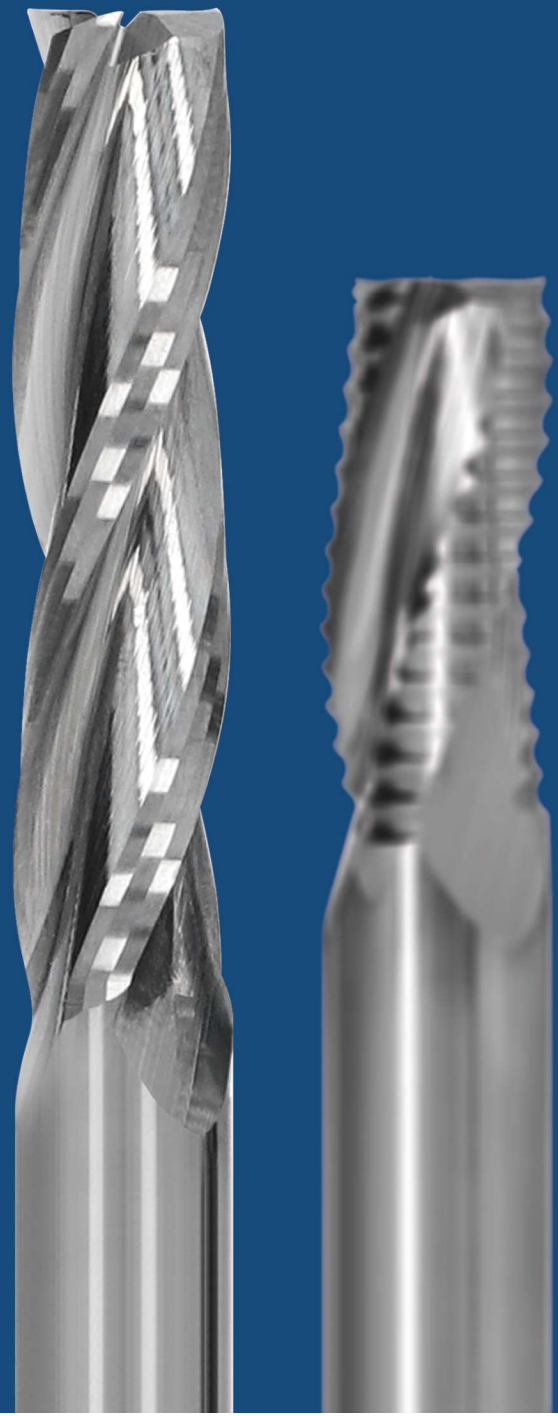




**SOLID CARBIDE
SPIRAL BITS
FOR COMPOSITES**



Solid Carbide Finishing Upcut Spiral Bits Z1 for Plastics

Yüzey Frezesi Yukarı Kesim Z1 Plastik İçin

Brocas de HW integral helicoidales Z1 corte ascendente para Plásticos



PCD TOOLS

SOLID CARBIDE
SPIRAL BITS

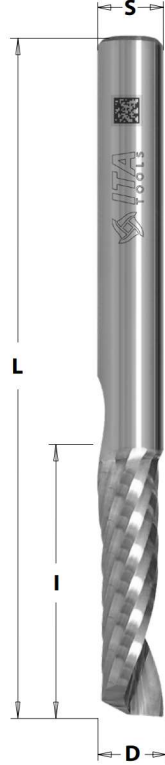
SPIRAL BITS FOR
COMPOSITE CUTTING

SAW BLADES

CNC ROUTER CUTTERS
& CHUCKS

PLATES AND KNIVES

198 RP
positive



VHM

Z1

RH

TECHNICAL DETAILS:

- Single blade cutter, positive
- Perfect finishing of cutting edge - the polished chip groove
- Chip discharge upwards
- Special type of carbide - increased tool life
- Possibility of using variety coatings

APPLICATION:

For cutting and milling in plastics. Designed for use on CNC machines.

D mm	I mm	L mm	S mm	ARTICLE
2	6	60	6	198.02.006.060.06RP
3	6	60	3	198.03.006.060.03RP
3	6	60	6	198.03.006.060.06RP
3	12	60	3	198.03.012.060.03RP
3	12	60	6	198.03.012.060.06RP
4	8	60	4	198.04.008.060.04RP
4	8	60	6	198.04.008.060.06RP
4	12	60	4	198.04.012.060.04RP
4	12	60	6	198.04.012.060.06RP
4	22	60	6	198.04.022.060.06RP
5	15	60	5	198.05.015.060.05RP
5	15	60	6	198.05.015.060.06RP
6	12	60	6	198.06.012.060.06RP
6	22	60	6	198.06.022.060.06RP
8	22	60	8	198.08.022.060.08RP
8	32	80	8	198.08.032.080.08RP
10	35	80	10	198.10.035.080.10RP
10	42	80	10	198.10.042.080.10RP
12	35	80	12	198.12.035.080.12RP
12	42	90	12	198.12.042.090.12RP

D inch	I inch	L inch	S inch	ARTICLE
1/8	1/4	2 1/2	1/8	198.32.635.635.32RP
1/8	1/2	2 1/2	1/8	198.32.127.635.32RP
3/16	5/16	2 1/2	3/16	198.48.794.635.48RP
3/16	5/8	2 1/2	3/16	198.48.159.635.48RP
1/4	1/2	2 1/2	1/4	198.64.127.635.64RP
1/4	1	2 1/2	1/4	198.64.254.635.64RP
3/8	1	2 1/2	3/8	198.95.254.635.95RP
1/2	1 1/2	3 1/2	1/2	198.13.381.889.13RP



Other dimensions
are available on order



Solid Carbide Finishing Downcut Spiral Bits Z1 for Plastics

Yüzey Frezesi Tarafı Aşağı Kesim Z1 Plastik İçin

Brocas de HW integral helicoidales Z1 corte descendente para Plásticos

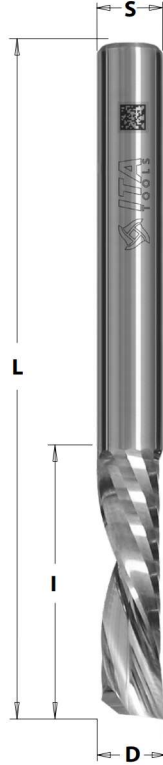


198 RPn
negative

VHM

Z1

RH



TECHNICAL DETAILS:

- Single blade cutter, negative
- Perfect finishing of cutting edge - the polished chip groove
- Chip discharge downwards
- Special type of carbide - increased tool life
- Possibility of using variety coatings

APPLICATION:

For cutting and milling in plastics. Designed for use on CNC machines.

D mm	I mm	L mm	S mm	ARTICLE
2	6	60	6	198.02.006.060.06RPn
3	6	60	3	198.03.006.060.03RPn
3	6	60	6	198.03.006.060.06RPn
3	12	60	3	198.03.012.060.03RPn
3	12	60	6	198.03.012.060.06RPn
4	8	60	4	198.04.008.060.04RPn
4	8	60	6	198.04.008.060.06RPn
4	12	60	4	198.04.012.060.04RPn
4	12	60	6	198.04.012.060.06RPn
5	15	60	5	198.05.015.060.05RPn
5	15	60	6	198.05.015.060.06RPn
6	12	60	6	198.06.012.060.06RPn

D inch	I inch	L inch	S inch	ARTICLE
1/8	1/4	2 1/2	1/8	198.32.635.635.32RPn
1/8	1/2	2 1/2	1/8	198.32.127.635.32RPn
3/16	5/16	2 1/2	3/16	198.48.794.635.48RPn
3/16	5/8	2 1/2	3/16	198.48.159.635.48RPn
1/4	1/2	2 1/2	1/4	198.64.127.635.64RPn
1/4	1	2 1/2	1/4	198.64.254.635.64RPn



Other dimensions
are available on order

Solid Carbide Finishing Upcut Spiral Bits Z1 for Plastics

Yüzey Frezesi Yukarı Kesim Z1 Plastik İçin

Brocas de HW integral helicoidales Z1 corte ascendente para Plásticos



PCD TOOLS

SOLID CARBIDE
SPIRAL BITS

SPIRAL BITS FOR
COMPOSITE CUTTING

SAW BLADES

CNC ROUTER CUTTERS
& CHUCKS

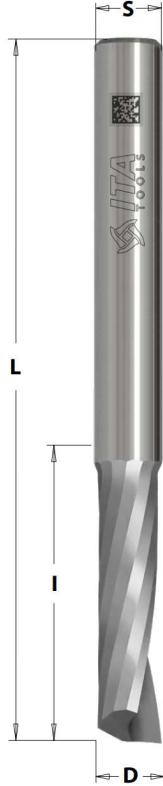
PLATES AND KNIVES

198 RPs
positive

VHM

Z1

RH



TECHNICAL DETAILS:

- Single blade cutter with a minimum spiral angle, positive
- For thin materials from 1mm to 8mm
- Perfect finishing of cutting edge - the polished chip groove
- Chip discharge upwards
- Special type of carbide - increased tool life
- Possibility of using variety coatings

APPLICATION:

For cutting and milling in plastics. Designed for use on CNC machines.

D mm	I mm	L mm	S mm	ARTICLE
2	6	60	6	198.02.006.060.06RPs
3	8	60	3	198.03.008.060.03RPs
3	12	60	3	198.03.012.060.03RPs
3	12	60	6	198.03.012.060.06RPs
4	8	60	4	198.04.008.060.04RPs
4	12	60	4	198.04.012.060.04RPs
4	12	60	6	198.04.012.060.06RPs
5	8	60	5	198.05.008.060.05RPs
5	12	60	6	198.05.012.060.06RPs
6	12	60	6	198.06.012.060.06RPs
6	22	60	6	198.06.022.060.06RPs
8	12	60	8	198.08.012.060.08RPs
10	22	60	10	198.10.022.060.10RPs

D inch	I inch	L inch	S inch	ARTICLE
1/8	5/16	2 1/2	1/8	198.32.794.635.32RPs
3/16	5/16	2 1/2	3/16	198.48.794.635.48RPs
3/16	5/8	2 1/2	3/16	198.48.159.635.48RPs
1/4	1/2	2 1/2	1/4	198.64.127.635.64RPs
1/4	1	2 1/2	1/4	198.64.254.635.64RPs
3/8	1	2 1/2	3/8	198.95.254.635.95RPs



Other dimensions
are available on order

Solid Carbide Finishing Upcut Spiral Bits Z1 for Aluminum

Yüzey Frezesi Yukar Kesim Z1 Alüminyum için

Brocas de HW integral helicoidales Z1 corte ascendente para Aluminio



198 Ra
positive

VHM

Z1

RH



TECHNICAL DETAILS:

- Single blade cutter, positive
- Perfect finishing of cutting edge - the polished chip groove
- Chip discharge upward
- Special type of carbide - increased tool life
- Possibility of using variety coatings

APPLICATION:

For cutting and milling in aluminum, dibond composite, an alternative to plastics processing. Designed for use on CNC machines.

D mm	I mm	L mm	S mm	ARTICLE
3	6	60	3	198.03.006.060.03Ra
3	6	60	6	198.03.006.060.06Ra
3	12	60	3	198.03.012.060.03Ra
3	12	60	6	198.03.012.060.06Ra
4	8	60	4	198.04.008.060.04Ra
4	8	60	6	198.04.008.060.06Ra
4	12	60	4	198.04.012.060.04Ra
4	12	60	6	198.04.012.060.06Ra
4	22	60	6	198.04.022.060.06Ra
5	15	60	5	198.05.015.060.05Ra
5	15	60	6	198.05.015.060.06Ra
6	12	60	6	198.06.012.060.06Ra
6	22	60	6	198.06.022.060.06Ra
8	22	60	8	198.08.022.060.08Ra
8	32	80	8	198.08.032.080.08Ra
10	35	80	10	198.10.035.080.08Ra
10	42	80	10	198.10.042.080.08Ra
12	35	80	12	198.12.035.080.08Ra
12	42	90	12	198.12.042.090.12Ra

D inch	I inch	L inch	S inch	ARTICLE
1/8	1/4	2 1/2	1/8	198.32.635.635.32Ra
1/8	1/2	2 1/2	1/8	198.32.127.635.32Ra
3/16	5/16	2 1/2	3/16	198.48.794.635.48Ra
3/16	5/8	2 1/2	3/16	198.48.159.635.48Ra
1/4	1/2	2 1/2	1/4	198.64.127.635.64Ra
1/4	1	2 1/2	1/4	198.64.254.635.64Ra
3/8	1	2 1/2	3/8	198.95.254.635.95Ra
1/2	1 1/2	3 1/2	1/2	198.13.381.889.13Ra



Other dimensions
are available on order



Solid Carbide Finishing Downcut Spiral Bits Z1 for Plastics

Yüzey Frezesi Tarafı Aşağı Kesim Z1 Plastik İçin

Brocas de HW integral helicoidales Z1 corte descendente para Plásticos



PCD TOOLS

SOLID CARBIDE
SPIRAL BITS

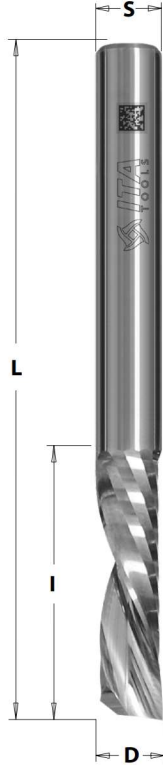
SPIRAL BITS FOR
COMPOSITE CUTTING

SAW BLADES

CNC ROUTER CUTTERS
& CHUCKS

PLATES AND KNIVES

198 Ran negative



VHM

Z1

RH

TECHNICAL DETAILS:

- Single blade cutter, negative
- Perfect finishing of cutting edge - the polished chip groove
- Chip discharge downwards
- Special type of carbide - increased tool life
- Possibility of using variety coatings

APPLICATION:

For cutting and milling in plastics, dibond composite. Designed for use on CNC machines.

D mm	I mm	L mm	S mm	ARTICLE
3	6	60	3	198.03.006.060.03Ran
3	6	60	6	198.03.006.060.06Ran
3	12	60	3	198.03.012.060.03Ran
3	12	60	6	198.03.012.060.06Ran
4	8	60	4	198.04.008.060.04Ran
4	8	60	6	198.04.008.060.06Ran
4	12	60	4	198.04.012.060.04Ran
4	12	60	6	198.04.012.060.06Ran
5	15	60	5	198.05.015.060.05Ran
5	15	60	6	198.05.015.060.06Ran
6	12	60	6	198.06.012.060.06Ran

D inch	I inch	L inch	S inch	ARTICLE
1/8	1/4	2 1/2	1/8	198.32.635.635.32Ran
1/8	1/2	2 1/2	1/8	198.32.127.635.32Ran
3/16	5/16	2 1/2	3/16	198.48.794.635.48Ran
3/16	5/8	2 1/2	3/16	198.48.159.635.48Ran
1/4	1/2	2 1/2	1/4	198.64.127.635.64Ran



Other dimensions
are available on order



Solid Carbide Finishing Upcut Spiral Bits Z2 for Aluminum and Plastics

Yüzey Frezesi Yukari Kesim Z2 Alüminyum Ve Plastik İçin

Brocas de HW integral helicoidales Z2 corte ascendente para Aluminio, Plásticos

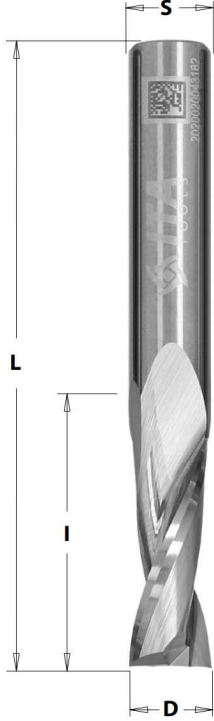


186 Ra
positive

VHM

Z2

RH



TECHNICAL DETAILS:

- Two edge blade cutter, positive
- Perfect finishing of cutting edge - the polished chip groove
- Chip discharge upward
- Special type of carbide - increased tool life
- Possibility of using variety coatings

APPLICATION:

For cutting and milling in aluminum and plastics. Designed for use on CNC machines.

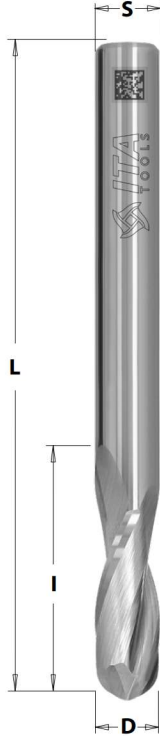
D mm	I mm	L mm	S mm	ARTICLE
3	10	60	3	186.03.010.060.03Ra
3	12	60	6	186.03.012.060.06Ra
4	10	60	4	186.04.010.060.04Ra
4	12	60	6	186.04.012.060.06Ra
5	12	60	5	186.05.012.060.05Ra
5	22	60	5	186.05.022.060.05Ra
5	22	60	6	186.05.022.060.06Ra
6	12	60	6	186.06.012.060.06Ra
6	22	60	6	186.06.022.060.06Ra
8	22	60	8	186.08.022.060.08Ra
8	35	80	8	186.08.035.080.08Ra
10	22	60	10	186.10.022.060.10Ra
10	45	100	10	186.10.045.100.10Ra
12	25	70	12	186.12.025.070.12Ra
12	42	90	12	186.12.042.090.12Ra
16	35	80	16	186.16.035.080.16Ra
16	55	110	16	186.16.055.110.16Ra
20	45	90	20	186.20.045.090.20Ra

D inch	I inch	L inch	S inch	ARTICLE
1/8	1/2	2 1/2	1/8	186.32.127.635.32Ra
3/16	5/8	2 1/2	3/16	186.48.159.635.48Ra
1/4	1	2 1/2	1/4	186.64.254.635.64Ra
3/8	1	2 1/2	3/8	186.95.254.635.95Ra
1/2	1 1/2	3 1/4	1/2	186.13.381.826.13Ra
5/8	1 1/2	3 1/2	5/8	186.16.381.889.16Ra
3/4	1 3/4	3 1/2	3/4	186.19.445.889.19Ra



Other dimensions
are available on order

199 Ra positive



VHM

Z2

RH

TECHNICAL DETAILS:

- Spherical double-edge cutter, positive
- Perfect finishing of cutting edge - the polished chip groove
- Chip discharge upward
- Special type of carbide - increased tool life
- Possibility of using variety coatings

APPLICATION:

For cutting and milling in aluminum and plastics. Designed for use on CNC machines.

D mm	I mm	L mm	S mm	ARTICLE
3	10	60	3	199.03.010.060.03Ra
3	10	60	6	199.03.010.060.06Ra
4	10	60	4	199.04.010.060.04Ra
4	12	60	6	199.04.012.060.06Ra
5	12	60	5	199.05.012.060.05Ra
6	22	60	6	199.06.022.060.06Ra
8	22	60	8	199.08.022.060.08Ra
10	22	60	10	199.10.022.060.10Ra
10	45	100	10	199.10.045.100.10Ra
12	25	70	12	199.12.025.070.12Ra
12	42	90	12	199.12.042.090.12Ra
16	35	90	16	199.16.035.090.16Ra

D inch	I inch	L inch	S inch	ARTICLE
1/8	1/2	2 1/2	1/8	199.32.953.635.32Ra
3/16	5/8	2 1/2	3/16	199.48.159.635.48Ra
1/4	1	2 1/2	1/4	199.64.254.635.64Ra
3/8	1	2 1/2	3/8	199.95.254.635.95Ra
1/2	1	3 1/4	1/2	199.13.254.826.13Ra
5/8	1 1/2	3 1/2	5/8	199.16.381.889.16Ra
3/4	1 3/4	3 1/2	3/4	193.19.445.889.19Ra



Other dimensions
are available on order



Solid Carbide Finishing Upcut Spiral Bits Z3 for Aluminum and Plastics

Yüzey Frezesi Yukari Kesim Z3 Alüminyum Ve Plastik İçin

Brocas de HW integrales helicoidales Z3 corte ascendente para Aluminio, Plásticos



193Ra

positive

VHM

Z3

RH



TECHNICAL DETAILS:

- Three edge blade cutter, positive
- Perfect finishing of cutting edge - the polished chip groove
- Chip discharge upward
- Special type of carbide - increased tool life
- Possibility of using variety coatings

APPLICATION:

For cutting and milling in aluminum and plastics. Designed for use on CNC machines.

D mm	I mm	L mm	S mm	ARTICLE
3	8	60	3	193.03.008.060.03Ra
3	8	60	6	193.03.008.060.06Ra
4	12	60	4	193.04.012.060.04Ra
4	12	60	6	193.04.012.060.06Ra
5	12	60	5	193.05.012.060.05Ra
6	22	60	6	193.06.022.060.06Ra
8	35	80	8	193.08.035.080.08Ra
10	32	80	10	193.10.032.080.10Ra
12	32	90	12	193.12.032.090.12Ra
16	35	90	16	193.16.035.090.16Ra
16	55	110	16	193.16.055.110.16Ra
20	32	80	20	193.20.032.080.20Ra
20	60	120	20	193.20.060.120.20Ra

D inch	I inch	L inch	S inch	ARTICLE
1/8	3/8	2 1/2	1/8	193.32.953.635.32Ra
3/16	5/8	2 1/2	3/16	193.48.159.635.48Ra
1/4	1	2 1/2	1/4	193.64.254.635.64Ra
3/8	1 1/4	3 1/4	3/8	193.95.318.826.95Ra
1/2	1 1/4	3 1/4	1/2	193.13.318.826.13Ra
5/8	1 1/2	3 1/2	5/8	193.16.381.889.16Ra
3/4	1 3/4	3 1/2	3/4	193.19.445.889.19Ra



Other dimensions are available on order



Solid Carbide Roughing Upcut Spiral Bits Z3 for Aluminum and Plastics

Kaba İşleme Frezesi Yukari Kesim Z3 Alüminyum İçin
Brocas de HW integral helicoidales con rompevirutas Z3 para Aluminio, Plásticos



PCD TOOLS

SOLID CARBIDE
SPIRAL BITS

SPIRAL BITS FOR
COMPOSITE CUTTING

SAW BLADES

CNC ROUTER CUTTERS
& CHUCKS

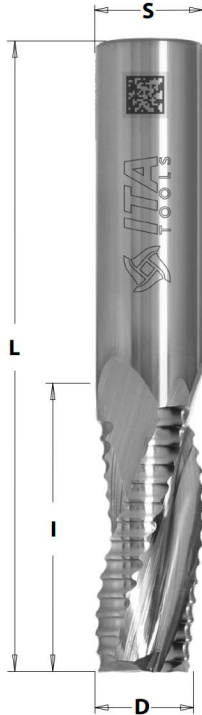
PLATES AND KNIVES

195Ra
positive

VHM

Z3

RH



TECHNICAL DETAILS:

- Three edge blade cutter, positive
- Perfect roughing of cutting edge - the polished chip groove
- Chip discharge upward
- Special type of carbide - increased tool life
- Possibility of using variety coatings

APPLICATION:

For cutting and milling in aluminum and plastics. Designed for use on CNC machines.

D mm	I mm	L mm	S mm	ARTICLE
6	22	60	6	195.06.022.060.06Ra
8	32	70	8	195.08.032.070.08Ra
10	32	80	10	195.10.032.080.10Ra
12	32	80	12	195.12.032.080.12Ra
16	32	90	16	195.16.032.090.16Ra
16	55	110	16	195.16.055.110.16Ra
20	32	80	20	195.20.032.080.20Ra
20	60	120	20	195.20.060.120.20Ra
25	35	80	25	195.25.035.080.20Ra

D inch	I inch	L inch	S inch	ARTICLE
1/4	1	2 1/2	1/4	195.64.254.635.64Ra
3/8	1 1/4	3 1/4	3/8	195.95.318.826.95Ra
1/2	1 1/4	3 1/4	1/2	195.13.318.826.13Ra
5/8	1 1/2	3 1/2	5/8	195.16.381.889.16Ra
3/4	1 3/4	3 1/2	3/4	195.19.445.889.19Ra



Other dimensions
are available on order



Solid Carbide Finishing Upcut Multi-edge Spiral Bits for Composites

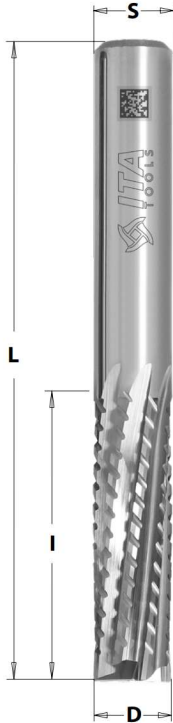
Bitirme kompozit frezeleme takımları
Fresas de acabado para fresado



CPS
positive

VHM

RH



TECHNICAL DETAILS:

- Multi-edge geometry, positive
- Perfect finishing of cutting edge
- Chip discharge upwards
- Geometry adapted to the processing of composites preventing delamination and drawing of glass and carbon fibers
- Special type of carbide - increased tool life
- Possibility of using variety coatings

APPLICATION:

For cutting and milling in composite materials GFK, CFK, textolite, composite matrix, HPL, honeycomb. Designed for use on CNC machines.

D mm	I mm	L mm	S mm	ARTICLE
3	10	45	3	CPS.03.010.045.03R
3	10	60	6	CPS.03.010.060.06R
4	15	60	4	CPS.04.015.060.04R
4	15	60	6	CPS.04.015.060.06R
5	15	60	5	CPS.05.015.060.05R
6	25	70	6	CPS.06.025.070.06R
8	30	80	8	CPS.08.030.080.08R
10	35	80	10	CPS.10.035.080.10R
12	40	90	12	CPS.12.040.090.12R
16	45	100	16	CPS.16.045.100.16R
20	45	100	20	CPS.20.045.100.20R

D inch	I inch	L inch	S inch	ARTICLE
1/8	1/2	2	1/8	CPS.32.127.508.32R
3/16	3/4	2 1/2	3/16	CPS.48.191.635.48R
1/4	1	3	1/4	CPS.64.254.762.64R
3/8	1 1/4	3 1/2	3/8	CPS.95.318.889.95R
1/2	1 3/8	3 1/2	1/2	CPS.13.349.889.13R



Other dimensions are available on order



Solid Carbide Finishing Straight Multi-edge Spiral Bits for Composites

Bitirme kompozit frezeleme takımları
Fresas de acabado para fresado



PCD TOOLS

SOLID CARBIDE
SPIRAL BITS

SPIRAL BITS FOR
COMPOSITE CUTTING

SAW BLADES

CNC ROUTER CUTTERS
& CHUCKS

PLATES AND KNIVES

CSS
straight

VHM

RH



TECHNICAL DETAILS:

- Multi-edge geometry, straight
- Prefect finishing of cutting edge
- Chip discharge sideways
- Geometry adapted to the processing of composites preventing delamination and drawing of glass and carbon fibers
- Special type of carbide - increased tool life
- Possibility of using variety coatings

APPLICATION:

For cutting and milling in composite materials GFK, CFK, textolite, composite matrix, HPL, honeycomb. Designed for use on CNC machines.

D mm	I mm	L mm	S mm	ARTICLE
3	10	45	3	CSS.03.010.045.03R
3	10	60	6	CSS.03.010.060.06R
4	15	60	4	CSS.04.015.060.04R
4	15	60	6	CSS.04.015.060.06R
5	15	60	5	CSS.05.015.060.05R
6	25	70	6	CSS.06.025.070.06R
8	30	80	8	CSS.08.030.080.08R
10	35	80	10	CSS.10.035.080.10R
12	40	90	12	CSS.12.040.090.12R
16	45	100	16	CSS.16.045.100.16R
20	45	100	20	CSS.20.045.100.20R

D inch	I inch	L inch	S inch	ARTICLE
1/8	1/2	2	1/8	CSS.32.127.508.32R
3/16	3/4	2 1/2	3/16	CSS.48.191.635.48R
1/4	1	3	1/4	CSS.64.254.762.64R
3/8	1 1/4	3 1/2	3/8	CSS.95.318.889.95R
1/2	1 3/8	3 1/2	1/2	CSS.13.349.889.13R



Other dimensions
are available on order



Solid Carbide Finishing Downcut Multi-edge Spiral Bits for Composites

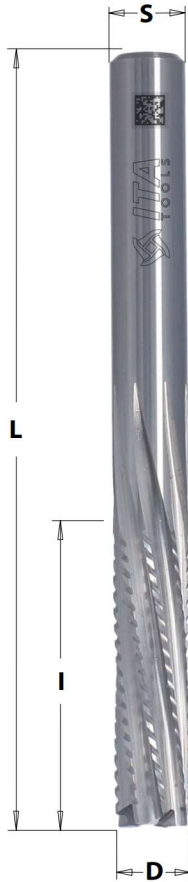
Bitirme kompozit frezeleme takımları
Fresas de acabado para fresado



CVS
negative

VHM

RH



TECHNICAL DETAILS:

- Multi-edge geometry, negative
- Perfect finishing of cutting edge
- Chip discharge downwards
- Geometry adapted to the processing of composites preventing delamination and drawing of glass and carbon fibers
- Special type of carbide - increased tool life
- Possibility of using variety coatings

APPLICATION:

For cutting and milling in composite materials GFK, CFK, textolite, composite matrix, HPL, honeycomb. Designed for use on CNC machines.

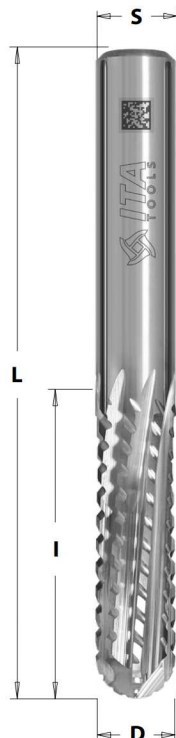
D mm	I mm	L mm	S mm	ARTICLE
3	10	45	3	CVS.03.010.045.03R
3	10	60	6	CVS.03.010.060.06R
4	15	60	4	CVS.04.015.060.04R
4	15	60	6	CVS.04.015.060.06R
5	15	60	5	CVS.05.015.060.05R
6	20	70	6	CVS.06.020.070.06R
8	30	80	8	CVS.08.030.080.08R
10	35	80	10	CVS.10.035.080.10R
12	40	90	12	CVS.12.040.090.12R
16	45	100	16	CVS.16.045.100.16R
20	45	100	20	CVS.20.045.100.20R

D inch	I inch	L inch	S inch	ARTICLE
1/8	1/2	2	1/8	CVS.32.127.508.32R
3/16	3/4	2 1/2	3/16	CVS.48.191.635.48R
1/4	1	3	1/4	CVS.64.254.762.64R
3/8	1 1/4	3 1/2	3/8	CVS.95.318.889.95R
1/2	1 3/8	3 1/2	1/2	CVS.13.349.889.13R



Other dimensions are available on order

CPU positive



VHM

RH

TECHNICAL DETAILS:

- Spherical multi-edge geometry, positive
- Perfect finishing of cutting edge
- Chip discharge upwards
- Geometry adapted to the processing of composites preventing delamination and drawing of glass and carbon fibers
- Special type of carbide - increased tool life
- Possibility of using variety coatings

APPLICATION:

For cutting and milling in composite materials GFK, CFK, textolite, composite matrix, HPL, honeycomb. Designed for use on CNC machines.

D mm	I mm	L mm	S mm	ARTICLE
3	10	45	3	CPU.03.010.045.03R
3	10	60	6	CPU.03.010.060.06R
4	15	60	4	CPU.04.015.060.04R
4	15	60	6	CPU.04.015.060.06R
5	15	60	5	CPU.05.015.060.05R
6	20	70	6	CPU.06.020.070.06R
8	30	80	8	CPU.08.030.080.08R
10	35	80	10	CPU.10.035.080.10R
12	40	90	12	CPU.12.040.090.12R
16	45	100	16	CPU.16.045.100.16R
20	45	100	20	CPU.20.045.100.20R

D inch	I inch	L inch	S inch	ARTICLE
1/8	1/2	2	1/8	CPU.32.127.508.32R
3/16	3/4	2 1/2	3/16	CPU.48.191.635.48R
1/4	1	3	1/4	CPU.64.254.762.64R
3/8	1 1/4	3 1/2	3/8	CPU.95.318.889.95R
1/2	1 3/8	3 1/2	1/2	CPU.13.349.889.13R



Other dimensions
are available on order



Solid Carbide Roughing Multi-edge Spiral Bits for Composites

İnce Tip Bıçaklara Sahip Kaba Kompozit Frezeleme Takımları
Fresas de desbaste compuesto con cuchillas finas



CNS / CNV / CNR
positive-negative



TECHNICAL DETAILS:

- Spherical multi-edge geometry, positive-negative
- Perfect roughing of cutting edge
- Chip discharge sideways
- 3 versions of the tip:
 - CNS - standard
 - CNR - rosette
 - CNV - drilling
- Geometry adapted to the processing of composites, preventing delamination and pulling out of glass and carbon fibers
- Special type of carbide - increased tool life
- Possibility of using variety coatings

APPLICATION:

For cutting and milling in composite materials GFK, CFK, textolite, composite matrix, HPL. Designed for use on CNC machines.

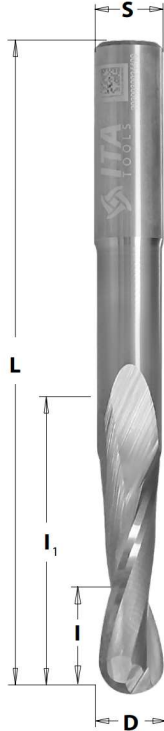


Other dimensions are available on order

D mm	I mm	L mm	S mm	ARTICLE	ARTICLE	ARTICLE
3	10	45	3	CNS.03.010.045.03R	CNR.03.010.045.03R	CNV.03.010.045.03R
3	10	60	6	CNS.03.010.060.06R	CNR.03.010.060.06R	CNV.03.010.060.06R
4	18	60	4	CNS.04.018.060.04R	CNR.04.018.060.04R	CNV.04.018.060.04R
4	22	60	6	CNS.04.022.060.06R	CNR.04.022.060.06R	CNV.04.022.060.06R
5	16	50	5	CNS.05.016.050.05R	CNR.05.016.050.05R	CNV.05.016.050.05R
6	25	70	6	CNS.06.025.070.06R	CNR.06.025.070.06R	CNV.06.025.070.06R
8	30	80	8	CNS.08.030.080.08R	CNR.08.030.080.08R	CNV.08.030.080.08R
10	30	90	10	CNS.10.030.090.10R	CNR.10.030.090.10R	CNV.10.030.090.10R
12	30	90	12	CNS.12.030.090.12R	CNR.12.030.090.12R	CNV.12.030.090.12R
16	45	100	16	CNS.16.045.100.16R	CNR.16.045.100.16R	CNV.16.045.100.16R
20	40	90	20	CNS.20.040.090.20R	CNR.20.040.090.20R	CNV.20.040.090.20R

D inch	I inch	L inch	S inch	ARTICLE	ARTICLE	ARTICLE
1/8	1/2	2	1/8	CNS.32.127.508.32R	CNR.32.127.508.32R	CNV.32.127.508.32R
3/16	3/4	2 1/2	3/16	CNS.48.191.635.48R	CNR.48.191.635.48R	CNV.48.191.635.48R
1/4	1	3	1/4	CNS.64.254.762.64R	CNR.64.254.762.64R	CNV.64.254.762.64R
3/8	1 1/4	3 1/2	3/8	CNS.95.318.889.95R	CNR.95.318.889.95R	CNV.95.318.889.95R
1/2	1 3/8	3 1/2	1/2	CNS.13.349.889.13R	CNR.13.349.889.13R	CNV.13.349.889.13R

199Rm positive



VHM

RH

TECHNICAL DETAILS:

- Spherical cutter with lowering, positive
- Perfect finishing of cutting edge - the polished chip groove
- Chip discharge upward
- Special type of carbide - increased tool life
- Possibility of using variety coatings

APPLICATION:

For cutting and milling in model boards, MDF, aluminum. Designed for use on CNC machines.

D mm	I mm	I ₁ mm	L mm	S mm	ARTICLE
4	10	25	60	6	199.04.010.060.06Rm
6	22	45	80	6	199.06.022.080.06Rm
8	22	65	100	8	199.08.022.100.08Rm
8	22	85	120	8	199.08.022.120.08Rm
10	20	75	110	10	199.10.020.110.10Rm
10	30	100	150	10	199.10.030.150.10Rm
12	30	80	120	12	199.12.030.120.12Rm
12	30	120	160	12	199.12.030.160.12Rm
16	40	100	150	16	199.16.040.150.16Rm
16	40	150	200	16	199.16.040.200.16Rm
20	40	100	150	20	199.20.040.150.20Rm
20	40	150	200	20	199.20.040.200.20Rm
20	40	200	250	20	199.20.040.250.20Rm

D inch	I inch	I ₁ inch	L inch	S inch	ARTICLE
3/16	5/8	1	2 1/2	3/16	199.48.159.635.48Rm
1/4	1	1 3/4	3 1/4	1/4	199.64.254.826.64Rm
3/8	1	2 1/2	4	3/8	199.95.254.102.95Rm
1/2	1 1/4	3 1/4	5	1/2	199.13.318.127.13Rm
5/8	1 3/4	4	6	5/8	199.16.445.152.16Rm
3/4	1 3/4	6	8	3/4	199.19.445.203.19Rm



Other dimensions
are available on order

Solid Carbide Roughing Upcut Spiral Bits Z3 for 3D Models

Kaba İşleme Frezesi Yonde Yukari Kesim Z3 3D modeller için
Brocas de HW integral helicoidales con rompevirutas para modelos 3D

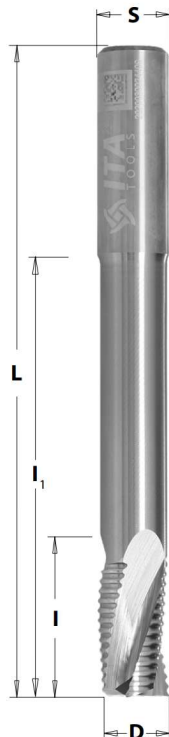


195Rm
positive

VHM

RH

Z3



TECHNICAL DETAILS:

- Three edge blade cutter with lowering, positive
- Perfect roughing of cutting edge - the polished chip groove
- Chip discharge upward
- Special type of carbide - increased tool life
- Possibility of using variety coatings

APPLICATION:

For cutting and milling in model boards, MDF, aluminum. Designed for use on CNC machines.

D mm	I mm	I ₁ mm	L mm	S mm	ARTICLE
16	40	100	150	16	195.16.040.150.16Rm
16	40	150	200	16	195.16.040.200.16Rm
20	40	150	200	20	195.20.040.200.20Rm
20	40	200	250	20	195.20.040.250.20Rm
25	40	200	250	25	195.25.040.250.25Rm

D inch	I inch	I ₁ inch	L inch	S inch	ARTICLE
5/8	1 3/4	4	6	5/8	195.16.445.152.16Rm
3/4	1 3/4	6	8	3/4	195.19.445.203.19Rm



Other dimensions
are available on order

PCD TOOLS

SOLID CARBIDE
SPIRAL BITS

SPIRAL BITS FOR
COMPOSITE CUTTING

SAW BLADES

CNC ROUTER CUTTERS
& CHUCKS

PLATES AND KNIVES

Solid Carbide Finishing Upcut Spiral Bits Z3 with Lowering for 3D Models

Yüzey Frezesi Yukari Kesim Z3 3D modeller için
Brocas de HW integral helicoidales radial para modelos 3D



PCD TOOLS

193Rm
positive

VHM

RH

Z3

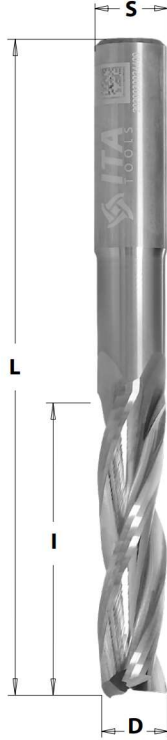
SOLID CARBIDE
SPIRAL BITS

SPIRAL BITS FOR
COMPOSITE CUTTING

SAW BLADES

CNC ROUTER CUTTERS
& CHUKS

PLATES AND KNIVES



TECHNICAL DETAILS:

- Three edge cutter with lowering, positive
- Perfect finishing of cutting edge - the polished chip groove
- Chip discharge upward
- Special type of carbide - increased tool life
- Possibility of using variety coatings

APPLICATION:

For cutting and milling in model boards, MDF, aluminum. Designed for use on CNC machines.

D mm	I mm	I ₁ mm	L mm	S mm	ARTICLE
16	40	100	150	16	193.16.040.150.16Rm
16	40	150	200	16	193.16.040.200.16Ram
20	40	150	200	20	193.20.040.200.20Rm

D inch	I inch	I ₁ inch	L inch	S inch	ARTICLE
5/8	1 3/4	4	6	5/8	193.16.445.152.16Rm
3/4	1 3/4	6	8	3/4	193.19.445.203.19Rm



Other dimensions
are available on order

Solid Carbide Bending Bits for Dibond Alucobond

Yüzez Frezesi Yukari Kesim Alucobond Dibond kıvrımları
Brocas de HW integral helicoidales para Dibond Alucobond



915Ra

VHM

RH



TECHNICAL DETAILS:

- Dibond bend cutter, 3 different types:
V-90°, V-108°, V-135°
- Special type of carbide - increased tool life
- Possibility of using variety coatings

APPLICATION:

For making bends in composite material of the Dibond type.
Designed for use on CNC machines.

D mm	I mm	L mm	S mm	A	ARTICLE
16	15	60	10	90	915.16.015.060.10Ra1
16	15	60	12	90	915.16.015.060.12Ra1
16	15	60	12	108	915.16.015.060.12Ra2
18	15	60	12	135	915.18.015.060.12Ra3

D inch	I inch	L inch	S inch	A	ARTICLE
5/8	9/16	2 1/2	3/8	90	915.16.015.060.10Ra1
5/8	9/16	2 1/2	1/2	90	915.16.015.060.12Ra1
5/8	9/16	2 1/2	1/2	108	915.16.015.060.12Ra2
3/4	9/16	2 1/2	1/2	135	915.18.015.060.12Ra3



Other dimensions
are available on order

Solid Carbide Finishing Straight Spiral Bits Z2 for Foam and Plastics

Yüzezy Frezesi düz Kesim Z2 Köpük Ve Plastik İçin
Brocas de HW integral helicoidales Z2 para material de espuma, Plásticos



PCD TOOLS

SOLID CARBIDE
SPIRAL BITS

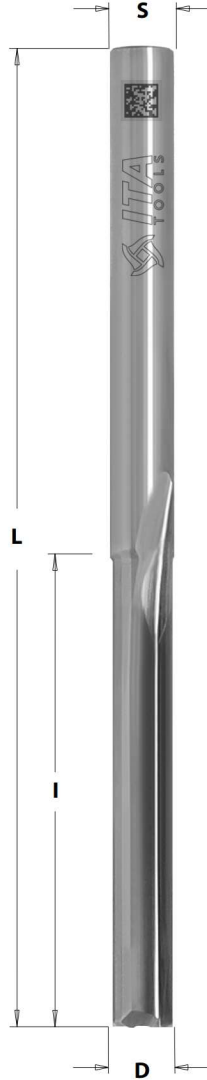
SPIRAL BITS FOR
COMPOSITE CUTTING

SAW BLADES

CNC ROUTER CUTTERS
& CHUKS

PLATES AND KNIVES

912RPI
straight



Other dimensions
are available on order



VHM

RH

Z2

TECHNICAL DETAILS:

- Two edge blade cutter, straight
- Perfect finishing of cutting edge - the polished chip groove
- Chip discharge sideways
- Special type of carbide - increased tool life
- Possibility of using variety coatings

APPLICATION:

For cutting and milling foam, alternatively for plastics processing. Designed for use on CNC machines.

D mm	I mm	L mm	S mm	ARTICLE
3	15	60	3	912.03.015.060.03RPI
4	15	60	4	912.04.015.060.04RPI
4	15	75	4	912.04.015.075.04RPI
5	15	75	5	912.05.015.075.05RPI
6	20	70	6	912.06.020.070.06RPI
6	25	60	6	912.06.025.060.06RPI
6	42	90	6	912.06.042.090.06RPI
8	70	120	8	912.08.070.120.08RPI
12	20	100	12	912.12.020.100.12RPI
12	50	140	12	912.12.050.140.12RPI
16	40	160	16	912.16.040.160.16RPI
20	30	273	20	912.20.030.273.20RPI

D inch	I inch	L inch	S inch	ARTICLE
1/8	3/4	2 1/2	1/8	912.32.191.635.32RPI
3/16	3/4	2 1/2	3/16	912.48.191.635.48RPI
3/16	3/4	3	3/16	912.48.191.762.48RPI
1/4	1	2 3/4	1/4	912.64.254.699.64RPI
1/4	1 3/4	3 1/2	1/4	912.64.445.889.64RPI
3/8	2 3/4	5	3/8	912.95.699.127.95RPI
1/2	1	4	1/2	912.13.254.102.13RPI
1/2	2	5 1/2	1/2	912.13.508.140.13RPI

Solid Carbide Finishing Straight Spiral Bits Z2 for HPL

Yüzey Frezesi düz Kesim Z2 HPL İçin
Brocas de HW integral helicoidales Z2 para HPL



912XRi
straight

VHM

RH

Z2



TECHNICAL DETAILS:

- Two edge blade cutter, straight
- Perfect finishing of cutting edge - the polished chip groove
- Chip discharge sideways
- Special type of carbide - increased tool life
- Possibility of using variety coatings

APPLICATION:

For cutting and milling HPL alternatively for plastics processing. Designed for use on CNC machines.

ADVANTAGES:

High wear resistance during processing in hard materials.
Extended tool life and higher machining quality.

D mm	I mm	L mm	S mm	ARTICLE
6	15	60	6	912.06.015.060.06XRi
8	15	60	8	912.08.015.060.08XRi
10	15	60	10	912.10.015.060.10XRi

D inch	I inch	L inch	S inch	ARTICLE
1/4	3/4	2 1/2	1/4	912.64.191.635.64XRi
3/8	3/4	2 1/2	3/8	912.95.191.635.95XRi



Other dimensions
are available on order



PCD TOOLS

SOLID CARBIDE
SPIRAL BITS

SPIRAL BITS FOR
COMPOSITE CUTTING

SAW BLADES

CNC ROUTER CUTTERS
& CHUCKS

PLATES AND KNIVES

Solid Carbide Chamfering Bits Z2 for Plastics

Yüzev Frezesi Yukari Kesim Z2 Pah Kirma Plastik
Brocas rectas integrales HW para biselado de plástico



PCD TOOLS

SOLID CARBIDE
SPIRAL BITS

SPRAL BITS FOR
COMPOSITE CUTTING

SAW BLADES

CNC ROUTER CUTTERS
& CHUKS

PLATES AND KNIVES

957R



VHM

RH

Z2

TECHNICAL DETAILS:

- Chamfer cutter, 3 different types: V-22,5°, V-30°, V-45°
- Special type of carbide - increased tool life
- Possibility of using variety coatings

APPLICATION:

For chamfering plastics.
Designed for use on CNC machines.

D mm	I mm	L mm	S mm	A	ARTICLE
5,7	10	55	14	22,5	957.14.010.055.14R
4,5	10	70	16	30	957.16.010.070.16R
5	7,5	70	20	45	957.20.007.070.20R



Other dimensions
are available on order