

## **Your Partner in the Composite Industry**Tools and System Solutions

English



TYROLIT GROUP 2

## The Tyrolit Group

Tyrolit is one of the world's leading manufacturers of grinding and dressing tools as well as a system provider for the construction industry.

Since 1919, our innovative tools have made an important contribution to the technological development in many industries. Tyrolit offers tailored grinding solutions for various applications, as well as a comprehensive assortment of standard tools for customers all over the world.

With roots in the heart of the Austrian Alps, Tyrolit combines the strengths of family values with a global vision and over a century of individual corporate and technological experience.



Tyrolit headquarters in Schwaz (Austria)

## **Facts & figures**



**80,000**+ products



**31** production locations



**4,400+** employees worldwide



36 sales locations



**500+** international patents

Sales companies in Argentina, Australia, Austria, Belgium, Brazil, Canada, China, Czech Republic, Denmark, Estonia, Finland, France, Germany, Hungary, India, Indonesia, Italy, Netherlands, Norway, Poland, Portugal, Russia, Spain, South Africa, South Korea, Sweden, Switzerland, Thailand, UAE, UK and the US. Sales partners in 65 other countries.

CONTENTS

## **Contents**

Your Partner in the Composite Industry	4
Industry Overview	Ę
Health, Safety and Quality	6
Surface Finishing	7
Cutting and Grinding	23
Drilling	29
Milling	33

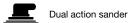
## **Pictograms**

















# Your Partner in the Composite Industry Holistic ways of machining composites with TYROLIT POWER

Light weight, durability and freedom of design are characteristics of materials that usually exclude each other, which is not true for composites. Over all industries the need for new materials with the ability to withstand high pressure while supporting the current trend for light weight design are highly demanded. As a consequence, the need for efficient ways of machining these high-tech materials is becoming more and more evident. Tyrolit now offers its customers the tools to create efficient workflows.

Naturally, innovative materials like glass, carbon and aramid fibres entail new challenges. Due to the complex material composition, conventional tools often lose their sharpness and form quickly, which leads to loss of time and monetary resources. Our TYROLIT POWER range is specifically designed and tested for the use on composite materials. It further offers an unmatchable lifetime and highly efficient machining processes. In addition, we maintain long-standing cooperations with renowned machine manufacturers to deliver our customers replicable performance throughout the product range.

The TYROLIT POWER assortment contains tools to cut, grind, drill, mill and finish surfaces of the most demanding workpieces with handheld machinery, semi-automated robots

and on high-tech CNC machines. Through our decade long expertise in diamond tool manufacturing, we can offer a range of tools to machine composites in the most economic and sustainable manner. Another important factor of our success is the worldwide network of experts helping you with technical issues and process optimization. Moreover, TYROLIT POWER systems generate less dust and create minimal vibrations, considerably improving the health and safety of operators. With Tyrolit you have a partner that is aware of the specialties of various composite materials and offers you the needed technical support to face every industry specific challenge.

#### Your benefits with Tyrolit:

- TYROLIT POWER is designed for the use on composites and tested extensively in our laboratories
- + Customised process design and individual consultation
- Long-standing cooperations with renowned machine manufacturers
- + Improved health and safety for operators through protective measures
- + Product variety to cover every application in the machining of composites
- Worldwide and fast delivery as well as global personal support from experts



INDUSTRY OVERVIEW 5

## **Industry Overview**



#### **WIND**

TYROLIT POWER is used in the wind industry for sanding blades, moulds, and nacelles of wind turbines. Our extensive assortment is well established and used by wind turbine producers all over the globe.



#### **AEROSPACE**

In the aerospace industry, TYROLIT POWER is used for matting surfaces of the fuselage, wings, landing flaps and many other components.



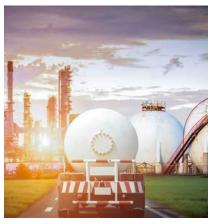
#### **NAUTICAL**

In the nautical industry, TYROLIT POWER is mainly used for matting boat hulls, decks, floors and many other components. Our tools activate the surface to prepare it for further coating or bonding.



#### **TRANSPORTATION**

The TYROLIT POWER assortment is used for machining and sanding parts for automotives and trains in the transportation industry. Especially our high precision burrs and grinding discs are trusted and used by various producers worldwide.



#### **OTHER INDUSTRIES**

TYROLIT POWER is also used in many other industries where difficult surfaces must be activated for further treatment. Examples include oil and pipeline industries, cabins and competitive sports industries.

## Health, Safety and Quality



#### **Ergonomics:**

With traditional dual action sanders, the working posture leads to repetitive strain injuries as users must bend over or even sand while kneeing. In contrast, the TYROLIT POWER surface sander helps you maintain an ergonomically friendly position and therefore is very gentle on the joints of the user, which will result in less fatigue, pain and frustration.



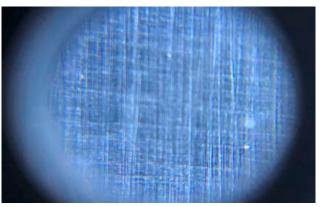
#### **Vibrations:**

Due to the high vibrations caused by conventional machines, long-time users could experience serious health issues such as "Vibration white finger" which is mainly triggered by continuous use of vibrating handheld machinery. Thanks to the innovative design of the TYROLIT POWER surface sander system and the handheld product variation, the occurrence of vibration induced illnesses are lowered significantly, which increases the working comfort extensively.



#### **Dust generation:**

When working with composites, the dust generation is often substantial and can lead to health issues for the operator as well as contaminate the environment. Our TYROLIT POWER tools are designed to minimise this issue through high cutting ability, tool quality and specific safety measures like the new cover for our handheld machinery.



#### **Surface results:**

With traditional dual action sanders, scratches vary and the risk of sanding through the material is ever-present. With our innovative TYROLIT POWER strips, perfectly uniform grinding patterns are created, and scratches are homogenous. The system consequently minimises surface flaws and notably increases process safety.



## **TYROLIT POWER handheld machine**

for sanding hard surfaces

#### + Vibration-free working:

With vibrations reduced to a minimum, TYROLIT POWER eliminates the risk of vibration white finger syndrome.

+ Maximum cost efficiency: Achieve results up to 4-5 times faster and with up to 75% less working effort.



#### Process safety:

Thanks to the diamond coating and the even pressure applied to the surface, a perfectly uniform finish is achieved. With the support from the natural fibre brushes, sand-through is prevented particularly on carbon fibre and in composite edges/corners.

#### **Reduced dust:**

The generation of dust is significantly lowered through high cutting ability, tool quality and specific safety measures like the new cover for our handheld machinery.

TYROLIT POWER offers an innovative solution for sanding hard surfaces. By using our handheld machine instead of conventional sanders, users reduce their costs while increasing the productivity significantly.

Thanks to the improved dust removal and minimal vibrations, the process of sanding is made as health friendly as possible. By shortening the machining time by up to 4-5 times and reducing bottle necks, daily

production is significantly increased. TYROLIT POWER handheld machines are available for wet and dry use.

#### **TYROLIT POWER handheld machine**

for sanding hard surfaces







	Form	Type no.	Dimension	Content	PU	Stock
		34647441	45×100	TPHE Handheld electrical machine Half guard 3D Black core: 34325250 3D Black guard: 34325248 Handle (100mm): 34269603 Suction: 34290535	1	•
		34635957	45×100	TPHP Handheld pneumatical machine Full guard 3D Black core: 34325250 3D Black guard: 34325248 Handle (200mm): 34635957 Suction: 34290535	1	•
		34300791	45×100	TPHP Handheld pneumatical machine Half guard 3D Black core: 34325250 3D Black guard: 34325248 Handle (100mm): 34269603 Suction: 34290535	1	•

## TYROLIT POWER D101 FINISH strips

for fibre glass, carbon fibre, composites and coatings

**PATENTED** 

#### + Perfect surface finish:

Due to the combination of diamond coating and the even pressure applied to the surface through the device, a perfectly uniform finish is achieved.



With vibrations reduced to a minimum, TYROLIT POWER eliminates the risk of vibration white finger syndrome.



#### + Maximum lifetime:

Through the diamond-coated net backing, TYROLIT POWER strips provide an outstanding lifetime.

#### + Process safety:

Through the evenly distributed pressure, sanding through is kept at a minimum and reworking is heavily decreased.

TYROLIT POWER D101 FINISH strips are produced with a diamond coated net backing. The specially developed backing prevents the strips from clogging and increases the lifetime of the tool on hard surfaces substantially. Its stabilization

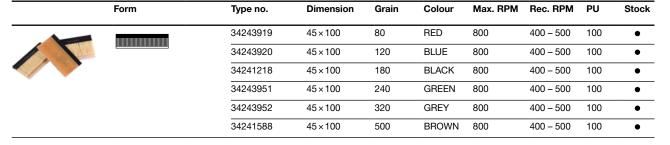
is achieved by natural-fibre brushes keeping static electricity to a minimum, which enables improved dust removal. The diamond coating ensures a maximum lifetime and a uniform finish. TYROLIT POWER D101 FINISH strips are especially

developed for matting or preparing very hard surfaces for further treatment. The strips are applied with low to medium pressure and give a very high surface finish with no noticeable stock removal.

#### **TYROLIT POWER D101 FINISH strips**

for fibre glass, carbon fibre, composites and coatings





	Form	Type no.	Dimension	Grain	Colour	Max. RPM	Rec. RPM	PU	Stock
		34290221	45×200	80	RED	800	400 – 500	100	
		34290222	45×200	120	BLUE	800	400 – 500	100	
		34254310	45×200	180	BLACK	800	400 – 500	100	
		34290223	45×200	240	GREEN	800	400 – 500	100	
		34290224	45×200	320	GREY	800	400 – 500	100	
		34290225	45×200	500	BROWN	800	400 – 500	100	

### TYROLIT POWER machine demonstration set

#### for machining hard surfaces



Designed for distributors, the TYROLIT POWER demonstration set is perfect for carrying around your TYROLIT POWER system. It includes 6 boxes, each filled with 20 strips, to test and demonstrate the optimal

grit size. In addition, the set has space for the handheld machine, which needs to be ordered separately.

Form	Type no.	Dimension	Grain	Max. RPM	Rec. RPM	PU	Stock
<b>6</b>	34311415	45×100	80, 120, 180, 240, 320, 500	800	400 – 500	1	•

## **TYROLIT POWER D101 PLUS strips**

**PATENTED** 

for fibre glass, carbon fibre, composites and coatings

#### + Perfect surface finish:

Due to the combination of diamond coating and the even pressure applied to the surface through the device, a perfectly uniform finish is achieved.



With vibrations reduced to a minimum, TYROLIT POWER eliminates the risk of vibration white finger syndrome.

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#### + Maximum lifetime:

Through the diamond-coated net backing, and an additional cloth support between the brushes and abrasives, TYROLIT POWER strips provide an outstanding lifetime.

#### Process safety:

Through the evenly distributed pressure, sanding through is kept at a minimum and reworking is heavily decreased.

Compared to the D101 FINISH strips, the D101 PLUS version has an additional layer of support cloth to give further stability. TYROLIT POWER strips are made from a diamond coated net backing. The specially developed coating prevents the strips from clogging

and dramatically increases the lifetime on hard surfaces. The backing is stabilised by natural-fibre brushes keeping static electricity to a minimum and therefore enabling better dust removal. Thanks to the diamond coating, maximum lifetime and a uniform finish are guaranteed.

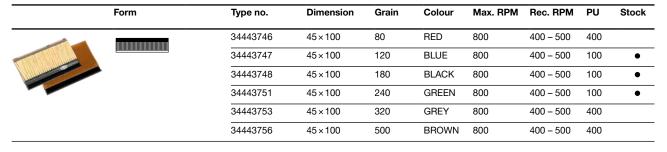
TYROLIT POWER D101 PLUS strips are especially developed for matting or preparing very hard surfaces for further treatment.

The strips are applied with low to medium pressure and give a very high surface finish with no noticeable stock removal.

#### **TYROLIT POWER D101 PLUS strips**

for fibre glass, carbon fibre, composites and coatings





## **TYROLIT POWER D105 REMOVAL strips**

for fibre glass, carbon fibre, composites and coatings

#### + Uniform surface finish:

Due to the combination of electroplated diamonds concentrated at the end of the strip and an evenly applied pressure to the surface a uniform finish is achieved.



#### + Maximum lifetime:

Thanks to the concentration of electroplated diamonds and the stiff support, TYROLIT POWER D105 strips provide fast and aggressive sanding with an outstanding lifetime.

#### + Safer use:

With vibrations reduced to a minimum, TYROLIT POWER eliminates the risk of vibration white finger syndrome.

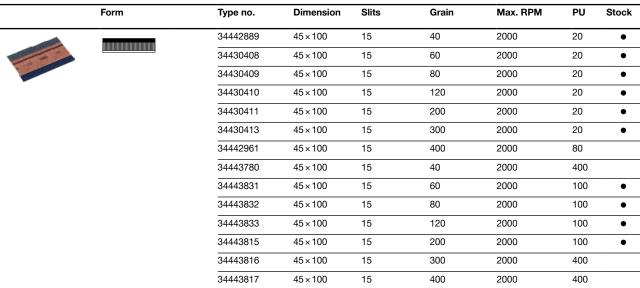
D105 REMOVAL strips are made with electroplated diamonds on a polyure-thane backing. The high concentration of diamonds combined with the positioning on the top of the strip, results in an extremely long lifetime. The stiff

backing is in addition supported by natural-fibre brushes keeping static electricity to a minimum and therefore enabling better dust removal. TYROLIT POWER REMOVAL D105 strips are especially developed for matting very hard surfaces for further treatment. The strips provide for a rougher finish with some stock removal. The REMOVAL D105 strips are available with and without slits for better results on uneven surfaces.

#### TYROLIT POWER D105 REMOVAL strips

for fibre glass, carbon fibre, composites and coatings





PATENT **PENDING** 

#### **TYROLIT POWER LEVELLING strips**

for fibre glass, carbon fibre, gel coat, epoxy resin, coating and composites







TYROLIT POWER LEVELLING strips are made of polyester backing and coated in a layer of high-quality silicon carbide. This makes the strips perfect for applications involving large-scale removal of composites, gel coat, epoxy resin, fillers and other coatings.

Felt is mounted between the polyester backing and silicon carbide layer. This is both shock-absorbing and very resistant to pressure. TYROLIT POWER Levelling strips are available in both 19×100 mm and 19×265 mm measurements, and in grit sizes 36, 40, 60 and 80.

	Form	Type no.	Dimension	Grain	Max. RPM	PU	Stock
_		34549178	19×100	36	2000	15	•
		34549192	19×100	40	2000	15	•
		34549193	19×100	60	2000	15	•
		34549194	19×100	80	2000	15	•
		34573174	19×100	120	2000	15	•

#### **TYROLIT POWER C-P65 Z strips**

for fibre glass, carbon fibre, gel coat, epoxy resin, coating and composites









The C-P65 Z strips are made of silicon carbide on a very stiff polyester backing. Because of the durable support, the strips are perfectly suited for fast and high stock removal applications on any composite surface. The stiff backing is in addition supported by natural-fibre brushes, keeping static electricity to a minimum and therefore enabling better dust removal.

Form	Type no.	Dimension	Grain	Max. RPM	PU	Stock
	34556331	45×100	24	2000	96	•
	34494908	45×100	36	2000	96	•

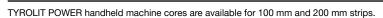
#### **TYROLIT Power accessory**

spiral core









	Form	Type no.	Dimension	Max. RPM	Slots	Comment	Keyways	PU	Stock
	34229443	80×66×100	2000	Spiral	Standard	20	1	•	
		34255902	80×66×200	2000	Spiral	Standard	20	1	•
	mm	34325250	80×66×100	2000	Spiral	3D Light version	20	1	•
	34598709	80×60×100	2000	Straight*	3D Light version	15	1	•	
		34549025	80×60×100	2000	Straight*	3D Light version	16	1	•

<sup>\*</sup> for LEVELLING strips

### **TYROLIT POWER accessory**

guard







The protection guard protects against dust and flying debris.

Type no.	Dimension	Туре	Comment	PU	Stock
34261198	155×120	Plexiglass		1	•
34261199	155×233	Plexiglass		1	•
34325248	155×125	3D Half guard	Light version	1	•

#### **TYROLIT Power accessory** guard light weight and spare parts









Type no.	Dimension	Туре	Comment	PU	Stock	
34631466	246×179×137	3D Full guard	Light version	1	•	
34631831		Side plate	Spare part full gu	ard 1	•	
34631491		Brushes	Spare part full gu	ard 1	•	

#### **TYROLIT Power accessory** handle







The handle improves control for higher comfort and grip during the machining process.

	Type no.	Dimension	Comment	PU	Stock
<u> </u>	34269603	45×100	For 100 mm	1	•
	34269604	45×200	For 200 mm	1	•
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#### **TYROLIT Power accessories** dust extraction hose, screws and rubber ring







For replacing the dust extraction hose, screws for 3D half guard 34325248 and rubber ring for core 34229443.

Type no.	Dimension	Comment	PU	Stock
34290535	32×38×1200	Dust extraction hose	1	•
34290537	80×66	Rubber ring	1	•
34290538	M5×10	Screws	1	•

## **TYROLIT POWER surface sander**

for machining hard surfaces

#### + Safer working:

By using the TYROLIT POWER surface sander instead of conventional dual action sanders the risk of vibration white finger is eliminated.



Due to the combination of diamond coating and the even pressure applied to the surface through the device a perfectly uniform finish is achieved and only little rework has to be done.



High efficiency:

Up to 10 times faster than traditional orbital sanders and reducing manpower by up to 80 %.

+ Ergonomically friendly:

The TYROLIT POWER surface sander eliminates the need to bend over or sand while kneeling down. This makes it the most ergonomically friendly product on the market.

The TYROLIT POWER surface sander is the perfect solution for sanding large areas of hard surfaces. TYROLIT POWER replaces the need to use conventional sanders by dramatically reducing sanding times

of up to a factor of 10. Furthermore, the TYROLIT POWER surface sander was designed to be especially ergonomic to ensure high comfort even after several hours of working.

This means increasing daily production and health of the operator while minimising costs. TYROLIT POWER machines are available for wet and dry use.

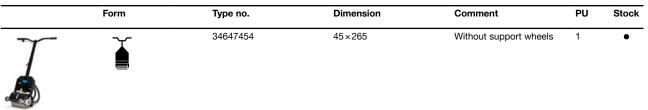
#### **TYROLIT POWER surface sander**

for machining hard surfaces









#### **TYROLIT POWER support wheels\***

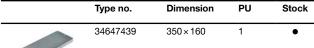
for the surface sander\*\*

	Type no.	PU	Stock
.1	34647455	1	•



The TYROLIT POWER support wheels offer exact guidance of the machine during the sanding process and guarantee vibration-free workflows. Due to the variable height adjustment the calibration of the contact pressure is facilitated depending on the application. The reduction of stress on the strips leads to an increased lifetime of the tools.

for the surface sander\*\*



An additional adjustment of the contact pressure with the TYROLIT POWER weight block (4.3kg) for the surface sander leads to further vibration reduction. In combination with the support wheels, an optimised sanding performance can be reached.

**PATENTED** 

#### TYROLIT POWER D101 FINISH strips

for fibre glass, carbon fibre, composites and coatings







TYROLIT POWER D101 FINISH strips are produced with a diamond coated net backing. The specially developed backing prevents the strips from clogging and increases the lifetime of the tool on hard surfaces substantially. Its stabilization is achieved by natural-fibre brushes keeping static electricity to a minimum, which enables improved dust removal. The diamond coating

ensures a maximum lifetime and a uniform finish. TYROLIT POWER D101 FINISH strips are especially developed for matting or preparing very hard surfaces for further treatment. The strips are applied with low to medium pressure and give a very high surface finish with no noticeable stock removal.

	Form	Type no.	Dimension	Grain	Colour	Max. RPM	Rec. RPM	PU	Stock
		34309671	45×265	80	RED	700	400 – 500	24	•
THE REAL PROPERTY.		34309673	45×265	120	BLUE	700	400 – 500	24	•
		34309674	45×265	180	BLACK	700	400 – 500	24	•
		34309675	45×265	240	GREEN	700	400 – 500	24	•
		34309676	45×265	320	GRAY	700	400 – 500	24	•
		34309677	45×265	500	BROWN	700	400 – 500	24	•

PATENTED

#### TYROLIT POWER D101 PLUS strips

for fibre glass, carbon fibre, composites and coatings

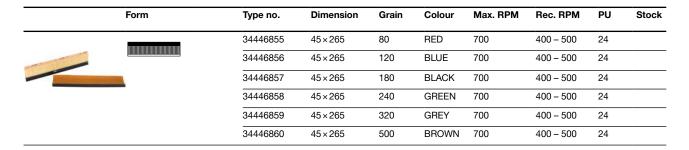






Compared to the D101 FINISH strips, the D101 PLUS version has an additional layer of support cloth to give further stability. TYROLIT POWER strips are made from a diamond coated net backing. The specially developed coating prevents the strips from clogging and dramatically increases the lifetime on hard surfaces. The backing is stabilised by natural-fibre brushes keeping static electricity to a minimum and therefore enabling

better dust removal. Thanks to the diamond coating, maximum lifetime and a uniform finish are guaranteed. TYROLIT POWER D101 PLUS strips are especially developed for matting or preparing very hard surfaces for further treatment. The strips are applied with low to medium pressure and give a very high surface finish with no noticeable stock removal.



**TYROLIT POWER weight block** 

<sup>\*\*</sup> suitable for 34647454

<sup>\*</sup> consists of a set of two wheels

<sup>\*\*</sup> suitable for 34647454

#### **TYROLIT POWER D105 REMOVAL strips**

for fibre glass, carbon fibre, composites and coatings







D105 REMOVAL strips are made with electroplated diamonds on a polyurethane backing. The high concentration of diamonds combined with the positioning on the top of the strip, results in an extremely long lifetime. The stiff backing is in addition supported by natural-fibre brushes keeping static electricity to a minimum and therefore enabling better dust removal.

TYROLIT POWER REMOVAL D105 strips are especially developed for matting very hard surfaces for further treatment. The strips enable a rougher finish with some stock removal. The REMOVAL D105 strips are available with and without slits for better results on uneven surfaces.

Form	Type no.	Dimension	Slits	Grain	Max. RPM	PU	Stock
	34444200	45×265		40	700	24	
 <u></u>	34430414	45×265		60	700	24	
	34430415	45×265		80	700	24	
	34430416	45×265		120	700	24	
	34430417	45×265		200	700	24	
	34430419	45×265		300	700	24	
	34444236	45×265		400	700	24	
	34444239	45×265	15	40	700	24	•
	34444259	45×265	15	60	700	24	
	34444260	45×265	15	80	700	24	
	34444281	45×265	15	120	700	24	•
	34444282	45×265	15	200	700	24	
	34444291	45×265	15	300	700	24	
	34444382	45×265	15	400	700	24	

#### **TYROLIT POWER C-P65 Z strips**

for fibre glass, carbon fibre, composites and coatings







The C-P65 Z strips are made of silicon carbide on a very stiff polyester backing. Because of the durable support, the strips are perfectly suited for fast and high stock removal applications on any composite surface. The stiff backing is in addition supported by natural-fibre brushes,

keeping static electricity to a minimum and therefore enabling better dust removal.

Form	Type no.	Dimension	Grain	Max. RPM	PU	Stock
	34556332	45×265	24	700	24	•
	34487838	45×265	36	700	24	•

PATENT **PENDING** 

#### TYROLIT POWER LEVELLING strips

for fibre glass, carbon fibre, gel coat, epoxy resin, coating and composites







TYROLIT POWER LEVELLING strips are made of polyester backing and coated in a layer of high-quality silicon carbide. This makes the strips perfect for applications involving large-scale removal of composites, gel coat, epoxy resin, fillers and other coatings.

Felt is mounted between the polyester backing and silicon carbide layer. This is both shock-absorbing and very resistant to pressure. TYROLIT POWER Levelling strips are available in both 19×100 mm and  $19\!\times\!265$  mm measurements, and in grit sizes 36, 40, 60 and 80.

	Form	Type no.	Dimension	Grain	Max. RPM	PU	Stock
		34556513	19×265	36	700	24	•
		34556514	19×265	40	700	24	•
3		34556515	19×265	60	700	24	•
		34556516	19×265	80	700	24	•

#### **TYROLIT POWER spare part set**

for the surface sander







The spare part set includes the most important parts for the surface sander to reorder.

	Type no.	Set	Stock
_	34396554	Extraction hoses	•
		Air quick coupling	
3 3		Brushes	
THE THE		Silencer	
		Fittings for silencer	
-		Transport wheel	
-		Bolts for sanding strips	
		Air hose of 1 meter ø10 mm	

#### **TYROLIT POWER D101 FINISH strips**

for glass- and carbon fibre, composites and coatings



TYROLIT POWER D101 FINISH strips are produced with a diamond coated net backing. The specially developed backing prevents the strips from clogging and increases the lifetime of the tool on hard surfaces substantially. Its stabilization is achieved by natural-fibre brushes keeping static electricity to a minimum, which enables improved dust removal.

The diamond coating ensures a maximum lifetime and a uniform finish. TYROLIT POWER D101 FINISH strips are especially developed for matting or preparing very hard surfaces for further treatment. The strips are applied with low to medium pressure and give a very high surface finish with no noticeable stock removal.

	Form		Type no.	Dimension	Grain	Colour	Max. RPM	Rec. RPM	PU	Stock
a O sus o		STRIPS	34300378	45×800	80	RED	250	100 – 180	112	•
TOTAL STATE			34248859	45×800	120	BLUE	250	100 – 180	112	•
			34229418	45×800	180	BLACK	250	100 – 180	112	•
			34297846	45×800	240	GREEN	250	100 – 180	112	
			34297847	45×800	320	GREY	250	100 – 180	112	
			34425616	45×800	500	BROWN	250	100 – 180	112	

#### **TYROLIT POWER D101 PLUS strips**

for glass- and carbon fibre, composites and coatings



Compared to the D101 FINISH strips, the D101 PLUS version has additional layer of support cloth to give further stability. TYROLIT POWER strips are made from a diamond coated net backing. The specially developed coating prevents the strips from clogging and dramatically increases the lifetime on hard surfaces. The backing is stabilised by natural-fibre brushes keeping static electricity to a minimum and therefore enabling better dust removal. Thanks to the diamond coating, maximum lifetime and a uniform

finish are guaranteed. TYROLIT POWER D101 PLUS strips are especially developed for matting or preparing very hard surfaces for further treatment. The strips are applied with low to medium pressure and give a very high surface finish with no noticeable stock removal.

	Form	Type no.	Dimension	Grain	Colour	Max. RPM	Rec. RPM	PU	Stock
	34446891	45×800	80	RED	250	100 – 180	112		
		34446892	45×800	120	BLUE	250	100 – 180	112	
		34446893	45×800	180	BLACK	250	100 – 180	112	
•		34446894	45×800	240	GREEN	250	100 – 180	112	
		34446895	45×800	320	GRAY	250	100 – 180	112	
		34446896	45×800	500	BROWN	250	100 – 180	112	

#### **TYROLIT POWER REMOVAL D105 strips**

for fibre glass, carbon fibre, composites and coatings



D105 REMOVAL strips are made with electroplated diamonds on a polyurethane backing. The high concentration of diamonds combined with the positioning on the top of the strip, results in an extremely long lifetime. The stiff backing is in addition supported by natural-fibre brushes keeping static electricity to a minimum and therefore enabling better dust removal.

TYROLIT POWER REMOVAL D105 strips are especially developed for matting very hard surfaces for further treatment. The strips provide for a rougher finish with some stock removal. The REMOVAL D105 strips are available with and without slits for better results on uneven surfaces.

	Form	Type no.	Dimension	Slits	Grain	Max. RPM	Rec. RPM	PU	Stock
		34505544	45×800	15	40	250	100 – 180	56	
2 0		34431726	45×800	15	60	250	100 – 180	56	•
		34431728	45×800	15	80	250	100 – 180	56	•
		34431730	45×800	15	120	250	100 – 180	56	•
		34431741	45×800	15	200	250	100 – 180	56	•
		34431742	45×800	15	300	250	100 – 180	56	•
		34593227	45×800	15	400	250	100 – 180	56	

#### **TYROLIT Power support brush**

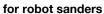
for the surface sander





Type no	o. Dimensi	on Comment	PU	Stock
344793	84 18×800	Support brush	112	•
346370	81 23×800	Support brush	112	•

#### **TYROLIT POWER core and flange**







	Form	Type no.	Dimension	Comment	Keyways	Stock
		34401780	280×238×28	Flanges		•
THIN		34229416	280×266×800	Core	56 keyways	•
		34434596	280×266×800	Flanges and core	56 keyways	•
ARTHUR.		34560441	280×266×800	Flanges and core	42 keyways	•

#### TYROLIT POWER diamond hand pads and velcro discs

for composite materials



The TYROLIT POWER hand pads and velcro discs are ideal for cleaning, deburring, finishing and grinding the surfaces of composite workpieces. The diamond-coated grinding layer enables a very long lifetime of the tools, which significantly increases working comfort for the user. The tools

have been optimised for dry and wet processing and can therefore be used for all applications.

Type no.	Dimension	Bond	Grain	Design	PU	Stock
34629486	55×100	EP	60	D105	5	•
34629487	55×100	EP	120	D105	5	•
34629489	55×100	EP	200	D105	5	•
34629490	55×100	EP	400	D105	5	•
34629491	55×100	EP	800	D105	5	•
34627249	125×22	EP	60	D105	10	•
34627250	125×22	EP	80	D105	10	•
34627331	125×22	EP	120	D105	10	•
34627332	125×22	EP	150	D105	10	•
34627333	125×22	EP	220	D105	10	•
34627334	125×22	EP	400	D105	10	•
34627335	125×22	EP	800	D105	10	•
34627336	125×22	EP	1200	D105	10	•

## Accessories Back up pad





	Type no.	Diameter	Design	Grade	Max. RPM	PU	Stock
O STATE OF THE PARTY OF THE PAR	710007	125	M14	HARD	12 300	5	•
0	709997	125×22	M14	HARD	12 300	5	•

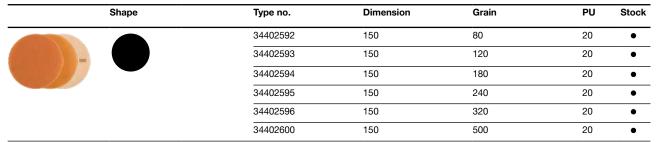
#### **TYROLIT POWER TFC Discs**

for fibre glass, carbon fibre, composites and coatings









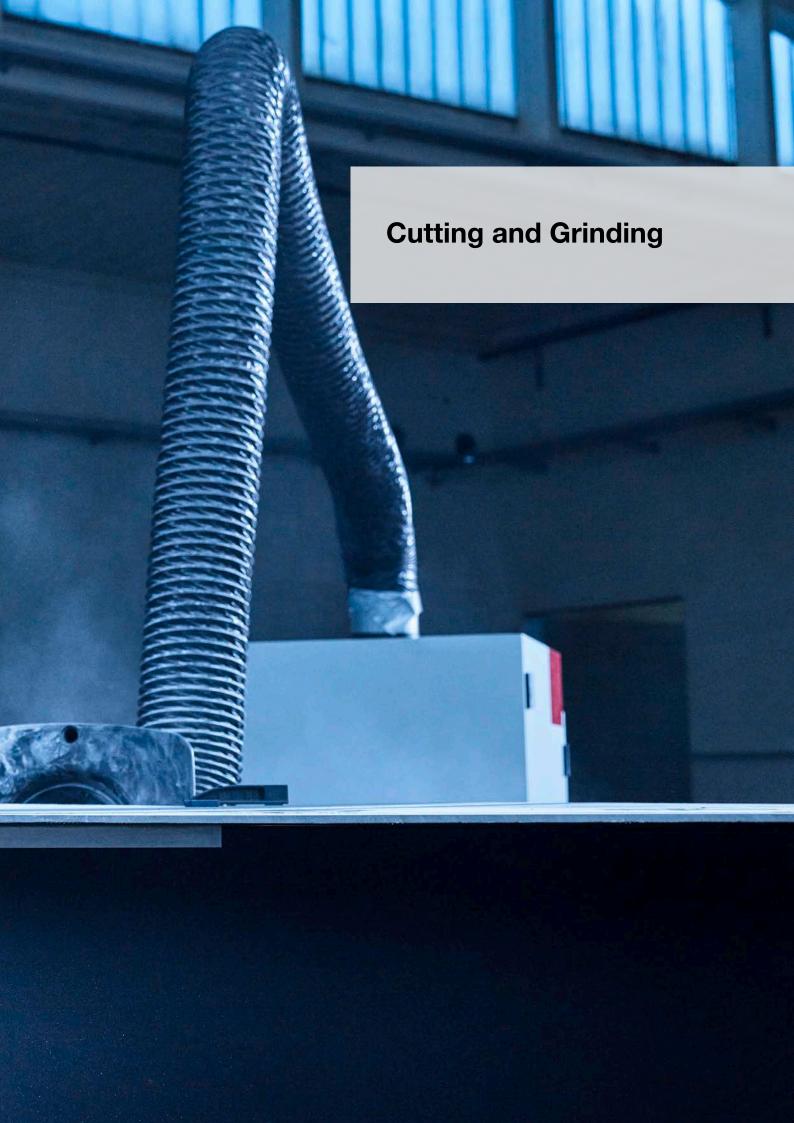
## Accessories Back up pad





Type no.	Diameter	Design	Holes	Grade	Max. RPM		PU	Stock
34177464	150	5/16-M8	21	HARD	10 500	Suitable for discs with 0, 6, 7, 9, 15 holes	1	•
710008	150	5/16-M8	23	HARD	10 500	Suitable for discs with 0, 6, 7, 9, 15 holes	1	•





#### **TYROLIT POWER spindle saws**

#### for composite materials



The TYROLIT POWER spindle saws are ideal for handheld and CNC-guided applications where increased handiness and high quality are equally required. The shank of the grinding tool makes it possible to reach angled places and produce flush cutting edges. Due to the diamond-coated grinding layer, an excellent cutting performance can be achieved in addition to a very long lifetime of the saw. The aggressive grinding performance ensures

that grinding forces and grinding temperatures can be kept low to prevent damage to the workpiece. The grinding tool has been optimised for dry and wet machining and can therefore be used for all applications.

	Type no.	Dimension	Bond	Max. RPM	Rec. RPM	PU	Stock
	34627114	25×2 – 6×40	VB	61.100	61.100	1	•
	34627115	40×2 – 6×40	VB	38.200	38.200	1	•
	34627116	$50 \times 2 - 6 \times 40$	VB	30.600	30.600	1	•
	34627117	65×2 – 6×40	VB	23.500	23.500	1	•
	34627118	75×2 – 6×40	VB	20.400	20.400	1	•



CUTTING AND GRINDING 25

## TYROLIT POWER diamond cutting saws

for composite materials

#### + Excellent cutting performance:

The design of the TYROLIT POWER cutting saws is optimized and tested for the use on composite materials, which leads to an outstanding cutting performance.



The high-grade diamonds and bonds used for our products provide the TYROLIT POWER cutting saws with an exceptional lifetime and performance.

The TYROLIT POWER diamond cutting saws are ideal for handheld and stationary applications where cutting performance and high cutting edge quality are required. The DC CEP electroplated version of the saws enables the most precise cuts, while

for composite materials

the DC CVB vacuum brazed products guarantee even higher cutting performance. Due to the constant diameter, the working comfort is sustainably increased and the tool can be fully utilised. Thanks to the high-quality coating of the product, the grinding

forces and grinding temperatures are kept low to prevent damage to the workpiece. The cutting saw has been optimised for dry and wet machining and can therefore be used for all applications.

#### + Precise cuts:

By using only the best materials and designing sophisticated manufacturing processes, a consistently high quality of the products ensures reliable, precise and clean cuts.

## + High working comfort and economic machining:

One high quality grinding layer is applied on the core material, which prevents the diameter of the cutting saws from changing and constant adjustments of the tool are averted.





Type no.	Dimension	Bond	Max. RPM	Rec. RPM	PU	Stock
34629040	76×2,2×10	EP	20 100	20 100	1	•
34629061	76×2,2×12	EP	20 100	20 100	1	•
34629062	76×2,2×16	EP	20 100	20 100	1	•
34629063	76×2,2×20	EP	20 100	20 100	1	•
34629064	76×2,2×22	EP	20 100	20 100	1	•
34656016	100×2,5×10	EP	15 300	15 300	1	•
34629065	100×2,5×12	EP	15 300	15 300	1	•
34629066	100×2,5×16	EP	15 300	15 300	1	•
34629067	100×2,5×20	EP	15 300	15 300	1	•
34629068	100×2,5×22	EP	15 300	15 300	1	•

CUTTING AND GRINDING 26

#### TYROLIT POWER diamond cutting saws electroplated

for composite materials

	Type no.	Dimension	Bond	Max. RPM	Rec. RPM	PU	Stock
	34629069	115×2,5×22	EP	13 300	13 300	1	•
	34629070	125×2,5×22	EP	12 200	12 200	1	•
	34629071	150×3×22	EP	10 200	10 200	1	•
	34629075	180×3×22	EP	8 500	8 500	1	•
	34629076	230×3×22	EP	6 600	6 600	1	•

#### TYROLIT POWER diamond cutting saws vacuum brazed

for composite materials

	Type no.	Dimension	Bond	Max. RPM	Rec. RPM	PU	Stock
	34628441	76×2,2×10	VB	20 100	20 100	1	•
	34628442	76×2,2×12	VB	20 100	20 100	1	•
	34628443	76×2,2×16	VB	20 100	20 100	1	•
	34628444	76×2,2×20	VB	20 100	20 100	1	•
	34628445	76×2,2×22	VB	20 100	20 100	1	•
	34628446	100×2,7×12	VB	15 300	15 300	1	•
	34628447	100×2,7×16	VB	15 300	15 300	1	•
	34628448	100×2,7×20	VB	15 300	15 300	1	•
	34628449	100×2,7×22	VB	15 300	15 300	1	•
	34628450	115×2,8×22	VB	13 300	13 300	1	•
	34628461	125×2,8×22	VB	12 200	12 200	1	•
	34629080	150×2,8×22	VB	10 200	10 200	1	•
	34629081	180×3,1×22	VB	8 500	8 500	1	•
	34628462	230×3,4×22	VB	6 600	6 600	1	•
	34628463	350×4,1×20	VB	5 500	5 500	1	•
	34628464	350×4,1×25,4	VB	5 500	5 500	1	•

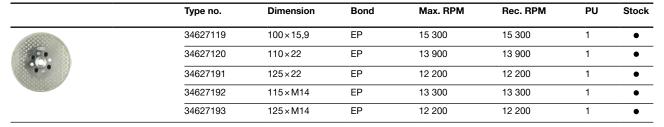
#### **TYROLIT POWER vanity saws**

for composite materials



Increased handiness and results of the highest quality – the TYROLIT POWER vanity saws are the best choice for handheld applications. The radially and axially diamond-set grinding surface enables flush cutting edges, light curved cuts and deburring of the cutting edge. The constant wheel diameter increases the working comfort and the saw can be used entirely.

Thanks to the high-quality coating of the product, extremely precise cuts and clean cutting edges can be guaranteed. The cut-off wheel has been optimised for dry and wet processing and can therefore be used for all applications.



CUTTING AND GRINDING 27

## TYROLIT POWER diamond grinding discs

for composite materials

#### + Long tool lifetime:

The reduced number of wheel changes makes this tool an economical but highly efficient option.



The tool is characterised by its handiness, which increases the comfort of the user significantly.



## + Low grinding forces and thermal development:

Because of its aggressive grinding performance, temperature and grinding forces are kept low which prevents damage to the workpiece.

The TYROLIT POWER diamond grinding discs are ideally suited for hand-guided applications where a high stock removal rate is required. The diamond-coated grinding layer ensures the highest stock removal

rates paired with an excellent lifetime of the grinding tool. A specialty of the product is its aggressive grinding performance, which keeps grinding forces and grinding temperatures low and thus prevents damage to

the workpiece. The grinding tool has been optimised for dry and wet machining and can therefore be used for all applications.

#### **TYROLIT POWER diamond grinding discs**

for composite materials



Type no.	Dimension	Bond	Max. RPM	Rec. RPM	PU	Stock
34636596	115×2×22	VB	13 300	13 300	1	•
34636641	125×2×22	VB	12 200	12 200	1	•





DRILLING 30

#### **TYROLIT POWER core drills**

#### for composite materials



The TYROLIT POWER core drills are ideally suited for hand-guided applications to efficiently drill large holes in composite components. The exceptional diamond grinding layer enables precise and high-quality drilling in the most economical manner. Due to the aggressive grinding layer, the

grinding forces and the grinding temperature can be kept low to prevent thermal damage to the workpiece. The core drills have been optimised for dry and wet machining and can therefore be used for all applications.

	туре
	69769
a TROUT I	34214
	34214
	69768
	34214

Type no	Dimension	Bond	Max. RPM	Rec. RPM	PU	Stock
69769	20×M14	VB	13 300	13 300	1	•
34214903	25×M14	VB	13 300	13 300	1	•
34214904	35×M14	VB	13 300	13 300	1	•
69768	38×M14	VB	13 300	13 300	1	•
34214905	42×M14	VB	13 300	13 300	1	•
69767	52×M14	VB	13 300	13 300	1	•
69766	65×M14	VB	13 300	13 300	1	•
34369204	68×M14	VB	13 300	13 300	1	•



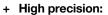
DRILLING 31

## **TYROLIT POWER twist drills**

for composite materials

#### + Extensive lifetime:

The high-grade diamonds and bonds used for our products provide the TYROLIT POWER twist drills with an extensive tool lifetime.



By combining the best quality diamonds with superior bonds, high drilling performances can be achieved with no change throughout the service life of the drills.

The TYROLIT POWER twist drills are ideal for hand-guided applications where precise drilling in composite workpieces must be carried out efficiently. Thanks to

the diamond-coated cutting edge, the lifetime of the twist drill can be significantly increased, and the best drilling performance is achieved. The grinding tool has been optimised for dry and wet machining and can therefore be used for all applications.

#### + Clean drilling edge:

The diamond coated cutting edges of the TYROLIT POWER twist drills keep the quality of the drilling hole constant from the first to the last operation.

#### + High drilling performance:

Production standards of the highest quality allow for twist drills that offer the most precise machining of composite components.

#### **TYROLIT POWER twist drills**

for composite materials



Type no	Dimension	Bond	Max. RPM	Rec. RPM	PU	Stock
34627271	3,00	VB	48 000	48 000	1	•
34627273	6,00	VB	24 000	24 000	1	•
34627275	8,00	VB	18 000	18 000	1	•
34627278	10,00	VB	14 000	14 000	1	•
34627279	12,00	VB	12 000	12 000	1	•

DRILLING 32

#### **TYROLIT POWER carbide drills**

#### for composite materials



The TYROLIT POWER carbide drills are ideal for CNC applications where the use of a high-quality drilling tool is obligatory. With its special shape and tooth design, the tool provides for a very long service life combined with an excellent drilling performance. In addition, the special design

entails much lower machining temperatures on composites and protects the work piece from thermal damage.

	Type no	Cut Ø	LOC	Shk Ø	OAL	Max. RPM	Rec. RPM	Rec. infeed	PU	Stock
_	34635422	4	15,7	4	75	72 000	13 000	0,05 mm/rpm	1	•
	34640479	5	50	6	75	57 000	10 000	0,05 mm/rpm	50	1
	34640480	6	45	6	75	48 000	8 500	0,05 mm/rpm	50	
	34640581	8	45	8	100	36 000	6 400	0,07 mm/rpm	50	
	34640582	10	40	10	72	29 000	5 100	0,10 mm/rpm	50	
	34640583	12	35	12	90	24 000	4 300	0,10 mm/rpm	50	

L.O.C = Length of Cut | O.A.L = Overall length

#### **TYROLIT POWER chamfers**

#### for composite materials



The TYROLIT POWER chamfers are perfectly suited for handheld or CNC-controlled applications in which the edge is to be rounded following drilling or milling. The diamond-coated grinding layer enables best surface results paired with burr-free machining and extensive lifetimes.

The grinding tool has been optimised for dry and wet machining and can therefore be used for all applications.

	Type no	Dimension	Bond	Shaft Ø	Max. RPM	Rec. RPM	PU	Stock
1	34627283	40 mm	VB	10 mm	38 000	22 000	1	•
-	34627285	60 mm	VB	12 mm	25 500	25 500	1	•
	34627284	80 mm	VB	12 mm	19 000	19 000	1	•

#### **TYROLIT POWER counter sinks**

#### for composite materials



The TYROLIT POWER countersinks are ideal for handheld or CNC-controlled applications in which the edge is to be chamfered after drilling. The diamond-coated grinding layer enables excellent surface results in combination with an extensive tool lifetime. The grinding tool has been optimised

for dry and wet machining and can therefore be used for all applications.

Type no	Dimension	Bond	Shaft Ø	Max. RPM	Rec. RPM	PU	Stock
34627280	5,5 mm	VB	3 mm	6 400	6 400	1	•
34627281	11 mm	VB	5 mm	3 500	3 500	1	•
34627282	17 mm	VB	8 mm	2 200	2 200	1	•



MILLING 34

## **TYROLIT POWER carbide burrs**

for composite materials



## **No Endcut**Used for profiling and slotting application



Endmill endcut Used for plunging, slotting and profiling applications where a square corner is required



**Burr endcut**Used for profiling and slotting application



**Drill point endcut**Used for plunging into application prior to starting routing operation

#### + Exceptional cut quality:

By using a tool design specially developed for composite machining, the cut grade and workpiece quality can be increased substantially.

Low grinding forces and thermal development:
 Specifically shaped designs and teeth of the
 TYROLIT POWER carbide burrs result in very low grinding forces and milling temperatures, which increases the overall quality of the machining process.



#### + Possibility of high machining speeds:

The composite specific designs of our TYROLIT POWER tools allow for high machining efficiency and reliable tool quality.

#### + High precision and lifetime:

Through the utilization of high-quality materials in our production processes, Tyrolit is able to offer carbide burrs with tight tolerances and an exceptional service life.

The TYROLIT POWER carbide burrs are ideally suited for CNC-guided applications that require maximum precision in addition to an excellent cutting performance. Thanks to the special tooth form,

composite workpieces can be milled and drilled without burrs. The specially coated version of the carbide burrs offers an even longer service life of the tool and guarantees the highest economic efficiency, especially for challenging applications and series processes. The carbide burrs have been optimised for dry and wet machining and can therefore be used for all applications.

#### TYROLIT POWER carbide burrs CCP (Coated)





	Type no.	Cut Ø	L.O.C	Shk Ø	O.A.L	Endcut	Max. RPM	Rec. RPM	Rec. infeed	PU.	Stock
	34628902	3	12	3	38	No endcut	95 000	48 000	0,005 – 0,0075 mm/rpm	1	•
	34628903	6	19	6	63	No endcut	48 000	24 000	0,005 – 0,0075 mm/rpm	1	•
	34628904	8	25	8	63	No endcut	36 000	17 000	0,005 – 0,0075 mm/rpm	1	•
	34628905	10	25	10	75	No endcut	29 000	14 000	0,005 – 0,0075 mm/rpm	1	•
	34628906	12	25	12	75	No endcut	24 000	12 000	0,005 – 0,0075 mm/rpm	1	•

L.O.C = Length of Cut | O.A.L = Overall length

MILLING 35

#### **TYROLIT POWER carbide burs CCP**

for composite materials



	Type no.	Cut Ø	L.O.C	Shk Ø	O.A.L	Endcut	Max. RPM	Rec. RPM	Rec. infeed	PU.	Stock
	34628907	3	12	3	38	Burr endcut	95 000	48 000	0,005 – 0,0075 mm/rpm	1	•
	34628908	6	19	6	63	Burr endcut	48 000	24 000	0,005 – 0,0075 mm/rpm	1	•
	34628909	8	25	8	63	Burr endcut	36 000	17 000	0,005 – 0,0075 mm/rpm	1	•
	34628910	10	25	10	75	Burr endcut	29 000	14 000	0,005 – 0,0075 mm/rpm	1	•
	34628921	12	25	12	75	Burr endcut	24 000	12 000	0,005 – 0,0075 mm/rpm	1	•
	34628922	3	12	3	38	Endmill endcut	95 000	48 000	0,005 – 0,0075 mm/rpm	1	•
	34628923	6	19	6	63	Endmill endcut	48 000	24 000	0,005 – 0,0075 mm/rpm	1	•
	34628924	8	25	8	63	Endmill endcut	36 000	17 000	0,005 – 0,0075 mm/rpm	1	•
	34628925	10	25	10	75	Endmill endcut	29 000	14 000	0,005 – 0,0075 mm/rpm	1	•
	34628926	12	25	12	75	Endmill endcut	24 000	12 000	0,005 – 0,0075 mm/rpm	1	•
	34628927	3	12	3	38	Drill point endcut	95 000	48 000	0,005 – 0,0075 mm/rpm	1	•
	34628928	6	19	6	63	Drill point endcut	48 000	24 000	0,005 – 0,0075 mm/rpm	1	•
	34628929	8	25	8	63	Drill point endcut	36 000	17 000	0,005 – 0,0075 mm/rpm	1	•
	34628930	10	25	10	75	Drill point endcut	29 000	14 000	0,005 – 0,0075 mm/rpm	1	•
	34628941	12	25	12	75	Drill point endcut	24 000	12 000	0,005 – 0,0075 mm/rpm	1	•

L.O.C = Length of Cut | O.A.L = Overall length

#### **TYROLIT POWER carbide burrs CCB (No Coating)**

for composite materials



	Type no.	Cut Ø	L.O.C	Shk Ø	O.A.L	Endcut	Max. RPM	Rec. RPM	Rec. infeed	PU	Stock
	34623714	3	12	3	38	No endcut	95 000	48 000	0,005 – 0,0075 mm/rpm	1	•
	34628545	6	19	6	63	No endcut	48 000	24 000	0,005 – 0,0075 mm/rpm	1	•
	34628546	8	25	8	63	No endcut	36 000	17 000	0,005 – 0,0075 mm/rpm	1	•
	34628547	10	25	10	75	No endcut	29 000	14 000	0,005 – 0,0075 mm/rpm	1	•
	34628548	12	25	12	75	No endcut	24 000	12 000	0,005 – 0,0075 mm/rpm	1	•
	34623715	3	12	3	38	Burr endcut	95 000	48 000	0,005 – 0,0075 mm/rpm	1	•
	34628549	6	19	6	63	Burr endcut	48 000	24 000	0,005 – 0,0075 mm/rpm	1	•
	34628550	8	25	8	63	Burr endcut	36 000	17 000	0,005 – 0,0075 mm/rpm	1	•
	34628551	10	25	10	75	Burr endcut	29 000	14 000	0,005 – 0,0075 mm/rpm	1	•
	34628552	12	25	12	75	Burr endcut	24 000	12 000	0,005 – 0,0075 mm/rpm	1	•
	34628555	3	12	3	38	Endmill endcut	95 000	48 000	0,005 – 0,0075 mm/rpm	1	•
	34628556	6	19	6	63	Endmill endcut	48 000	24 000	0,005 – 0,0075 mm/rpm	1	•
	34628565	8	25	8	63	Endmill endcut	36 000	17 000	0,005 – 0,0075 mm/rpm	1	•
	34628566	10	25	10	75	Endmill endcut	29 000	14 000	0,005 – 0,0075 mm/rpm	1	•
	34628797	12	25	12	75	Endmill endcut	24 000	12 000	0,005 – 0,0075 mm/rpm	1	•
	34628799	3	12	3	38	Drill point endcut	95 000	48 000	0,005 – 0,0075 mm/rpm	1	•
	34628861	6	19	6	63	Drill point endcut	48 000	24 000	0,005 – 0,0075 mm/rpm	1	•
	34628862	8	25	8	63	Drill point endcut	36 000	17 000	0,005 – 0,0075 mm/rpm	1	•
	34628863	10	25	10	75	Drill point endcut	29 000	14 000	0,005 – 0,0075 mm/rpm	1	•
	34628864	12	25	12	75	Drill point endcut	24 000	12 000	0,005 – 0,0075 mm/rpm	1	•

 $\label{eq:L.O.C} L.O.C = Length \ of \ Cut \ | \ O.A.L = Overall \ length$ 

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