

NORTON

SAINT-GOBAIN

in partnership with



Reshaping
your
world®

ABRASIVE SOLUTIONS

SANDING & FINISHING COMPOSITES



SAINT-GOBAIN

INTRODUCTION

This guide is designed to provide an overview of the products and processes involved in finishing composite materials.

Whether it's production of Patterns and Moulds, or making GRP mouldings, this guide, compiled by our industry experts, offers an insight into what composites are, how they're made, and how to achieve the required finish fast and efficiently, every time during their manufacture.

Norton Abrasives' 'best in class' sanding systems combine with world leading Farécla finishing systems, to offer product recommendations and process guidance, to match application needs to real solutions for all your composite sanding & finishing needs.

Norton & Farécla. A powerful partnership.



CONTENTS

INTRODUCTION

What are composites & how they are made? ..04
3 Parts to composite manufacture.....05

Types of Gelcoat.....06
Tips & Tricks for the finished piece.....07

TOOLING FINISHING

Pattern Making08

Tool Finishing.....09

COMPONENT FINISHING

Polyester Gelcoat.....12
Vinyl Ester Gelcoat.....14
Epoxy Gelcoat.....15

Painted Surfaces.....16
Hologram Removal.....18
Trimming & Edge Finishing.....19

COMPOSITE REPAIR

Composite Repair20

Taper / Scarf & Step Sanding21

MACHINES & ABRASIVE PRODUCTS

Machines for use on composites22
Random orbital sander & Farécla polisher23
Farécla Polishing Solutions.....24

Sanding Discs, Specialties & Rolls25
Flap wheels & sanding belts.....34
Cutting products35

COMPOSITE MATERIALS

WHAT IS A COMPOSITE MATERIAL?

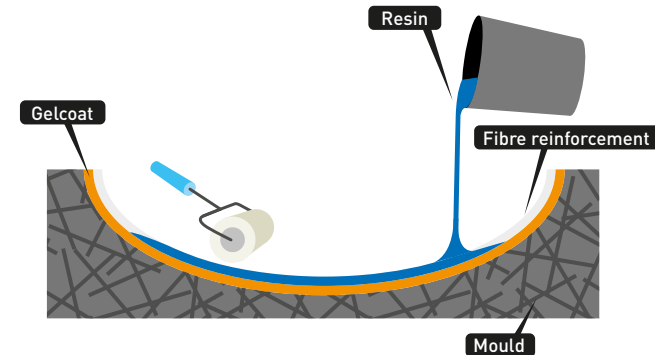
Composite material is made up of two or more different types of material that combine to provide greater advantages than they do alone.

HOW ARE COMPOSITES MADE?

Composite parts are usually made using a mould. The gelcoat is applied to an already prepared mould surface and then backed with layers of reinforcement (usually glass fibre matting) and additional resin. When the part is removed from the mould, the gelcoat surface forms the exterior surface of the part. The gelcoat is also pre-coloured; for instance, a red boat is usually red because the fabricator used red gelcoat. There are three main types of composite moulding processes (known as 'laying'). These are: hand lamination, vacuum infusion and pre-preg.

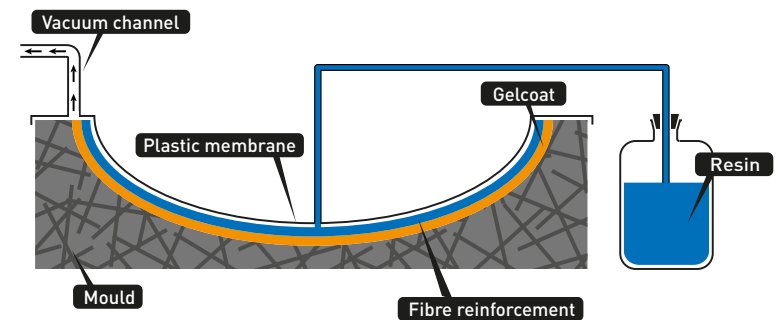
HAND LAMINATION

Hand lamination is the most straightforward composite moulding process from which a wide range of part sizes can be created. The tooling is low cost and the processing is simple.



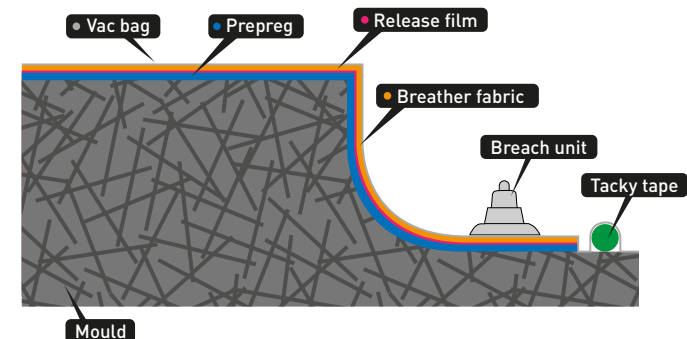
VACUUM INFUSION

Vacuum infusion is suitable for moulding very large structures and produces parts with uniform strength, whilst remaining lightweight.



PREPREG

Prepreg is a ready-made material where the fibre reinforcement has been impregnated with a thermoset matrix at manufacture.



3 PARTS TO COMPOSITE MANUFACTURE



THE PATTERN

Also known as the 'plug' or the 'master'

A well manufactured, high quality Pattern is essential to making quality moulds. An accurate Pattern with a high quality finish will save hours of rework further in the process. Some Patterns are milled from foam by CNC milling machines, others can be hand made from many different materials.

Pattern making is creating a version of the finished product in order to manufacture tooling a mould.

The Pattern needs to be cut, shaped, sanded and finished using a variety of abrasive products.



THE TOOL

Also known as the 'mould'

All glass fibre products have to be produced in a tool. Tools can be made from a variety of materials including hardboard, timber, aluminium, or a combination of these.

They are good enough for 'one off' or bespoke work; but when a production run of the same component is required, the mould is usually made of glass fibre with a hard gelcoat itself.

Once the tool has been removed from the pattern, it must be sanded & polished to a high gloss finish before applying release agent or wax.



THE FINISHED PIECE

Also known as the 'component'

Once the component has been formed and cured it can be released from the mould tool.

All gelcoats must be sanded and polished to ensure they're smooth and finished to the required standard.

The level of sanding & polishing depends on the method of laying used, gelcoat type, and the requirement of the component. Prepreg generally requires less work, whereas hand laying will require more steps.

Harder gelcoats such as epoxy will require further processing steps. Some components also require a higher quality finish and therefore need more finishing steps.

**The better the pattern,
the better the tool**

**The better the tool,
the better the component**

**The better the pattern and tool, the less
work required to finish the component.**

TYPES OF GELCOAT

Gelcoat is used to provide a durable and high quality finish on the visible surface of composite components. This is usually coloured to improve aesthetic appearance.

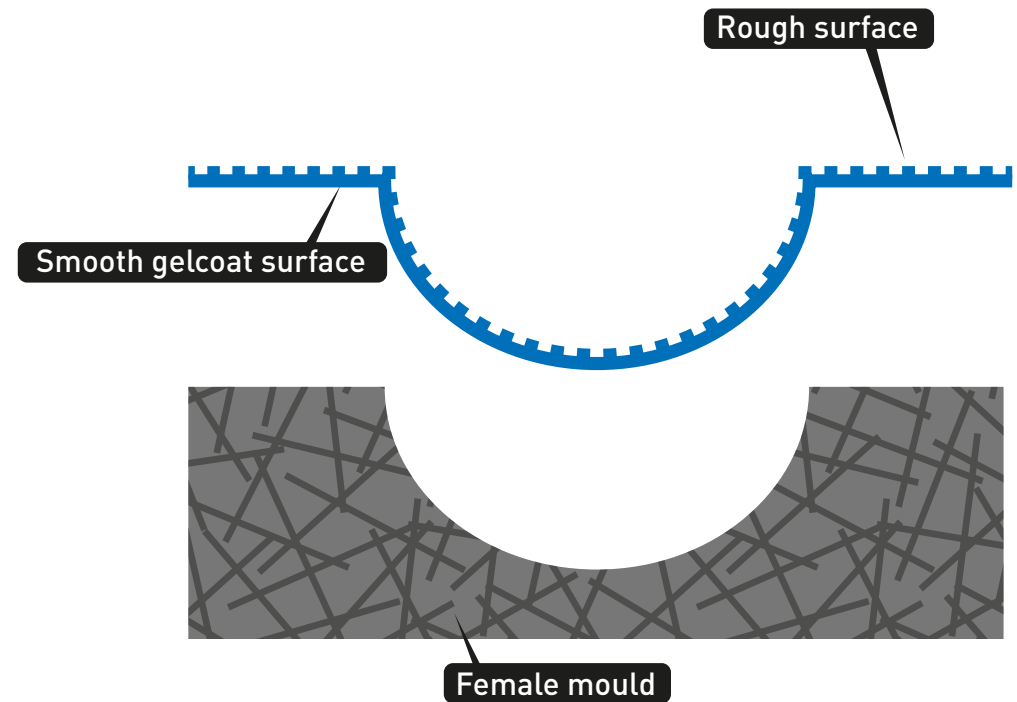
Gelcoats are durable and designed to be naturally UV resistant, and properly cured parts can be submerged in water.

THERE ARE 3 MAIN MATERIALS OF WHICH GELCOAT IS MADE AND EACH HAVE DIFFERENT PROPERTIES AS SHOWN IN THE DIAGRAM OPPOSITE.

POLYESTER: general purpose and a widely used resin, easy to work with and low cost

VINYL ESTER: similar to polyester, it's tough and resistant to corrosion and high temperatures.

EPOXY: greater part strength & stability. More suited for use with carbon fibre & Kevlar. Epoxy is the most expensive resin.



TIPS & TRICKS FOR THE FINISHED PIECE

SANDING

Always start the sander up while it's on the work piece.

10 second rule. Sand for a maximum of 10 seconds between cleaning the disc with a cloth to avoid creating pigtails.

Use the Norton Defect Guide Coat for highlighting pigtails in the gelcoat.



Use dust extraction where possible for your own safety and to avoid clogging the sanding discs prematurely.

For best performance always match the hole pattern of the disc to that of the backup pad.

Choose the right tool orbit - Select a 5mm oscillation for aggression, 2.5mm for finer finishing.

COARSER ACTION

5mm oscillation
High RPM
Harder pad

SANDING

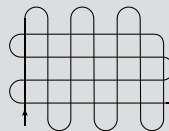
FINISHING

2.5mm oscillation
Low RPM
Softer pad

Use a high RPM for faster stock removal and coarser finish.
Use a lower RPM for finer finishing.

When selecting the back up pad, use a harder pad for coarse grits, softer pad for fine grits or film.

Following a sanding path is recommended for homogeneous results, see the example in the diagram opposite.



FINISHING

Spur the pad periodically with a spurring brush. Do this with old pads to remove old, dry compound and with new pads to remove excess lint (before adding compound).



Never mix compounds on pads. Store pads in a dust free place.

Always apply the polish to the work-piece and start the machine on a slow setting (speed 1-2) in order to spread the compound around.

Increase speed (2-4) and work the polishing head side to side, consuming the polish in the pad.

Polish in manageable areas and work small, don't overextend, work in approx. 1m² boxes.

Use the weight of the machine to polish the surface instead of pushing it across. This will help reduce heating up the surface.

Before finishing, reduce the machine RPM to help clean the part & remove any holograms or process marks. If sanding marks remain, apply more compound and repeat the polishing process.

Always clean down between steps with a microfibre cloth.

Rub some compound into a new wool pad to condition before first use

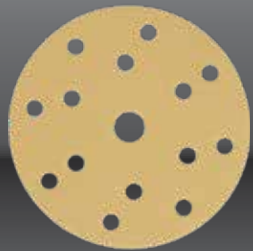
MAKING THE PATTERN (MASTER)

SMOOTHING & FINISHING PROCESS

Once the pattern is built, it needs to be smoothed and finished.

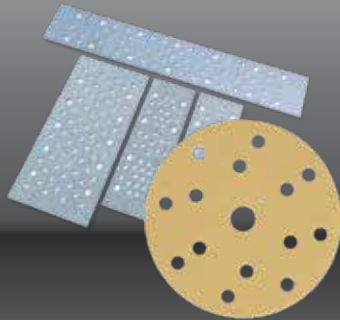
01

REMOVING EXCESS
MATERIAL



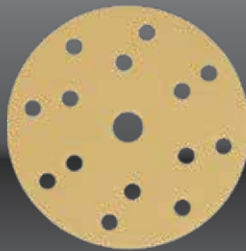
02

SANDING
FILLER



03

SANDING
PRIMER



OPTIONAL STEP

04

POLISHING PRIMER
OPTIONAL FOR HARD SURFACES



05

POLISHING
PRIMER



06

POLISHING
PRIMER



NORTON
A293

P80 / P120 for heavy
removal & 180 / P240
for light removal

Back-up pad: hard

Machine speed: high

Orbit: 5mm

Apply filler

NORTON
A293
OR

A975 PRO PLUS

For larger areas

P80 > P120 > P240
progressively to get
a smooth finish

Back-up pad: medium

Apply primer

NORTON
A293

P120 > P180 > P240 >
P320 > P400 > P500 >
P600 > P800

Use progressively and
stop when desired
finished is achieved

Back-up pad: medium

For sprayed primer,
start with P180

FARÉCLA
PROFILE EXTRA
COARSE CUT

Use with single/double
sided twisted Wool
Compounding Pad

Machine speed:
low-medium

Pressure: low

FARÉCLA
PROFILE SELECT

Use with single/double
sided twisted Wool
Compounding Pad

Machine speed:
medium-high

Pressure: low

FARÉCLA
PROFILE FINISH

Use with
Lambswool Pad

Machine speed:
low-medium

Pressure: low

TOOL FINISHING - TOOLING GELCOAT

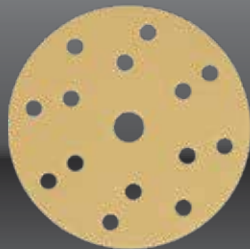
To ensure a perfect finish, the surface must be sanded and polished. The finish of the tool is critical to ensure the part is produced to the highest quality.

FINISHING POLYESTER

A general purpose and a widely used resin, polyester is easy to work with and low cost.

01

SANDING



NORTON
A293

P400

It is possible to jump to the P600 step, but for the best results start from P400

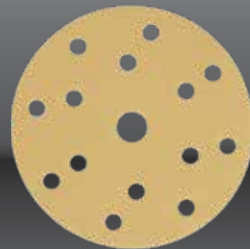
Back-up pad: medium

Machine speed: high

Orbit: 2.5mm

02

SANDING



NORTON
A293

P600

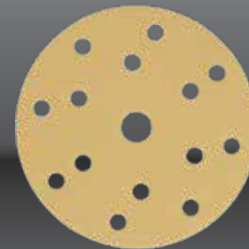
It is possible to skip the P600 step, but it should be included for best results

Back-up pad: medium

Machine speed: medium

03

SANDING



NORTON
A293

P800

Final surface blending before polishing

Back-up pad: medium

Machine speed: medium

04

POLISHING



FARÉCLA
PROFILE SELECT

Use with single/double sided twisted Wool Compounding Pad

Machine speed:
medium-fast

Pressure: low

05

POLISHING



FARÉCLA
PROFILE FINISH

Use with
Lambswool Pad

Machine speed:
low-medium

Pressure: low

TIP

The better the tool finish, the better the part finish

TOOL FINISHING - TOOLING GELCOAT

FINISHING VINYL ESTER

Vinyl Ester is similar to polyester but is tougher and more resistant to corrosion and high temperatures. It is possible to sand with Standard Aluminium Oxide abrasives however it would be beneficial to consider using an abrasive made from ceramic grain, like Norton Pro Plus for faster more efficient sanding. Vinyl Ester can be sanded using the following process:

01

SANDING

02

SANDING

03

SANDING

04

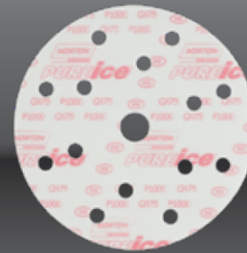
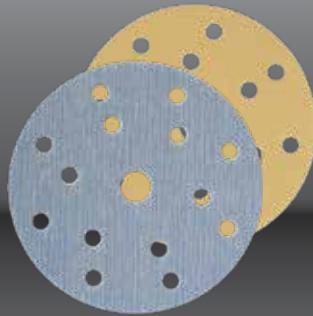
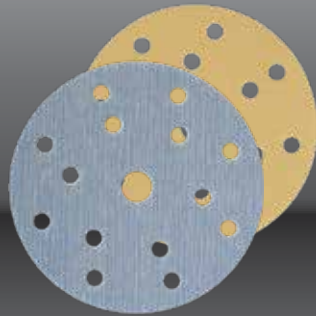
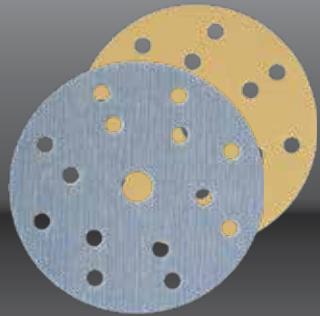
BLENDING

05

POLISHING

06

POLISHING
OPTIONAL FOR THE
ULTIMATE FINISH



NORTON A293
OR
A975 PRO PLUS
—
P400

Back-up pad: medium
Machine speed: high
Orbit: 2.5mm

NORTON A293
OR
A975 PRO PLUS
—
P600

Back-up pad: medium
Machine speed: medium

NORTON A293
OR
A975 PRO PLUS
—
P800

Back-up pad: medium
Machine speed: medium

NORTON PURE ICE
Q175
—
P1000

Fine grade film discs give
a perfect finish

Back-up pad: soft
(an interface pad can be used)

Machine speed: low

FARÉCLA
PROFILE SELECT
—

Use with single/double
sided twisted Wool
Compounding Pad

Machine speed: fast

Pressure: low

FARÉCLA
PROFILE FINISH
—

For the ultimate finish
use with Lambswool Pad
or Black Finishing Foam

Machine speed:
medium-fast

Pressure: low

TOOL FINISHING - TOOLING GELCOAT

FINISHING EPOXY

Epoxy gives greater part strength & stability and is suited for use with carbon fibre and Kevlar. Epoxy is the most expensive but most durable resin and is therefore the most difficult to sand. An abrasive made from ceramic grain, like Norton Pro Plus, will work faster and for longer than an aluminium oxide equivalent.

01

SANDING

02

SANDING

03

SANDING

04

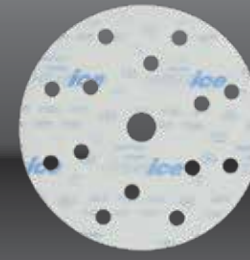
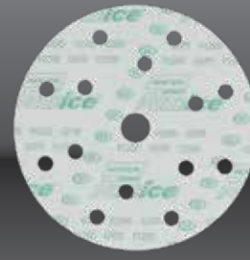
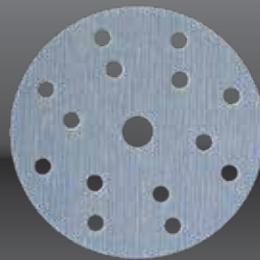
BLENDING

05

BLENDING

06

POLISHING



PRO PLUS
A975

P400

Back-up pad: medium

Machine speed: high

Orbit: 2.5mm

PRO PLUS
A975

P600

Back-up pad: medium

Machine speed: medium

PRO PLUS
A975

P800

Back-up pad: medium

Machine speed: medium

NORTON PURE ICE
Q175

P1200

Fine grade film discs
give a perfect finish

Back-up pad: soft
(an interface pad can be used)

Machine speed: low

NORTON PURE ICE
Q175

P1500

Fine grade film discs
give a perfect finish

Back-up pad: soft
(an interface pad can be used)

Machine speed: low

FARÉCLA PROFILE
ADVANCED PLUS

Use with Single/ Double
sided twisted Wool
Compounding Pad

Machine speed:
medium-fast

Pressure: low

TIP: Optional additional finishing step 7, for the ultimate finish, use Farécla Profile Finish with the Lambswool Pad or black Finishing Foam at low to medium speed and with low pressure.

COMPONENT FINISHING

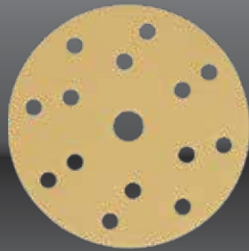
POLYESTER GELCOAT

ACHIEVING A 'FUNCTIONAL' FINISH QUICKLY

If a high gloss finish is not needed (which can be the case for some manufacturers), a good finish can quickly be achieved on the gelcoat using the following process:

01

SANDING



**NORTON
A293**

P400

Back-up pad: medium

Machine speed: high

Orbit: 2.5mm

02

POLISHING



**FARÉCLA PROFILE
EXTRA CUT COARSE**

Use with single/double sided twisted
Wool Compounding Pad.

Scratches from P400 will be removed
but heavier process lines will remain

Machine speed: low to medium

Pressure: low

03

POLISHING



**FARÉCLA PROFILE
ADVANCED**

Removes process marks

This is a 2 in 1 compound to both cut
and polish out. Use with the single sided
Lambswool Pad

Machine speed: maximum

Pressure: low

COMPONENT FINISHING

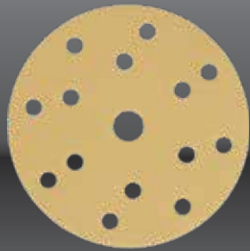
POLYESTER GELCOAT

ACHIEVING A 'STANDARD' FINISH

A standard finish is more commonly required, it's quick to obtain and gives great repeatable results. The sanding step is crucial here.

01

SANDING



**NORTON
A293**

—
P400

Back-up pad: medium

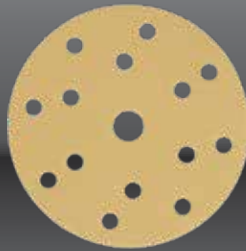
Machine speed: high

Orbit: 5mm

Additional step for dark colours:
use P600 before step 2

02

SANDING



**NORTON
A293**

—
P800

Sand out the surface scratches

Back-up pad: medium

Machine speed: medium

03

POLISHING



**FARÉCLA
PROFILE SELECT**

Use with the single/double sided
twisted Wool Compounding Pad.

Machine speed: medium-fast

Pressure: low

04

POLISHING



**FARÉCLA
PROFILE FINISH**

For an even better finish, use with
the single sided Lambswool Pad
and carry out two passes.

Machine speed: low

Pressure: low

COMPONENT FINISHING

VINYL ESTER RESIN GELCOAT

ACHIEVING A HIGH QUALITY FINISH

Vinyl Ester gelcoat is used on premium products, therefore the standard of finish is important. As this material is tougher there are two options for sanding; option one aluminium oxide abrasive and option two, a ceramic abrasive disc. Ceramic abrasive is high performance and achieves results faster.

01

SANDING

02

SANDING

03

BLENDING

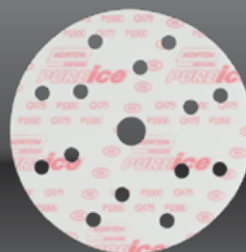
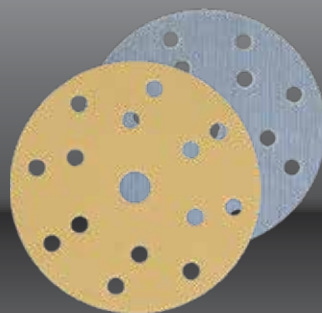
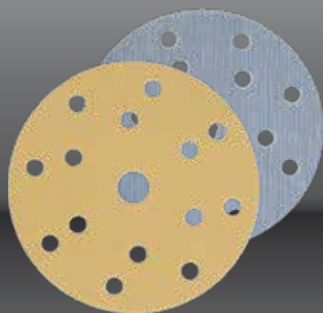
04

POLISHING

05

POLISHING

OPTIONAL FOR
DARK COLOURS



OPTION 1

NORTON A293 P400

OPTION 2

A975 PRO PLUS P400

Back-up pad: medium

Machine speed: high

Orbit: 2.5mm

OPTION 1

NORTON A293 P800

OPTION 2

A975 PRO PLUS P800

Back-up pad: medium

Machine speed: high

Orbit: 2.5mm

**NORTON PURE ICE
Q175**

P1000

Back-up pad: soft
(an interface pad can be used)

Machine speed: low

**FARÉCLA
PROFILE SELECT**

Use with the single sided twisted
Wool Compounding Pad

Go over the surface until the
compound is gone. If pigtails
remain, complete one more pass.

Speed: low speed with high
speed finish to enhance gloss

Pressure: weight of machine

**FARÉCLA
PROFILE FINISH**

Optional step for dark colours

Finish with Farécla Profile
Finish using the black foam

Machine speed: medium

Pressure: low

TIP: Optional: depending on the hardness or age of the
gelcoat, you may need to follow P400 with P600

COMPONENT FINISHING

EPOXY RESIN GELCOAT

ACHIEVING A HIGH QUALITY FINISH

Epoxy resin gelcoat is used mostly on premium products made from carbon fibre. As this is a harder material, there are two options for sanding; option one aluminium oxide abrasive and option two, a ceramic abrasive disc. Ceramic abrasive is high performance and achieves results faster.

01

SANDING

02

SANDING

03

SANDING

04

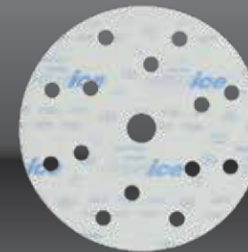
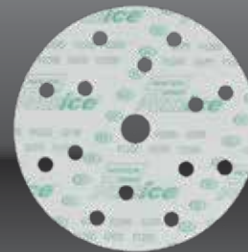
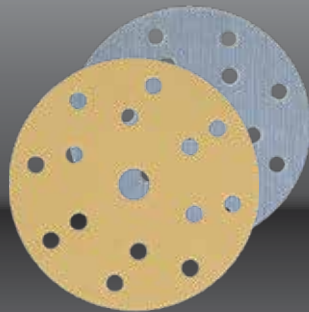
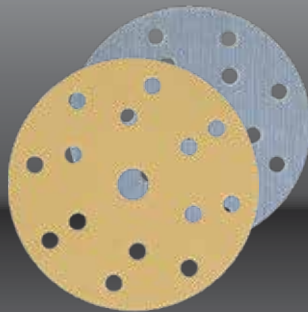
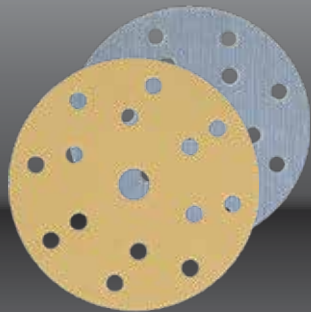
BLENDING

05

BLENDING

06

POLISHING



OPTION 1

NORTON A293

P400

OPTION 2

A975 PRO PLUS

P400

Back-up pad: medium

Machine speed: high

Orbit: 2.5mm

OPTION 1

NORTON A293

P600

OPTION 2

A975 PRO PLUS

P600

Back-up pad: medium

Machine speed: medium

Orbit: 2.5mm

OPTION 1

NORTON A293

P800

OPTION 2

A975 PRO PLUS

P800

Back-up pad: medium

Machine speed: medium

Orbit: 2.5mm

NORTON PURE ICE
Q175

P1200

Back-up pad: soft
(an interface pad can be used)

Machine speed: low

Orbit: 2.5mm

NORTON PURE ICE
Q175

P1500

Back-up pad: soft
(an interface pad can be used)

Machine speed: low

Orbit: 2.5mm

FARÉCLA PROFILE
ADVANCED PLUS

Use with single/double
sided twisted Wool
Compounding Pad

Machine speed:
medium-fast

Pressure: low

TIP: Optional last step for ultimate finish use Farécla Profile Finish with Lambswool Pad or black Finishing Foam with low to medium speed & low pressure.

COMPONENT FINISHING

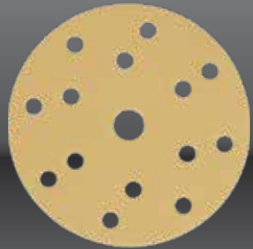
PAINTED SURFACES

It's common for some composite surfaces to be painted for UV protection and cosmetic reasons.

To prepare & finish painted surfaces, the following steps are recommended.

01

SANDING



**NORTON
A293**

P240 - 320

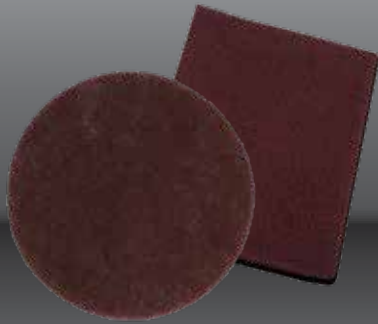
If the surface is even and blemish free, start with P320, but if the surface has many imperfections, select P240 as first step

Back-up pad: medium

Machine speed: medium

02

SANDING



BEARTEX DISC

MAROON

Very fine disc to blend

Back-up pad: medium

Machine speed: low

BEARTEX HAND PAD

MAROON

For more control on edges

03

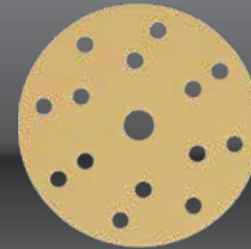
PAINTING



**PAINT WITH
PRIMER**

04

SANDING



**NORTON
A293**

P500

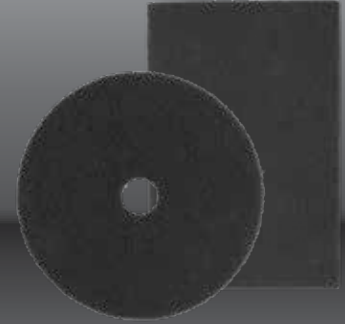
To sand primer

Back-up pad: medium

Machine speed: medium

05

SANDING



BEARTEX DISC

GREY

Ultra fine disc to blend

Back-up pad: medium

Machine speed: low

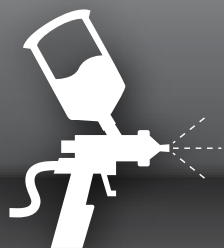
BEARTEX HAND PAD

GREY

For more control on edges

06

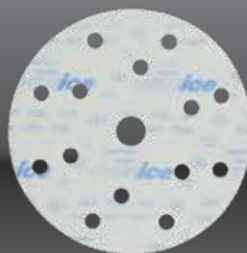
PAINTING



APPLY BASECOAT
IN THE REQUIRED
COLOUR & LACQUER

07

BLENDING



NORTON PURE ICE
Q175

P1500

Fine grade film discs give a
perfect finish.

Back-up pad: soft

Machine speed: slow

08

POLISHING



FARÉCLA PROFILE
ADVANCED PLUS

Use 150mm
white High Cut Foam

Machine speed: medium

Pressure: light

09

POLISHING



FARÉCLA
PROFILE FINISH

Use with 150mm
black Foam Pad

Machine speed: medium

Pressure: light

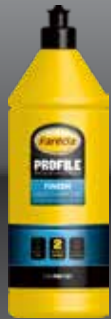
COMPONENT FINISHING

PROCESS MARK & HOLOGRAM REMOVAL

Holograms can often occur when polishing gelcoat. They can be caused by the wrong choice of polishing pad or using the pad at too high an RPM. They can be removed easily as follows:

01

POLISHING



FARÉCLA PROFILE FINISH

Apply a small amount of Farécla Profile Finish directly to the surface / to the pad

02

POLISHING



LAMBSWOOL PAD

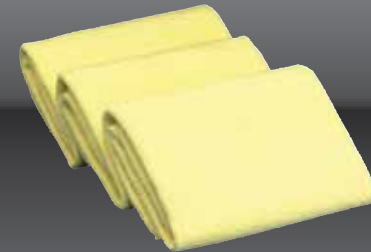
Using the weight of the tool, move the polisher quickly over the affected area

Machine speed:
low - medium
(1100-1800 RPM)

Pressure:
Machine weight only

03

WIPING



FARÉCLA YELLOW CLOTH

Wipe the surface with a clean microfiber cloth.

The surface should be clean and bright.

COMPONENT FINISHING

TRIMMING & EDGE FINISHING

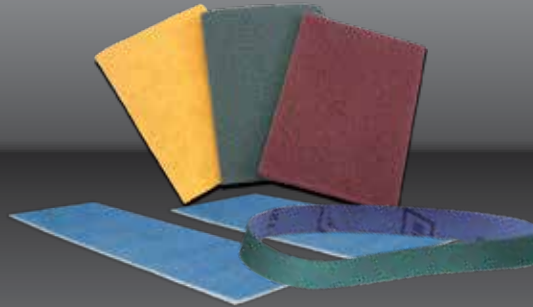
There are many ways to trim and finish the edges of a composite panel or component and Norton offers different abrasive products for this, including:

CUTTING



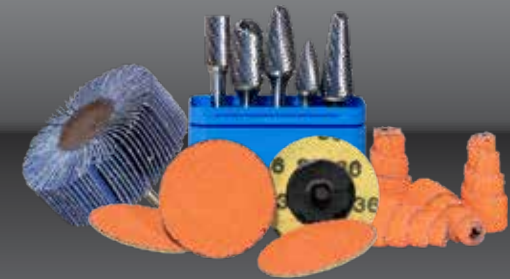
CUTTING DISCS
—
DIAMOND BLADES
—
JIGSAW BLADES

SMOOTHING SHARP EDGES



NORTON MESHPOWER SHEETS
—
FILE BELTS
—
BEARTEX HAND PADS

EDGE DRESSING



COATED ABRASIVE
SPEEDLOK™ DISCS
—
SPIRABANDS &
CARTRIDGE ROLLS
—
FLAP WHEELS
—
TUNGSTEN CARBIDE BURRS

All ideal for using in small,
hard to reach areas.

COMPOSITE REPAIR

Surface damage such as cracks, pinholes, delamination and general wear and tear is inevitable on composite material. It's recommended to repair small damages and imperfections before they worsen.

Gelcoat can be repaired by sanding back the surface until the defect is removed, and spraying or rolling new gelcoat over the entire feathered area. The excess material can then be removed and blended in with the existing surface.

01

SANDING



**NORTON
A293**

—
P400

Remove the defect
and surrounding
old gelcoat

Back-up pad: medium

02

REPAIR

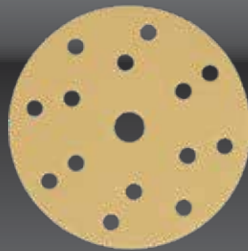


**REPAIR
GELCOAT**

—
Repair surface with
new gelcoat & leave
to harden

03

SANDING



**NORTON
A293**

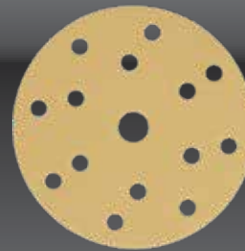
—
P400

Use to remove excess
new gelcoat

Back-up pad: medium

04

SANDING



**NORTON
A293**

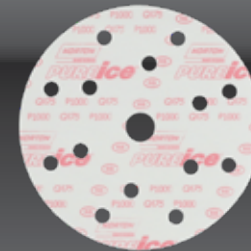
—
P600

Use to remove excess
new gelcoat

Back-up pad: medium

05

BLENDING



**NORTON PURE ICE
Q175**

—
P800

followed by P1000

Fine grade film discs give
a perfect finish

Back-up pad: soft
(an interface pad can be used)

Machine speed: low

06

POLISHING



**FARÉCLA PROFILE
ADVANCED PLUS**

—
Use with a
Lambswool Pad

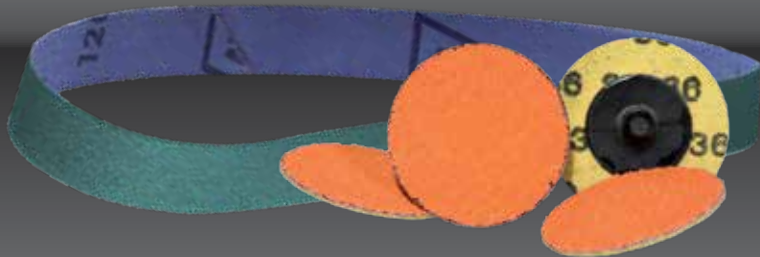
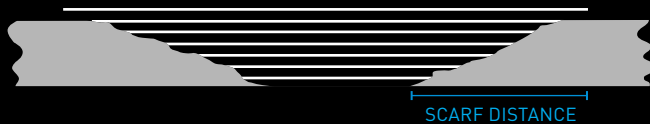
Machine speed:
1800 RPM

Pressure: light

COMPOSITE REPAIR

TAPER OR SCARF REPAIRS

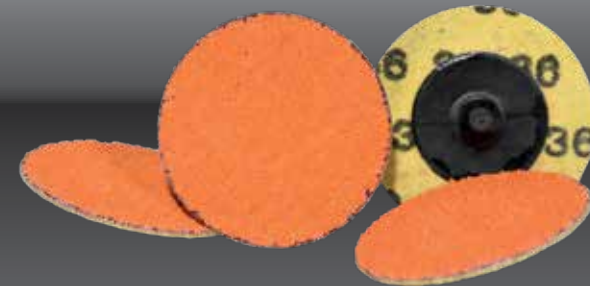
TAPER OR SCARF REPAIRS



After completing initial damage removal, the area around the repair must be prepared. The area must be sanded at a pre-determined angle (usually around 5 degrees) in order to expose each ply of the laminate to provide the best load transfer when the repair patch is bonded in.

'Scarfig' or 'taper sanding' can be achieved with either an air powered high speed grinder with Norton Blaze SpeedLok discs, or a belt sander and ceramic abrasive belt. Start with grit P60 to P120 depending on the severity of repair.

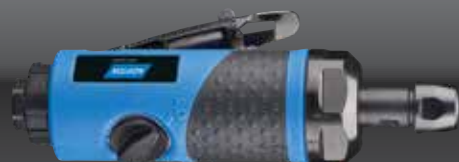
STEP SANDED REPAIRS



'Stepping' is an alternate method for removing material in preparation for applying a repair patch. This is a highly skilled operation for which specialist tooling is available, however it can be done manually. The laminate is sanded down so that a flat band of each layer is exposed, producing a stepped finish. Typical steps are 25-50mm per layer.

Step sanding is usually achieved using a compressed-air powered high-speed grinder and a finer grade abrasive. Norton Blaze ceramic SpeedLok™ discs in P120 are ideal for this.

NORTON MACHINES FOR USE ON COMPOSITE MATERIALS



PNEUMATIC DIE GRINDER

Can be used with many different abrasives including cartridge rolls, spirabands, flap wheels, mounted points and carbide burrs. Ergonomic grip for comfortable handling and greater control. The lightweight machine is small enough to access hard to reach areas and the double bearing spindle reduces vibration.

COLLET DIAMETER (mm):	6
HORSEPOWER:	0.9
AIR CONSUMPTION (l/min):	85
RECOMMENDED OPERATION PRESSURE:	6.2 bar
TOOL WEIGHT:	0.65 kg
ARTICLE NUMBER:	69957341008

MINI RIGHT ANGLE GRINDER

Ideal for use with Norton quick change back up pads and SpeedLok™ and mini flap discs. Can be used with 38mm and 50mm discs and small spindle mounted abrasives.

EXHAUST DIRECTION:	REAR
THROTTLE TYPE:	LEVEL
HORSEPOWER:	0,45
AIR CONSUMPTION (l/min):	85
COLLET CHUCK:	6mm
TOOL WEIGHT:	0.74 kg
ARTICLE NUMBER:	66261177765

FILE BELT SANDER

Perfect for small and awkward sanding jobs. Can be used with coated abrasive and non-woven belts. Small but powerful with an ergonomic grip for good control and manoeuvrability.

BELT SIZE:	10 x 330mm
HORSEPOWER:	0,5
FREE SPEED:	18000rpm
RECOMMENDED OPERATION PRESSURE:	6.2 bar
TOOL WEIGHT:	0.82 kg
ARTICLE NUMBER:	77696091766

TIP: Oiling pneumatic machines daily will improve performance and increase tool life

RANDOM ORBITAL SANDER & FARECLA POLISHER

WHETHER SANDERS OR POLISHERS, WE HAVE A NUMBER OF MACHINES
TO MEET THE NEEDS OF COMPOSITE PRODUCTION AND REPAIR.



NORTON D.A.S.P – DUAL ACTION SANDER (PNEUMATIC)

Available with two orbits (2.5mm and 5mm), the D.A.S.P provides excellent sanding results. The machine is compact and light weight, reducing fatigue when sanding for long periods. The rubber grip absorbs vibration and provides control. Speed can be adjusted manually and the 360° muffler cap is adjustable to reduce noise. The powerful motor and free speed gives swirl free finishes.

MODEL NO.	PAD SIZE	DIA ORBIT	VACUUM	WEIGHT	POWER
150 / 5.0	152	5mm = 3/16 in	Central vacuum	0,75 kg	186 watts
150 / 2.5	152	2.5mm = 3/32 in	Central vacuum	0,71 kg	186 watts

MODEL NO.	FREE SPEED	OPERATING PRESSURE	AVER. FREE AIR CONS.	ARTICLE NO.
150 / 5.0	12000	6,2 bar (90 psi)	2,1 (at 90psi)	78072723478
150 / 2.5	12000	6,2 bar (90 psi)	2,1 (at 90psi)	78072723484

FARÉCLA G PRO ROTARY POLISHING MACHINE

- Light weight yet powerful machine with low vibration
- Well balanced and provides cool running for large polishing jobs
- Thumb-operated speed control gives variable speed control from 700-2500 RPM
- 2 pin European plug, includes spare carbon brushes



LIGHTWEIGHT
(2.2kg)



POWERFUL /
HIGH TORQUE



SPEED RANGE
700 - 2500rpm



ROTARY



220 - 240V~
(50/60Hz)



VERSATILE, 5M
POWER CORD

WEIGHT	CABLE LENGTH	PK QTY	ITEM NO.
2.2kg	5m	1	78072700159

FARÉCLA PRODUCTS

G-MOP YELLOW COMPOUNDING FOAM

- Made from premium European grade foam with a closed cell structure which minimizes mess and splatter
- Excellent cut and gloss and can be used with 'wet or dry use' compounds
- Superb handling and flexibility and glides easily over surface contours

SIZE	PK QTY	ITEM No.
8" (203mm) diameter	12	78072708718



G-MOP FINISHING FOAM PAD

- Foam has a soft, open cell structure for improved air flow which lowers running temperature
- Provides a light cut and high gloss finish
- Superb handling and flexibility, glides easily over surface contours

SIZE	PK QTY	ITEM No.
8" (203mm) diameter	12	78072700177



G-MOP TWISTED WOOL PAD

- Twisted wool compound for a high cut
- Made from 4 ply 100% wool for the highest cut
- Double sided pads are ideal for polishing different coloured surfaces or using different products without contamination

SIZE	SIDES	PK QTY	ITEM No.
8" (203mm) diameter	Single	12	78072700175
	Double	12	78072700174



G-MOP LAMBSWOOL PAD

- Made from 100% natural wool for a higher cut rate and great finish depending on the compound used
- Provides a medium cut and finer finish than the Wool Compounding Pads

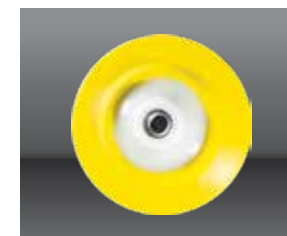
SIZE	PK QTY	ITEM No.
8" (203mm) diameter	12	78072700176



G-MOP BACK PLATE 14mm THREAD

- Flexibility allows improved handling performance of G-Mop pads
- Ideal for the G-Mop High Cut and Lambswool Pads

SIZE	PK QTY	ITEM No.
8" (203mm) diameter	6	78072709129



G-MOP 8" BOLT ADAPTOR

14mm THREAD

- For use with double sided pads

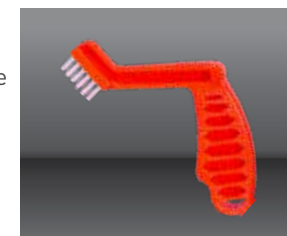
DESCRIPTION	PK QTY	ITEM No.
for use on 8" mops	1	78072700181



G-PLUS SPURRING BRUSH

- For quick and easy cleaning of pads when spun on a machine
- Avoids residue, dried compound and other contaminants impairing the next job

DESCRIPTION	PK QTY	ITEM No.
Spurring Brush	20	78072700135



FARÉCLA PRODUCTS

PROFILE EXTRA COARSE CUT PASTE COMPOUND

- 'Liquid' sandpaper for rapid, permanent removal of deep scratches from P600 or finer, leaving a low gloss finish
- Extra coarse water based cutting compound for aggressive compounding on rough resins, composites, moulds and gelcoats

SIZE	PK QTY	ITEM No.
3.2 kg	4	78072700163



PROFILE SELECT LIQUID COMPOUND

- A versatile compound for removing P800 or finer sanding marks from tooling or gelcoats in one step
- On painted surfaces, when used with the G-Mop Lambswool Pad, P1500 sanding marks are quickly removed leaving a good finish

SIZE	PK QTY	ITEM No.
1 litre	6	78072700168
1 U.S gallon	2	78072700169



PROFILE PREMIUM LIQUID COMPOUND

- High quality abrasive stays wet for a long time
- Engineered for production and weathered gelcoats
- No clogging, extended wool pad life and clean in use

SIZE	PK QTY	ITEM No.
1 litre	6	78072700165



PROFILE ADVANCED LIQUID COMPOUND

- High performance compound for removing P1200 and finer sanding marks from gel coats and paint
- The perfect solution for restoring oxidised and weathered gelcoat surfaces

SIZE	PK QTY	ITEM No.
1 U.S gallon	2	78072709187



PROFILE ADVANCED PLUS LIQUID COMPOUND

- Finer grades than P1500 not required, saving time
- Latest generation abrasive technology provides a fast cut and develops a transparent film that enables the user to see the final abrasive scratches fade out.
- Gives a high shine finish with good depth and clarity

SIZE	PK QTY	ITEM No.
1 U.S gallon	2	78072715148



PROFILE FINISH LIQUID COMPOUND

- A fine finishing compound to remove any light swirl marks and holograms from painted lacquers and gelcoat
- Restores dull surfaces and enhances colour
- Works well on soft coatings which are susceptible to swirl marks

SIZE	PK QTY	ITEM No.
1 litre	6	78072700164



SANDING DISCS

NORTON PRO PLUS A975

- Using a combination of SG and premium heat-treated aluminium oxide grains, Norton Pro Plus provides excellent cutting with a uniform scratch pattern on primer, paint, composites, marine gel coat, non-ferrous metals and ceramic coatings
- In P80-P120 discs the backing is thicker for more aggressive use, P150-P800 has a thinner paper backing for better flexibility in finer applications
- The No-Fil® coating resists loading to extend disc life when sanding dry or wet.

NORTON A293

- Our premium aluminium oxide grains provide a fast cut in all sanding applications on composites, primer, paint and wood.
- The strong paper backing is tear resistant whilst still giving maximum flexibility.
- No-Fil® coating and hole configuration significantly improves load resistance for longer disc life.

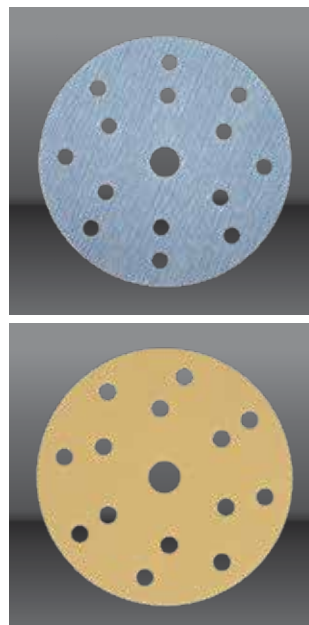


A975
150mm
15 HOLES



A293
150mm
15 HOLES

GRIT	A975 150mm 15 HOLES	A293 150mm 15 HOLES	PK QTY	BOX QTY
P80	66254477881	78072710209	100	400
P120	66254477879	78072710197	100	400
P150	66254477882	78072710210	100	400
P180	66254477883	78072710211	100	400
P220	66254477884	78072710212	100	400
P240	66254477885	78072710216	100	400
P280	66254477886	78072710219	100	400
P320	66254477887	78072710221	100	400
P400	66254477888	78072710222	100	400
P500	66254476601	78072710224	100	400
P600	63642532659	78072710226	100	400
P800	66254479091	78072710227	100	400



NORTON

SAINT-GOBAIN

MESH-POWER™

Reshaping
your
world.

POWERFUL
DUST EXTRACTION



With **Norton MeshPower™**, you get powerful dust extraction for virtually dust free sanding. This means a cleaner, healthier working environment, a better finish and a much more pleasant sanding experience. A multi-functional abrasive, MeshPower has thousands of holes created by a unique mesh matrix for dust extraction in any application.

BLENDING DISCS



PURE ICE FILM DISCS Q175



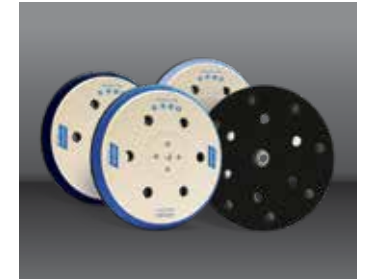
- The ultra-thin film backing provides multiple benefits including excellent flexibility, allowing conformity to contours in the car body and it helps the discs to remain maintain a flat and prevent curling
- Patented resin technology promotes excellent grain adhesion that keeps the disc effective for longer and imparts a consistent finish that's easier to buff out
- Water based No-Fil® stearate coating resists loading, eliminates pigtails and further extends the life of the product
- Colour coded grits provide an at-a-glance identification of the correct product across all hole configurations including the dust reducing Multi-Air disc

COLOUR	GRIT	150mm 15 HOLES	PK QTY	BOX QTY
Black	P800	66261110837	50	300
Red	P1000	66261110838	50	300
Green	P1200	66261110839	50	300
Blue	P1500	66261110840	50	300

BACK-UP PADS & INTERFACES

NORTON PRO SELF-GRIP BACK-UP PADS 150mm

- Self-grip back-up pads are available in four hole configurations, three densities & with a versatile attachment system (M8 & 5/16" + key + 3 washers)
- To improve the versatility of Norton discs, a complete range of interface pads and conversion interfaces are also available



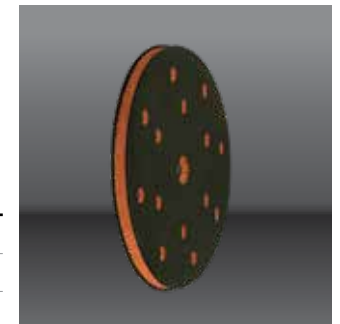
PERFORATIONS	TYPE	DENSITY			PK QTY
		SOFT	MEDIUM	HARD	
No holes	5/16" & M8	-	66623338436	-	1
6 + 1 holes	5/16" & M8	66623338441*	66623338445	66623338446	1
8 + 1 holes	5/16" & M8	66623338447*	66623338448	-	1
15 holes	5/16" & M8	66623338452	66623338450	66623338451	1

TYPE	ART NO.	PK QTY
Adapter for Rupes	63642526648*	1
Adapter for Rupes SK2 & SK3	66261131280	1

FOAM INTERFACES

Soft flat interfaces for finishing operations to reduce the risk of scratches thanks to the natural rubber and the gripping system which features the 'flat-top mushroom' shape

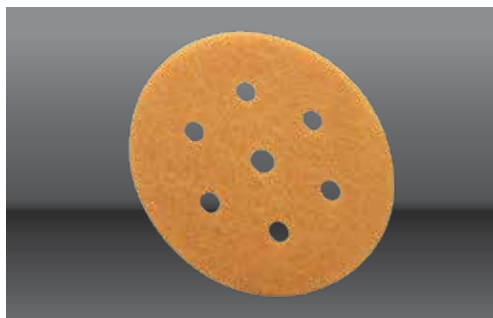
DIAMETER	PERFORATIONS	ART NO.	PK QTY
150mm	No holes	63642567836	6
	6 holes	63642567837	6
	15 holes	63642567840	6



FINISHING DISCS

BEARTEX

- 3 dimensional disc that conforms to work surface & provides a uniform finish
- Non-loading and ideal for finishing solid surface materials
- Gentle action that easily removes burrs without affecting the dimension of the workpiece
- In Self Grip and Plain backing



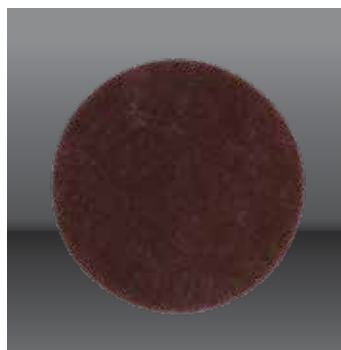
COLOUR	GRADE	150mm 15 HOLES	PK QTY
Red	Very fine A	69957383151	10
Grey	Ultra fine S	69957383158	10
Gold	Micro fine A	69957383162	10

PLAIN DISCS BEARTEX

- Three dimensional discs that conform to panels and uneven surfaces thanks to the nylon fibre impregnated with abrasive



COLOUR	GRADE	150mm	PK QTY
Red	Very fine A	63642557497	10
Grey	Ultra fine S	63642557498	10
Gold	Micro fine A	69957383952	10



SHEETS

MULTI-AIR PLUS A975

- The advanced No-Fil® coating both prevents build-up of dust and avoids premature clogging. In very fine grits, it can be used for final dry sanding before spraying, without the risk of developing runs.
- Patented Norton ceramic grain is blended with premium heat-treated aluminium oxide to deliver a very high cut rate that lasts up to twice as long as conventional abrasives and imparts a consistent, uniform scratch pattern
- A unique fibre-reinforced latex paper backing adds to the flexibility and makes the cut sheets tear resistant in all the applications
- Specifically designed for paint sanding from levelling filler to finishing primer



GRIT	70 x 125mm	70 x 198mm	70 x 420mm	115 x 230mm	PK QTY	BOX QTY
P80	69957394456	69957394470	69957394463	69957394479	50	200
P120	69957394457	69957394472	69957394464	69957394481	50	200
P150	69957394458	69957394473	69957394465	69957394482	50	200
P180	69957394459	69957394474	69957394466	69957394483	50	200
P220	69957396408	69957396410	69957396406	69957396414	50	200
P240	69957394460	69957394475	69957394467	69957394484	50	200
P280	69957396409	69957396411	69957396407	69957396415	50	200
P320	69957394461	69957394477	69957394468	69957394485	50	200
P400	69957394462	69957394478	69957394469	69957394486	50	200

SANDING BLOCKS



MULTI-AIR SANDING BLOCKS

- The perfect partner for Norton abrasives for high dust extraction, including Norton Cyclonic, Multi-Air or MeshPower, for cut sheets or rolls, available in a range of sizes for any product dimension
- An in-built air chamber keeps sanding dust-free and the workplace clean
- Robust, impact resistant plastic body that has been built to last and stand up to the rigours of day-to-day use
- Comfortable rubber grip helps the user maintain control over the process

				
70 x 125mm	70 x 198mm	70 x 400mm	115 x 230mm	PK QTY
69957396645	69957396646	69957396648	69957396644	1

SANDING ROLLS



NORTON PRO PAPER ROLLS A275

- Aluminium oxide abrasive with No-Fil® layer cuts fast and lasts longer
- Ideal for sanding filler, primer, gel-coat, aluminium, wood and composite materials

GRIT	100mm x 50m	115mm x 50m	PK QTY
P80	63642591122	69957380739	2
P120	63642591123	69957380761	2
P150	69957391073	69957380765	2
P180	63642591124	69957380767	2
P220	63642590924	69957380769	2
P240	63642590927	69957380777	2
P280	-	69957380778	2
P320	63642591649	69957380779	2
P400	69957391077	69957380781	2
P500	-	69957396696	2



NORTON PRO ROLLS A275

- Aluminium oxide abrasive with No-Fil® layer cuts fast and lasts longer
- Ideal for sanding filler, primer, gel-coat, aluminium, wood and composite materials

GRIT	115mm x 25m	PK QTY
P40	69957391121	2
P60	69957391123	2
P80	69957391133	2

HAND PADS

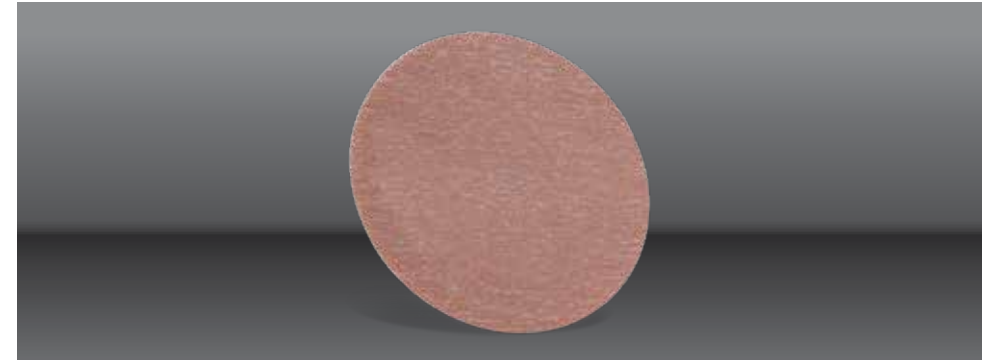


BEARTEX HAND PADS

- Open mesh construction resists clogging
- Flexible, conforms to curves, contours and tight spaces easily, will not break
- Waterproof, washable and reusable
- Lasts longer than standard sandpaper and will not gouge the workpiece when used

DIM W x L (mm)	GRADE	CAP CODE	PK QTY	ART NO.
150x230	Extra Cut A	F2302	20	63642557491
	Heavy Duty	F2316	20	63642577268
	Medium A	F2300	20	63642557493
	Fine A	F2401	20	66261018286
	Very Fine A Long Life	F2504	20	66261018287
	Gen. Purpose Clean & Scour A	F2568	20	63642574103
	Medium S	F4300	20	66261039806
	Ultra Fine S	F4807	20	77696046252
	Micro Fine A	F2801	20	63642557277
	White Cleaning (Non Abrasive)	F0001	20	66261018283
230x280	Very Fine A Long Life	F2504	20	66261018291
	Ultra Fine S	F4807	20	66261018292

SMART REPAIR DISCS



NORTON PRO SMART REPAIR A275

- When an operation calls for more precision or is in a small area, the Norton Smart repair system offers a good sanding solution in small disc size
- Heat-treated high performance aluminium oxide grain provides a fast cut rate
- Flexible & tear resistant due to their fibre-reinforced latex paper backing which is thicker in coarser grits to support more aggressive applications
- The No-Fil® layer is added to resist loading

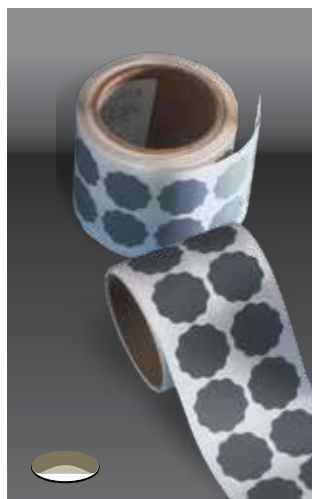
GRIT	76mm	PK QTY	BOX QTY
P80	63642585133	50	100
P150	63642585148	50	100
P180	63642585150	50	100
P220	63642585153	50	100
P240	63642585156	50	100
P320	63642569699	50	100
P400	63642585169	50	100
P500	69957391303	50	100
P800	63642585172	50	100
P1000	63642585180	50	100

SMALL DISCS FOR COMPOSITE REPAIR

BLACK ICE ROSETTE DISCS

SELF ADHESIVE

- Self-adhesive waterproof rosette discs combine a light weight paper backing with ultra fine grain for fine sanding applications in a small area
- Use with a sanding block, or by hand, to eliminate small flaws in lacquer (stone chips, paint runs etc.) before polishing or buffing
- Use a sanding block for best results and an even finish
- Use wet for sanding polyurethane primer and cutting back an old surface before spraying, can also be used for cutting back flush joints



GRIT	38mm	PK QTY
1500	63642534470	400
2000	69957360371	400
2500	63642561155	400

SANDING BLOCK 38mm	PK QTY
63642567819	12

DEFECT GUIDE COAT

- Quickly identifies pinholes and deep scratches in primer to ensure the total primed area is sanded prior to top coating
- Does not require masking and takes no time to dry
- Does not contain solvents and can be used for both wet and dry sanding

VOLUME	ART NO.	PK QTY
100g	77696072696	6



BLAZE X-TREME LIFE DISCS R980

- Premium ceramic grain delivers powerful cutting performance on stainless steel, inconels, chromium cobalt and titanium, even at medium pressure
- Premium ceramic alumina abrasive grain provides a cool, fast cut and a long product life
- Supersize layer contains active filler which promotes cool cutting and longer product life

DIA (mm)	GRADE	TR	TS	PK QTY
50	36	63642597039	69957390698	50
	50	63642597045	69957390699	50
	60	63642597050	69957390700	50
	80	63642597052	69957390701	50
	120	66261136868	66261136986	50
	75	63642597053	69957390702	50
75	50	63642597057	69957390703	50
	60	63642597060	69957390704	50
	80	63642597062	69957390705	50
	120	66261136980	66261136987*	50

* Made-to-order

SPECIALTIES

BLAZE RAPID STRIP



TR

- Heavily coated with super-sharp ceramic alumina grains, which ensures this disc will last twice as long as competitor products
- Use for multiple operations including stripping, cleaning and finishing, provides a comparable finish to a medium surface conditioning disc
- The open structure will not shed on rusted surfaces or load on soft metals



GRIT	GRADE	ART NO.	PK QTY
75	Extra coarse	66261096557	25
50	Extra coarse	66623303912	25
100	Extra coarse	66623303921*	5

* Use with TR holder, order separately

QUICK CHANGE DISC HOLDER

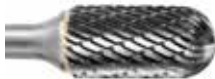
- TS: Turn-on/turn-off system using a metal to metal fixing on pad (TS) with spindle.
- TR: Roll-on/roll-off system using a nylon threaded male button on a pad (TR) with spindle.



DIMS (mm)	 TS MEDIUM DENSITY	 TS HARD DENSITY	 TR MEDIUM DENSITY	 TR HARD DENSITY	PK QTY
50	63642501157	63642586926	7660717817	63642586931	1
75	7660707384	63642586932	63642556631	66254401460	1

DOUBLE CUT EXTRA CARBIDE BURRS

- 'DTECH' Double cut EXTRA cut style
- Good stock removal & strong tooth formation thanks to decreased tooth wedge angle
- Longer tool life and reduced chipping
- A number of sizes available for a variety of applications

PRODUCT SHAPE	D ₁ xL ₁ xD ₂ xL ₂ (mm)	PK QTY	ARTICLE NO.
C BALL NOSED CYLINDER			
	10x19x6x65	1	07660739841
	12x25x6x70	1	60157638175

F BALL NOSED TREE			
	12x30x6x75	1	63642587067

L BALL NOSED CONE			
	10x9x6x53	1	07660707832

SPECIALTIES

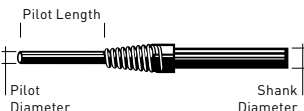
BLAZE CARTRIDGE ROLLS R920

- Ceramic alumina grain for the highest productivity of all rolls, with faster cut rate and long life
- Grinding aid provides a cooler cut and reduced loading and glazing on hard to grind materials stainless steel, cobalt, inconel and titanium
- Improved bond system retains the grain for longer, helping you get more use from just one product
- Strong backing provides excellent durability even under tough pressure and wears evenly



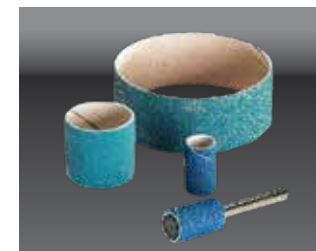
DIM BSxLxB (mm)	GRIT	PK QTY	ART NO.	RECOMMENDED SPEED (RPM)	MANDREL CODE
10x38x3	60	50	66261129486	11500 - 17200	63642556791
	80	50	66261129493		
13x38x3	60	50	66261129489	8800 - 13200	63642556791
	80	50	66261129496		

STEEL MANDREL FOR CARTRIDGE ROLLS

DESCRIPTION	DIM DIAxL (mm)	SHAFT DIAMETER (mm)	PK QTY	ART NO.
	3x19	6mm	1	63642556790
	3x25	6mm	1	63642556791

NORZON SPIRABANDS R822

- A great choice for carbon steel and welds
- Prevents loading on aluminum
- Zirconia abrasive provides an aggressive cut and long life
- Ideal for use on irregular shaped components such as curves



DIM DIAxW (mm)	GRIT	PK QTY	ART NO.	RECOMMENDED SPEED (RPM)	MANDREL CODE
22x20	36	100	63642539865	17500 - 21000	63642562578
	50	100	63642528497		
	60	100	63642539866		
	80	100	63642539867		
25x25	36	100	63642528510	15300 - 19000	7660705183
	50	100	63642528511		
	60	100	66623316384		
	80	100	63642528512		
30x30	36	100	63642566870	12700 - 15800	7660707918
	50	100	63642535053		
	60	100	63642545925		
	80	100	63642545926		
38x25	36	100	66261180965	10000 - 12500	7660717568
	50	100	66261180966		
	60	100	66261137836		
	80	100	66261180967		

MANDRELS FOR SPIRABANDS

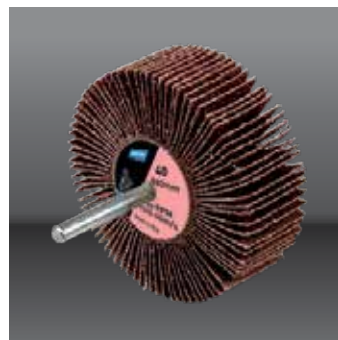
	DIM DxWxS (mm)	PK QTY	ART NO.
	22x20x6	1	63642562578
	25x25x6	1	7660705183
	30x30x6	1	7660707918
	38x25x6	1	7660717568

FLAP WHEELS

METAL R207Plus



- Excellent cut rate even at low-pressure when used for finishing operations,
- A universal product which achieves a good finish on steel and stainless steel
- New generation of premium aluminium oxide grain provides an aggressive cut yet long product life
- Conforms to the workpiece thanks to the flexible cotton backing



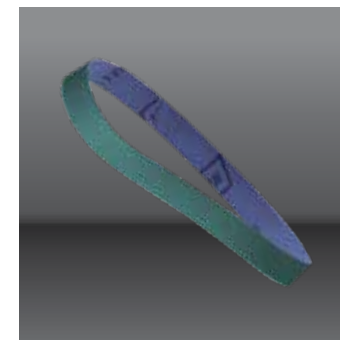
DIM DIAxWxS (mm)	GRIT	PK QTY	ART NO.	RECOMMENDED SPEED (RPM)
6mm SHAFT				
30x15x6	40	10	66261056890	9500 - 15900
	60	10	63642513148	
	80	10	63642561466	
	120	10	63642551593	
	180	10	66261138106	
60x15x6	40	10	63642546773	4800 - 7900
	60	10	69957360901	
	80	10	63642546767	
	120	10	63642546758	

FILE BELTS

SG R929

- Made with premium SG abrasive grain, perfect for heat sensitive metals
- High content of active filler for cool cut, no burn marks on the metal part
- Excellent performance at low & medium pressure
- X-weight polyester cloth, extremely durable even on aggressive applications

WxL (mm)	GRIT	PK QTY	ART NO.
10x330	40	10	66623303110
	60	10	66261144369
	80	10	66623303270
	120	10	66623303271



RAPIDPREP

SURFACE CONDITIONING FILE BELTS

- Strong synthetic mesh and aluminium oxide abrasive bonded together with a smear resistant adhesive
- Open construction of non-woven material for tough cutting action without clogging or loading
- Ideal for removing paint, rust, adhesives, coatings and sealant corrosion in hard to access areas

WxL (mm)	GRADE	PK QTY	ART NO.
10x330	Coarse	10	69957360172
	Medium	10	63642578004
	Very Fine	10	69957360176



CUTTING PRODUCTS

PRO MARMO

- Versatile diamond blade suitable for materials such as granite, marble, plastics and natural stone, and is ideal for use on angle grinders, cut-off saws and masonry saws
- The electroplated surface and drop-down diamond inserts on the steel centre clean the cutting profile while in use, these features ensure fast and smooth cutting



MACHINES	DIA (mm)	BORE (mm)	SEGMENT H/W (mm)	PK QTY	ART NO.
	50	6	2,4	1	70184629965
	115	22,23	2,4	1	70184626663
	125	22,23	2,4	1	70184626666



MULTI MATERIAL CUTTING

- One wheel for all materials
- The easy choice in general trade
- No lost time due to wheel changing
- Quick, comfortable and versatile

CORDLESS COMPATIBLE

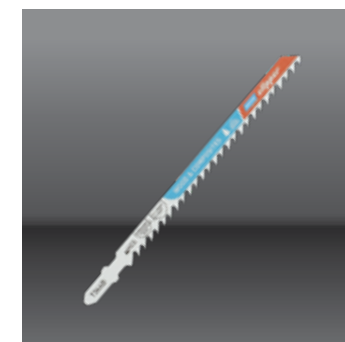


TYPE	DIA (mm)	TxB (mm)	SPEC	PK QTY	ART NO.
	115	1,0x22,23	C 60 T	25	66252833258
		1,6x22,23	C 46 T	25	66252828951
	125	1,0x22,23	C 60 T	25	66252918924
		1,6x22,23	C 46 T	25	66252828952



JIGSAW BLADES

- Whatever the application, Norton Clipper have a jigsaw blade for it.
- This range always delivers fast, clean cutting performance for a variety of different natural and man-made wood materials.



PRODUCT NAME	MAX MATERIAL HEIGHT (MM)	WORKING LENGTH (MM)	OVERALL LENGTH (MM)	CUT	TEETH MATERIAL	TPI	PCK QTY	ITEM NO.
T 101 BR	Softwood, chipboard, wood core plywood, fibre boards (3-30 mm), laminated panels, clean surface	76	100	Extra clean & straight cut	HCS	10T	3	70184608374
T 244 D	Softwood (5-50 mm), chipboards, wood core plywood, fibre boards, especially for curve cuts	76	100	Fast & curved cut	HCS	6T	3	70184608375
T 119 B0	Softwood (2-15 mm), plywood, chipboard, wood core plywood, fibre boards, especially for curves	50	76	Fast & curved cut	HCS	12T	3	70184608376
T 308 BFP	Laminated panels, plastic and fibre boards (5-50mm)		100	Extra clean & straight cut	BIM	12T	3	70184608377

SAINT-GOBAIN ABRASIVES NV/SA
INDUSTRIELAAN 129
1070 ANDERLECHT
BRUSSELS
BELGIUM
TEL: +32 2 267 21 00
FAX: +32 2 267 84 24

SAINT-GOBAIN ABRASIVES, S.R.O.
POČERNICKÁ 272/96, MALEŠICE
108 00 PRAHA 10
CZECH REPUBLIC
TEL: +420 255 719 326
FAX: +420 255 719 321

SAINT-GOBAIN ABRASIVES A/S
DYBENDALSVEJENGET 2
DK-2630 TAASTRUP
DENMARK
TEL: +45 4675 5244

PO BOX 643706
FORTUNE TOWER OFFICE 2106
JLT BLOCK C
(NEXT TO METRO STATION)
JUMEIRA LAKE TOWER, DUBAI
UNITED ARAB EMIRATES
TEL: +971 4 431 5154
FAX: +971 4 431 5434

SAINT-GOBAIN ABRASIFS
251 RUE DE L'AMBADEUR
78700 CONFLANS
FRANCE
TEL: +33 (0)1 34 90 40 00
FAX: +33 (0)1 34 90 43 97

SAINT-GOBAIN ABRASIVES GMBH
BIRKENSTRASSE 45-49
D-50389 WESSELING
GERMANY
TEL: +49 (0) 2236 703-1
+49 (0) 2236 8996-0
+49 (0) 2236 8911-0
FAX: +49 (0) 2236 703-367
+49 (0) 2236 8996-10
+49 (0) 2236 8911-30
FÜR DEN FACHHANDEL ÖSTERREICH
TEL: +43 (00) 662 430 076

SAINT-GOBAIN ABRASIVES KFT.
1225 BUDAPEST
BÁNYALÉG U. 60/B.
HUNGARY
TEL: +36 1 371 22 50
FAX: +36 1 371 22 55

SAINT-GOBAIN ABRASIVI S.P.A
VIA PER CESANO BOSCONI 4
I-20094 CORSICO MILANO
ITALY
TEL: +39 02 44 851
FAX: +39 02 44 78 266

SAINT-GOBAIN ABRASIVES S.A.
190 RUE J.F. KENNEDY
L-4930 BASCHARAGE
GRAND DUCHE DE LUXEMBOURG
TEL: +352 50 401 1
FAX: +352 50 16 33
NO. VERT (FRANCE) 0800 906 903

SAINT-GOBAIN ABRASIFS, S.A.
2 ALLÉE DES FIGUIERS
AIN SEBAË - CASABLANCA
MOROCCO
TEL: +212 5 22 66 57 31
FAX: +212 5 22 35 09 65

SAINT-GOBAIN ABRASIVES BV
GROENLOSEWEG 28
7151 HW EIBERGEN
P.O. BOX 10
7150 AA EIBERGEN
THE NETHERLANDS
TEL: +31 545 466466
FAX: +31 545 474605

SAINT-GOBAIN ABRASIVES AS
KARIHAUGVEIEN 89
1086 OSLO
NORWAY
TEL: +47 63 87 06 00
FAX: +47 63 87 06 01

SAINT-GOBAIN HPM POLSKA SP. Z O.O.
UL. NORTON 1
62-600 KOŁO
POLAND
TEL: +48 63 26 17 100
FAX: +48 63 27 20 401

SAINT-GOBAIN ABRASIVOS, LDA.
RUA DE RODRIGO SILVA, 122
4475-187 MAIA
PORTUGAL
TEL: +351 229 437 940
FAX: +351 229 437 949

**SAINT-GOBAIN GLASS,
BUSINESS UNIT ABRASIVI
PUNCT DE LUCRU:**
LOC.VETIS, JUD. SATU MARE
447355, STR. CAREIULUI 11,
PARC INDUSTRIAL RENOVATIO
ROMANIA
TEL: +40 261 839 709
FAX: +40 261 839 710

SG HPM RUS
58, F. ENGELS STR.
STROENIE 2
105082 MOSCOW
RUSSIA
TEL: +74 955 408 355
FAX: +74 959 373 224

SAINT-GOBAIN ABRASIVES (PTY) LTD
2 MONTEER ROAD
ISANDO 1600
P.O. BOX 67
SOUTH AFRICA
TEL: +27 11 961 2000
FAX: +27 11 961 2184/5

SAINT-GOBAIN ABRASIVOS, S.A.
CTRA. DE GUIPÚZCOA, KM. 7,5
E-31195 BERRIOPLANO (NAVARRA)
SPAIN
TEL: +34 948 306 000
FAX: +34 948 306 042

SAINT-GOBAIN ABRASIVES AB
GÅRDSFOGDEVÄGEN 18A
SE-168 66 BROMMA
SWEDEN
TEL: +46 8 580 881 00
FAX: +46 8 580 881 30

**SAINT-GOBAIN INOVATIF MALZEMELER
VE AŞINDIRICI SAN. TIC. A.Ş.**
GOLD PLAZA, ALTAY ÇEŞME
MAHALLESİ,
ÖZ SOKAK, NO:19/16
34843 MALTEPE-ISTANBUL ,
TURKEY
TEL: 0090-216-217 12 50
FAX: 0090-216-442 40 74

SAINT-GOBAIN ABRASIVES
UNICORN HOUSE
UNIT 1, AMISON CLOSE
REDHILL BUSINESS PARK
STAFFORD
ST16 1WB
UNITED KINGDOM
TEL: +44 1785 279553
FAX: +44 1785 213487



Saint-Gobain Abrasifs
European Headquarters
251 Rue de l'Ambassadeur
78700 Conflans
France

Tel: +33 (0)1 34 90 40 00
Fax: +33 (0)1 34 90 43 97

www.nortonabrasives.com
www.youtube.com/NortonAbrasivesEMEA

www.farecla.com

Norton is a registered trademark of Saint-Gobain Abrasives.
Form # 3933

