 2 SCHNEIDEN STIRNRADIUS mit ABGESETZTEM SCHAFTTETL

SEM846 SERIES

MATERIAL		P									
		NON-ALLOYED STEELS ALLOY STEELS					ALLOY STEELS HEAT RESISTANT STEELS				
HARDNESS		~ HRc 35					HRc 35 ~ HRc 45				
STRENGTH		~ 1100N/mm²					1110 ~ 1500N/mm²				
DIA.	LBS	RPM	FEED	Vc	fz	ap(mm)	RPM	FEED	Vc	fz	ap(mm)
0.7	8	27360	725	60	0.013	0.016	25840	595	57	0.012	0.012
0.7	10	27360	725	60	0.013	0.009	25840	595	57	0.012	0.007
0.7	12	20520	475	45	0.012	0.006	19380	390	43	0.010	0.005
0.8	2	34200	1230	86	0.018	0.072	32300	1035	81	0.016	0.056
0.8	3	34200	1230	86	0.018	0.050	32300	1035	81	0.016	0.039
0.8	4	34200	1230	86	0.018	0.050	32300	1035	81	0.016	0.039
0.8	5	30780	995	77	0.016	0.029	29070	840	73	0.014	0.022
0.8	6	30780	995	77	0.016	0.029	29070	840	73	0.014	0.022
0.8	8	30780	995	77	0.016	0.018	29070	840	73	0.014	0.014
0.8	10	27360	785	69	0.014	0.018	25840	660	65	0.013	0.014
0.8	12	27360	785	69	0.014	0.011	25840	660	65	0.013	0.008
0.8	14	20520	515	52	0.013	0.007	19380	435	49	0.011	0.006
0.8	16	20520	515	52	0.013	0.007	19380	435	49	0.011	0.006
0.8	20	10260	220	26	0.011	0.007	9690	185	24	0.010	0.006
0.9	4	29250	1120	83	0.019	0.032	27630	935	78	0.017	0.025
0.9	6	29250	1120	83	0.019	0.032	27630	935	78	0.017	0.025
0.9	8	29250	1120	83	0.019	0.020	27630	935	78	0.017	0.016
0.9	10	26000	885	74	0.017	0.020	24560	740	69	0.015	0.016
1.0	2	30800	1540	97	0.025	0.090	29100	1310	91	0.023	0.070
1.0	3	30800	1540	97	0.025	0.090	29100	1310	91	0.023	0.070
1.0	4	30800	1540	97	0.025	0.063	29100	1310	91	0.023	0.049
1.0	5	30800	1540	97	0.025	0.063	29100	1310	91	0.023	0.049
1.0	6	27720	1245	87	0.022	0.036	26190	1060	82	0.020	0.028
1.0	7	27720	1245	87	0.022	0.036	26190	1060	82	0.020	0.028
1.0	8	27720	1245	87	0.022	0.036	26190	1060	82	0.020	0.028
1.0	10	27720	1245	87	0.022	0.023	26190	1060	82	0.020	0.018
1.0	12	24640	985	77	0.020	0.023	23280	840	73	0.018	0.018
1.0	14	24640	985	77	0.020	0.014	23280	840	73	0.018	0.011
1.0	16	18480	645	58	0.017	0.014	17460	550	55	0.016	0.011
1.0	18	18480	645	58	0.017	0.009	17460	550	55	0.016	0.007
1.0	20	18480	645	58	0.017	0.009	17460	550	55	0.016	0.007
1.0	22	9240	275	29	0.015	0.009	8730	235	27	0.013	0.007
1.0	26	9240	275	29	0.015	0.009	8730	235	27	0.013	0.007
1.0	30	9240	275	29	0.015	0.009	8730	235	27	0.013	0.007
1.0	40	3080	75	10	0.012	0.009	2910	65	9	0.011	0.007
1.0	50	3080	75	10	0.012	0.006	2910	65	9	0.011	0.005
1.2	4	26300	1375	99	0.026	0.076	24800	1150	93	0.023	0.059
1.2	6	26300	1375	99	0.026	0.076	24800	1150	93	0.023	0.059
1.2	8	23670	1115	89	0.024	0.043	22320	930	84	0.021	0.034
1.2	10	23670	1115	89	0.024	0.027	22320	930	84	0.021	0.021
1.2	12	23670	1115	89	0.024	0.027	22320	930	84	0.021	0.021
1.2	16	21040	880	79	0.021	0.016	19840	735	75	0.019	0.013
1.2	20	15780	580	59	0.018	0.011	14880	485	56	0.016	0.008
1.2	26	7890	245	30	0.016	0.011	7440	205	28	0.014	0.008
1.4	6	21500	1295	95	0.030	0.088	20300	1100	89	0.027	0.069
1.4	8	19350	1050	85	0.027	0.050	18270	890	80	0.024	0.039
1.4	10	19350	1050	85	0.027	0.050	18270	890	80	0.024	0.039
1.4	16	17200	830	76	0.024	0.032	16240	705	71	0.022	0.025
1.5	4	23900	1580	113	0.033	0.135	22600	1355	106	0.030	0.105
1.5	5	23900	1580	113	0.033	0.095	22600	1355	106	0.030	0.074
1.5	6	23900	1580	113	0.033	0.095	22600	1355	106	0.030	0.074
1.5	7	23900	1580	113	0.033	0.095	22600	1355	106	0.030	0.074
1.5	8	21510	1280	101	0.030	0.054	20340	1100	96	0.027	0.042

DIA. = Diameter LBS = Length Below Shank RPM = rev./min FEED = mm/min. Vc = m/min. fz = mm/tooth

4G MILL END MILLS

RECOMMENDED CUTTING CONDITIONS
EMPFOHLENE SCHNEIDKONDITIONEN

CARBIDE, 2 FLUTE BALL NOSE with EXTENDED NECK
VOLLHARTMETALL, 2 SCHNEIDEN STIRNRADIUS mit ABGESETZTEM SCHAFTTETL

SEM846 SERIES

MATERIAL		P					K				
		HARDENED STEELS					CAST IRON				
HARDNESS		HRc 45 ~ HRc 55									
STRENGTH		1500 ~ 2000N/mm²									
DIA.	LBS	RPM	FEED	Vc	fz	ap(mm)	RPM	FEED	Vc	fz	ap(mm)
0.7	8	22800	490	50	0.011	0.009	27360	725	60	0.013	0.016
0.7	10	22800	490	50	0.011	0.005	27360	725	60	0.013	0.009
0.7	12	17100	320	38	0.009	0.004	20520	475	45	0.012	0.006
0.8	2	28500	855	72	0.015	0.040	34200	1230	86	0.018	0.072
0.8	3	28500	855	72	0.015	0.028	34200	1230	86	0.018	0.050
0.8	4	28500	855	72	0.015	0.028	34200	1230	86	0.018	0.050
0.8	5	25650	695	64	0.014	0.016	30780	995	77	0.016	0.029
0.8	6	25650	695	64	0.014	0.016	30780	995	77	0.016	0.029
0.8	8	25650	695	64	0.014	0.010	30780	995	77	0.016	0.018
0.8	10	22800	545	57	0.012	0.010	27360	785	69	0.014	0.018
0.8	12	22800	545	57	0.012	0.006	27360	785	69	0.014	0.011
0.8	14	17100	360	43	0.011	0.004	20520	515	52	0.013	0.007
0.8	16	17100	360	43	0.011	0.004	20520	515	52	0.013	0.007
0.8	20	8550	155	21	0.009	0.004	10260	220	26	0.011	0.007
0.9	4	24390	775	69	0.016	0.018	29250	1120	83	0.019	0.032
0.9	6	24390	775	69	0.016	0.018	29250	1120	83	0.019	0.032
0.9	8	24390	775	69	0.016	0.011	29250	1120	83	0.019	0.020
0.9	10	21680	610	61	0.014	0.011	26000	885	74	0.017	0.020
1.0	2	25700	1075	81	0.021	0.050	30800	1540	97	0.025	0.090
1.0	3	25700	1075	81	0.021	0.050	30800	1540	97	0.025	0.090
1.0	4	25700	1075	81	0.021	0.035	30800	1540	97	0.025	0.063
1.0	5	25700	1075	81	0.021	0.035	30800	1540	97	0.025	0.063
1.0	6	23130	870	73	0.019	0.020	27720	1245	87	0.022	0.036
1.0	7	23130	870	73	0.019	0.020	27720	1245	87	0.022	0.036
1.0	8	23130	870	73	0.019	0.020	27720	1245	87	0.022	0.036
1.0	10	23130	870	73	0.019	0.013	27720	1245	87	0.022	0.023
1.0	12	20560	690	65	0.017	0.013	24640	985	77	0.020	0.023
1.0	14	20560	690	65	0.017	0.008	24640	985	77	0.020	0.014
1.0	16	15420	450	48	0.015	0.008	18480	645	58	0.017	0.014
1.0	18	15420	450	48	0.015	0.005	18480	645	58	0.017	0.009
1.0	20	15420	450	48	0.015	0.005	18480	645	58	0.017	0.009
1.0	22	7710	195	24	0.013	0.005	9240	275	29	0.015	0.009
1.0	26	7710	195	24	0.013	0.005	9240	275	29	0.015	0.009
1.0	30	7710	195	24	0.013	0.005	9240	275	29	0.015	0.009
1.0	40	2570	55	8	0.011	0.005	3080	75	10	0.012	0.009
1.0	50	2570	55	8	0.011	0.003	3080	75	10	0.012	0.006
1.2	4	21900	950	83	0.022	0.042	26300	1375	99	0.026	0.076
1.2	6	21900	950	83	0.022	0.042	26300	1375	99	0.026	0.076
1.2	8	19710	770	74	0.020	0.024	23670	1115	89	0.024	0.043
1.2	10	19710	770	74	0.020	0.015	23670	1115	89	0.024	0.027
1.2	12	19710	770	74	0.020	0.015	23670	1115	89	0.024	0.027
1.2	16	17520	610	66	0.017	0.009	21040	880	79	0.021	0.016
1.2	20	13140	400	50	0.015	0.006	15780	580	59	0.018	0.011
1.2	26	6570	170	25	0.013	0.006	7890	245	30	0.016	0.011
1.4	6	18000	935	79	0.026	0.049	21500	1295	95	0.030	0.088
1.4	8	16200	755	71	0.023	0.028	19350	1050	85	0.027	0.050
1.4	10	16200	755	71	0.023	0.028	19350	1050	85	0.027	0.050
1.4	16	14400	600	63	0.021	0.018	17200	830	76	0.024	0.032
1.5	4	20000	1075	94	0.027	0.075	23900	1580	113	0.033	0.135
1.5	5	20000	1075	94	0.027	0.053	23900	1580	113	0.033	0.095
1.5	6	20000	1075	94	0.027	0.053	23900	1580	113	0.033	0.095
1.5	7	20000	1075	94	0.027	0.053	23900	1580	113	0.033	0.095
1.5	8	18000	870	85	0.024	0.030	21510	1280	101	0.030	0.054

DIA. = Diameter LBS = Length Below Shank RPM = rev./min FEED = mm/min. Vc = m/min. fz = mm/tooth

4G MILL END MILLS

RECOMMENDED CUTTING CONDITIONS
EMPFOHLENE SCHNEIDKONDITIONEN

CARBIDE, 2 FLUTE BALL NOSE with EXTENDED NECK
VOLLHARTMETALL, 2 SCHNEIDEN STIRNRADIUS mit ABGESETZTEM SCHAFTTETL

SEM846 SERIES

MATERIAL		P									
		NON-ALLOYED STEELS ALLOY STEELS					ALLOY STEELS HEAT RESISTANT STEELS				
HARDNESS		~ HRc 35					HRc 35 ~ HRc 45				
STRENGTH		~ 1100N/mm²					1110 ~ 1500N/mm²				
DIA.	LBS	RPM	FEED	Vc	fz	ap(mm)	RPM	FEED	Vc	fz	ap(mm)
1.5	10	21510	1280	101	0.030	0.054	20340	1100	96	0.027	0.042
1.5	12	21510	1280	101	0.030	0.054	20340	1100	96	0.027	0.042
1.5	14	21510	1280	101	0.030	0.034	20340	1100	96	0.027	0.026
1.5	16	19120	1010	90	0.026	0.034	18080	865	85	0.024	0.026
1.5	18	19120	1010	90	0.026	0.034	18080	865	85	0.024	0.026
1.5	20	19120	1010	90	0.026	0.02	18080	865	85	0.024	0.016
1.5	22	19120	1010	90	0.026	0.02	18080	865	85	0.024	0.016
1.5	26	14340	665	68	0.023	0.014	13560	570	64	0.021	0.011
1.5	30	14340	665	68	0.023	0.014	13560	570	64	0.021	0.011
1.5	35	7170	285	34	0.020	0.010	6780	245	32	0.018	0.008
1.5	40	7170	285	34	0.020	0.010	6780	245	32	0.018	0.008
1.6	4	22200	1555	112	0.035	0.101	21000	1300	106	0.031	0.078
1.6	6	22200	1555	112	0.035	0.101	21000	1300	106	0.031	0.078
1.6	8	22200	1555	112	0.035	0.101	21000	1300	106	0.031	0.078
1.6	10	19980	1260	100	0.032	0.058	18900	1055	95	0.028	0.045
1.6	12	19980	1260	100	0.032	0.058	18900	1055	95	0.028	0.045
1.6	16	19980	1260	100	0.032	0.036	18900	1055	95	0.028	0.028
1.6	20	17760	995	89	0.028	0.036	16800	830	84	0.025	0.028
1.8	4	22200	1780	126	0.040	0.113	21000	1470	119	0.035	0.088
1.8	6	22200	1780	126	0.040	0.113	21000	1470	119	0.035	0.088
1.8	8	22200	1780	126	0.040	0.113	21000	1470	119	0.035	0.088
1.8	10	19980	1440	113	0.036	0.065	18900	1190	107	0.031	0.050
1.8	12	19980	1440	113	0.036	0.065	18900	1190	107	0.031	0.050
1.8	16	19980	1440	113	0.036	0.041	18900	1190	107	0.031	0.032
1.8	20	17760	1140	100	0.032	0.041	16800	940	95	0.028	0.032
2.0	6	18000	1795	113	0.050	0.180	17000	1525	107	0.045	0.140
2.0	8	18000	1795	113	0.050	0.126	17000	1525	107	0.045	0.098
2.0	10	18000	1795	113	0.050	0.126	17000	1525	107	0.045	0.098
2.0	12	16200	1455	102	0.045	0.072	15300	1235	96	0.040	0.056
2.0	14	16200	1455	102	0.045	0.072	15300	1235	96	0.040	0.056
2.0	16	16200	1455	102	0.045	0.072	15300	1235	96	0.040	0.056
2.0	18	16200	1455	102	0.045	0.045	15300	1235	96	0.040	0.035
2.0	20	16200	1455	102	0.045	0.045	15300	1235	96	0.040	0.035
2.0	22	14400	1150	90	0.040	0.045	13600	975	85	0.036	0.035
2.0	26	14400	1150	90	0.040	0.045	13600	975	85	0.036	0.035
2.0	30	14400	1150	90	0.040	0.027	13600	975	85	0.036	0.021
2.0	35	10800	755	68	0.035	0.018	10200	640	64	0.031	0.014
2.0	40	10800	755	68	0.035	0.018	10200	640	64	0.031	0.014
2.0	45	5400	325	34	0.030	0.018	5100	275	32	0.027	0.014
2.0	50	5400	325	34	0.030	0.018	5100	275	32	0.027	0.014
2.0	60	5400	325	34	0.030	0.018	5100	275	32	0.027	0.014
2.5	8	15800	1925	124	0.061	0.158	14900	1605	117	0.054	0.123
2.5	10	15800	1925	124	0.061	0.158	14900	1605	117	0.054	0.123
2.5	12	15800	1925	124	0.061	0.158	14900	1605	117	0.054	0.123
2.5	16	14220	1560	112	0.055	0.090	13410	1300	105	0.048	0.070
2.5	20	14220	1560	112	0.055	0.090	13410	1300	105	0.048	0.070
2.5	22	14220	1560	112	0.055	0.056	13410	1300	105	0.048	0.044
2.5	26	12640	1230	99	0.049	0.056	11920	1025	94	0.043	0.044
2.5	30	12640	1230	99	0.049	0.056	11920	1025	94	0.043	0.044
2.5	35	12640	1230	99	0.049	0.034	11920	1025	94	0.043	0.026
2.5	40	9480	810	74	0.043	0.034	8940	675	70	0.038	0.026
2.5	45	9480	810	74	0.043	0.023	8940	675	70	0.038	0.018
2.5	50	9480	810	74	0.043	0.023	8940	675	70	0.038	0.018

DIA. = Diameter LBS = Length Below Shank RPM = rev./min FEED = mm/min. Vc = m/min. fz = mm/tooth

4G MILL END MILLS

RECOMMENDED CUTTING CONDITIONS
EMPFOHLENE SCHNEIDKONDITIONEN

CARBIDE, 2 FLUTE BALL NOSE with EXTENDED NECK
VOLLHARTMETALL, 2 SCHNEIDEN STIRNRADIUS mit ABGESETZTEM SCHAFTTETL

SEM846 SERIES

MATERIAL		P					K				
		HARDENED STEELS					CAST IRON				
HARDNESS		HRc 45 ~ HRc 55									
STRENGTH		1500 ~ 2000N/mm²									
DIA.	LBS	RPM	FEED	Vc	fz	ap(mm)	RPM	FEED	Vc	fz	ap(mm)
1.5	10	18000	870	85	0.024	0.030	21510	1280	101	0.030	0.054
1.5	12	18000	870	85	0.024	0.030	21510	1280	101	0.030	0.054
1.5	14	18000	870	85	0.024	0.019	21510	1280	101	0.030	0.034
1.5	16	16000	690	75	0.022	0.019	19120	1010	90	0.026	0.034
1.5	18	16000	690	75	0.022	0.019	19120	1010	90	0.026	0.034
1.5	20	16000	690	75	0.022	0.011	19120	1010	90	0.026	0.02
1.5	22	16000	690	75	0.022	0.011	19120	1010	90	0.026	0.02
1.5	26	12000	450	57	0.019	0.008	14340	665	68	0.023	0.014
1.5	30	12000	450	57	0.019	0.008	14340	665	68	0.023	0.014
1.5	35	6000	195	28	0.016	0.005	7170	285	34	0.020	0.010
1.5	40	6000	195	28	0.016	0.005	7170	285	34	0.020	0.010
1.6	4	18500	1110	93	0.030	0.056	22200	1555	112	0.035	0.101
1.6	6	18500	1110	93	0.030	0.056	22200	1555	112	0.035	0.101
1.6	8	18500	1110	93	0.030	0.056	22200	1555	112	0.035	0.101
1.6	10	16650	900	84	0.027	0.032	19980	1260	100	0.032	0.058
1.6	12	16650	900	84	0.027	0.032	19980	1260	100	0.032	0.058
1.6	16	16650	900	84	0.027	0.020	19980	1260	100	0.032	0.036
1.6	20	14800	710	74	0.024	0.020	17760	995	89	0.028	0.036
1.8	4	18500	1225	105	0.033	0.063	22200	1780	126	0.040	0.113
1.8	6	18500	1225	105	0.033	0.063	22200	1780	126	0.040	0.113
1.8	8	18500	1225	105	0.033	0.063	22200	1780	126	0.040	0.113
1.8	10	16650	990	94	0.030	0.036	19980	1440	113	0.036	0.065
1.8	12	16650	990	94	0.030	0.036	19980	1440	113	0.036	0.065
1.8	16	16650	990	94	0.030	0.023	19980	1440	113	0.036	0.041
1.8	20	14800	785	84	0.027	0.023	17760	1140	100	0.032	0.041
2.0	6	15000	1285	94	0.043	0.100	18000	1795	113	0.050	0.180
2.0	8	15000	1285	94	0.043	0.070	18000	1795	113	0.050	0.126
2.0	10	15000	1285	94	0.043	0.070	18000	1795	113	0.050	0.126
2.0	12	13500	1040	85	0.039	0.040	16200	1455	102	0.045	0.072
2.0	14	13500	1040	85	0.039	0.040	16200	1455	102	0.045	0.072
2.0	16	13500	1040	85	0.039	0.040	16200	1455	102	0.045	0.072
2.0	18	13500	1040	85	0.039	0.025	16200	1455	102	0.045	0.045
2.0	20	13500	1040	85	0.039	0.025	16200	1455	102	0.045	0.045
2.0	22	12000	820	75	0.034	0.025	14400	1150	90	0.040	0.045
2.0	26	12000	820	75	0.034	0.025	14400	1150	90	0.040	0.045
2.0	30	12000	820	75	0.034	0.015	14400	1150	90	0.040	0.027
2.0	35	9000	540	57	0.030	0.010	10800	755	68	0.035	0.018
2.0	40	9000	540	57	0.030	0.010	10800	755	68	0.035	0.018
2.0	45	4500	230	28	0.026	0.010	5400	325	34	0.030	0.018
2.0	50	4500	230	28	0.026	0.010	5400	325	34	0.030	0.018
2.0	60	4500	230	28	0.026	0.010	5400	325	34	0.030	0.018
2.5	8	13200	1305	104	0.049	0.088	15800	1925	124	0.061	0.158
2.5	10	13200	1305	104	0.049	0.088	15800	1925	124	0.061	0.158
2.5	12	13200	1305	104	0.049	0.088	15800	1925	124	0.061	0.158
2.5	16	11880	1055	93	0.044	0.050	14220	1560	112	0.055	0.090
2.5	20	11880	1055	93	0.044	0.050	14220	1560	112	0.055	0.090
2.5	22	11880	1055	93	0.044	0.031	14220	1560	112	0.055	0.056
2.5	26	10560	835	83	0.040	0.031	12640	1230	99	0.049	0.056
2.5	30	10560	835	83	0.040	0.031	12640	1230	99	0.049	0.056
2.5	35	10560	835	83	0.040	0.019	12640	1230	99	0.049	0.034
2.5	40	7920	550	62	0.035	0.019	9480	810	74	0.043	0.034
2.5	45	7920	550	62	0.035	0.013	9480	810	74	0.043	0.023
2.5	50	7920	550	62	0.035	0.013	9480	810	74	0.043	0.023

DIA. = Diameter LBS = Length Below Shank RPM = rev./min FEED = mm/min. Vc = m/min. fz = mm/tooth

4G MILL END MILLS

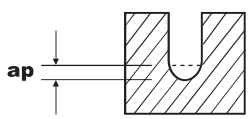
RECOMMENDED CUTTING CONDITIONS
EMPFOHLENE SCHNEIDKONDITIONEN

CARBIDE, 2 FLUTE BALL NOSE with EXTENDED NECK
VOLLHARTMETALL, 2 SCHNEIDEN STIRNRADIUS mit ABGESETZTEM SCHAFTTETL

SEM846 SERIES

MATERIAL		P									
		NON-ALLOYED STEELS ALLOY STEELS					ALLOY STEELS HEAT RESISTANT STEELS				
HARDNESS		~ HRc 35					HRc 35 ~ HRc 45				
STRENGTH		~ 1100N/mm²					1110 ~ 1500N/mm²				
DIA.	LBS	RPM	FEED	Vc	fz	ap(mm)	RPM	FEED	Vc	fz	ap(mm)
3.0	6	13700	2050	129	0.075	0.270	12900	1730	122	0.067	0.210
3.0	8	13700	2050	129	0.075	0.270	12900	1730	122	0.067	0.210
3.0	10	13700	2050	129	0.075	0.189	12900	1730	122	0.067	0.147
3.0	12	13700	2050	129	0.075	0.189	12900	1730	122	0.067	0.147
3.0	14	13700	2050	129	0.075	0.189	12900	1730	122	0.067	0.147
3.0	16	12330	1660	116	0.067	0.108	11610	1400	109	0.060	0.084
3.0	18	12330	1660	116	0.067	0.108	11610	1400	109	0.060	0.084
3.0	20	12330	1660	116	0.067	0.108	11610	1400	109	0.060	0.084
3.0	22	12330	1660	116	0.067	0.108	11610	1400	109	0.060	0.084
3.0	26	12330	1660	116	0.067	0.068	11610	1400	109	0.060	0.053
3.0	30	12330	1660	116	0.067	0.068	11610	1400	109	0.060	0.053
3.0	35	10960	1310	103	0.060	0.068	10320	1105	97	0.054	0.053
3.0	40	10960	1310	103	0.060	0.041	10320	1105	97	0.054	0.032
3.0	45	10960	1310	103	0.060	0.041	10320	1105	97	0.054	0.032
3.0	50	8220	860	77	0.052	0.027	7740	725	73	0.047	0.021
3.0	60	8220	860	77	0.052	0.027	7740	725	73	0.047	0.021
4.0	8	9800	1965	123	0.100	0.360	9300	1670	117	0.090	0.280
4.0	10	9800	1965	123	0.100	0.360	9300	1670	117	0.090	0.280
4.0	12	9800	1965	123	0.100	0.360	9300	1670	117	0.090	0.280
4.0	14	9800	1965	123	0.100	0.252	9300	1670	117	0.090	0.196
4.0	16	9800	1965	123	0.100	0.252	9300	1670	117	0.090	0.196
4.0	18	9800	1965	123	0.100	0.252	9300	1670	117	0.090	0.196
4.0	20	9800	1965	123	0.100	0.252	9300	1670	117	0.090	0.196
4.0	22	8820	1590	111	0.090	0.144	8370	1355	105	0.081	0.112
4.0	26	8820	1590	111	0.090	0.144	8370	1355	105	0.081	0.112
4.0	30	8820	1590	111	0.090	0.144	8370	1355	105	0.081	0.112
4.0	35	8820	1590	111	0.090	0.090	8370	1355	105	0.081	0.070
4.0	40	8820	1590	111	0.090	0.090	8370	1355	105	0.081	0.070
4.0	45	7840	1260	99	0.080	0.090	7440	1070	93	0.072	0.070
4.0	50	7840	1260	99	0.080	0.090	7440	1070	93	0.072	0.070
4.0	60	7840	1260	99	0.080	0.054	7440	1070	93	0.072	0.042
5.0	15	7700	1845	121	0.120	0.315	7300	1455	115	0.100	0.245
5.0	20	7700	1845	121	0.120	0.315	7300	1455	115	0.100	0.245
5.0	26	6930	1495	109	0.108	0.180	6570	1180	103	0.090	0.140
5.0	30	6930	1495	109	0.108	0.180	6570	1180	103	0.090	0.140
5.0	35	6930	1495	109	0.108	0.180	6570	1180	103	0.090	0.140
5.0	40	6930	1495	109	0.108	0.180	6570	1180	103	0.090	0.140
5.0	50	6930	1495	109	0.108	0.113	6570	1180	103	0.090	0.088
5.0	60	6160	1180	97	0.096	0.113	5840	930	92	0.080	0.088
6.0	20	6500	1900	123	0.146	0.378	6200	1600	117	0.129	0.294
6.0	30	6500	1900	123	0.146	0.378	6200	1600	117	0.129	0.294
8.0	25	4850	1800	122	0.186	0.504	4600	1500	116	0.163	0.392
8.0	30	4850	1800	122	0.186	0.504	4600	1500	116	0.163	0.392
10.0	30	3850	1650	121	0.214	0.900	3680	1400	116	0.190	0.700
10.0	40	3850	1650	121	0.214	0.630	3680	1400	116	0.190	0.490
12.0	32	3200	1520	121	0.238	1.080	3050	1300	115	0.213	0.840
12.0	45	3200	1520	121	0.238	0.756	3050	1300	115	0.213	0.588

(Depth of Cut per one pass)



DIA. = Diameter
LBS = Length Below Shank

RPM = rev./min.
FEED = mm/min.

Vc = m/min.
fz = mm/tooth

4G MILL END MILLS

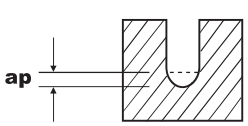
RECOMMENDED CUTTING CONDITIONS
EMPFOHLENE SCHNEIDKONDITIONEN

CARBIDE, 2 FLUTE BALL NOSE with EXTENDED NECK
VOLLHARTMETALL, 2 SCHNEIDEN STIRNRADIUS mit ABGESETZTEM SCHAFTTETL

SEM846 SERIES

MATERIAL		P					K				
		HARDENED STEELS					CAST IRON				
HARDNESS		HRc 45 ~ HRc 55									
STRENGTH		1500 ~ 2000N/mm²									
DIA.	LBS	RPM	FEED	Vc	fz	ap(mm)	RPM	FEED	Vc	fz	ap(mm)
3.0	6	11400	1435	107	0.063	0.150	13700	2050	129	0.075	0.270
3.0	8	11400	1435	107	0.063	0.150	13700	2050	129	0.075	0.270
3.0	10	11400	1435	107	0.063	0.105	13700	2050	129	0.075	0.189
3.0	12	11400	1435	107	0.063	0.105	13700	2050	129	0.075	0.189
3.0	14	11400	1435	107	0.063	0.105	13700	2050	129	0.075	0.189
3.0	16	10260	1160	97	0.057	0.060	12330	1660	116	0.067	0.108
3.0	18	10260	1160	97	0.057	0.060	12330	1660	116	0.067	0.108
3.0	20	10260	1160	97	0.057	0.060	12330	1660	116	0.067	0.108
3.0	22	10260	1160	97	0.057	0.060	12330	1660	116	0.067	0.108
3.0	26	10260	1160	97	0.057	0.038	12330	1660	116	0.067	0.068
3.0	30	10260	1160	97	0.057	0.038	12330	1660	116	0.067	0.068
3.0	35	9120	920	86	0.050	0.038	10960	1310	103	0.060	0.068
3.0	40	9120	920	86	0.050	0.023	10960	1310	103	0.060	0.041
3.0	45	9120	920	86	0.050	0.023	10960	1310	103	0.060	0.041
3.0	50	6840	605	64	0.044	0.015	8220	860	77	0.052	0.027
3.0	60	6840	605	64	0.044	0.015	8220	860	77	0.052	0.027
4.0	8	8200	1395	103	0.085	0.200	9800	1965	123	0.100	0.360
4.0	10	8200	1395	103	0.085	0.200	9800	1965	123	0.100	0.360
4.0	12	8200	1395	103	0.085	0.200	9800	1965	123	0.100	0.360
4.0	14	8200	1395	103	0.085	0.140	9800	1965	123	0.100	0.252
4.0	16	8200	1395	103	0.085	0.140	9800	1965	123	0.100	0.252
4.0	18	8200	1395	103	0.085	0.140	9800	1965	123	0.100	0.252
4.0	20	8200	1395	103	0.085	0.140	9800	1965	123	0.100	0.252
4.0	22	7380	1130	93	0.077	0.080	8820	1590	111	0.090	0.144
4.0	26	7380	1130	93	0.077	0.080	8820	1590	111	0.090	0.144
4.0	30	7380	1130	93	0.077	0.080	8820	1590	111	0.090	0.144
4.0	35	7380	1130	93	0.077	0.050	8820	1590	111	0.090	0.090
4.0	40	7380	1130	93	0.077	0.050	8820	1590	111	0.090	0.090
4.0	45	6560	895	82	0.068	0.050	7840	1260	99	0.080	0.090
4.0	50	6560	895	82	0.068	0.050	7840	1260	99	0.080	0.090
4.0	60	6560	895	82	0.068	0.030	7840	1260	99	0.080	0.054
5.0	15	6400	1285	101	0.100	0.175	7700	1845	121	0.120	0.315
5.0	20	6400	1285	101	0.100	0.175	7700	1845	121	0.120	0.315
5.0	26	5760	1040	90	0.090	0.100	6930	1495	109	0.108	0.180
5.0	30	5760	1040	90	0.090	0.100	6930	1495	109	0.108	0.180
5.0	35	5760	1040	90	0.090	0.100	6930	1495	109	0.108	0.180
5.0	40	5760	1040	90	0.090	0.100	6930	1495	109	0.108	0.180
5.0	50	5760	1040	90	0.090	0.063	6930	1495	109	0.108	0.113
5.0	60	5120	820	80	0.080	0.063	6160	1180	97	0.096	0.113
6.0	20	5500	1330	104	0.121	0.210	6500	1900	123	0.146	0.378
6.0	30	5500	1330	104	0.121	0.210	6500	1900	123	0.146	0.378
8.0	25	4000	1280	101	0.160	0.280	4850	1800	122	0.186	0.504
8.0	30	4000	1280	101	0.160	0.280	4850	1800	122	0.186	0.504
10.0	30	3200	1200	101	0.188	0.500	3850	1650	121	0.214	0.900
10.0	40	3200	1200	101	0.188	0.350	3850	1650	121	0.214	0.630
12.0	32	2650	1100	100	0.208	0.600	3200	1520	121	0.238	1.080
12.0	45	2650	1100	100	0.208	0.420	3200	1520	121	0.238	0.756

(Depth of Cut per one pass)



DIA. = Diameter
LBS = Length Below Shank
RPM = rev./min.
FEED = mm/min.
Vc = m/min.
fz = mm/tooth