

## Mirka 3C Solutions





## About Mirka

**Mirka Ltd** is a family-owned Finnish company and a world leader in abrasives technology innovation. We are offering a complete range of technically superior, high quality abrasives, innovatively designed tools, complete sanding systems and supplementary products. This total innovative solution delivers real benefits to customers in terms of speed, first-class

efficiency, surface finish quality and cost effectiveness, even when tackling the most demanding applications.

Mirka is the first company in its sector to obtain the three most important quality standards. The production process guarantees reliable quality by following the ISO 9001 quality assurance system. The OHSAS 18001 occupational health

and safety management system ensures a high level of work safety. The ISO 14001 environmental management system proves that we consider the environment in all our activities.

96% of our products are exported and sold across the globe through our subsidiaries and importers.

**Read more:** [www.mirka.com](http://www.mirka.com)

## Management System Certificates



**Quality standard**  
**ISO 9001:2008**



**Environmental standard**  
**ISO 14001:2004**

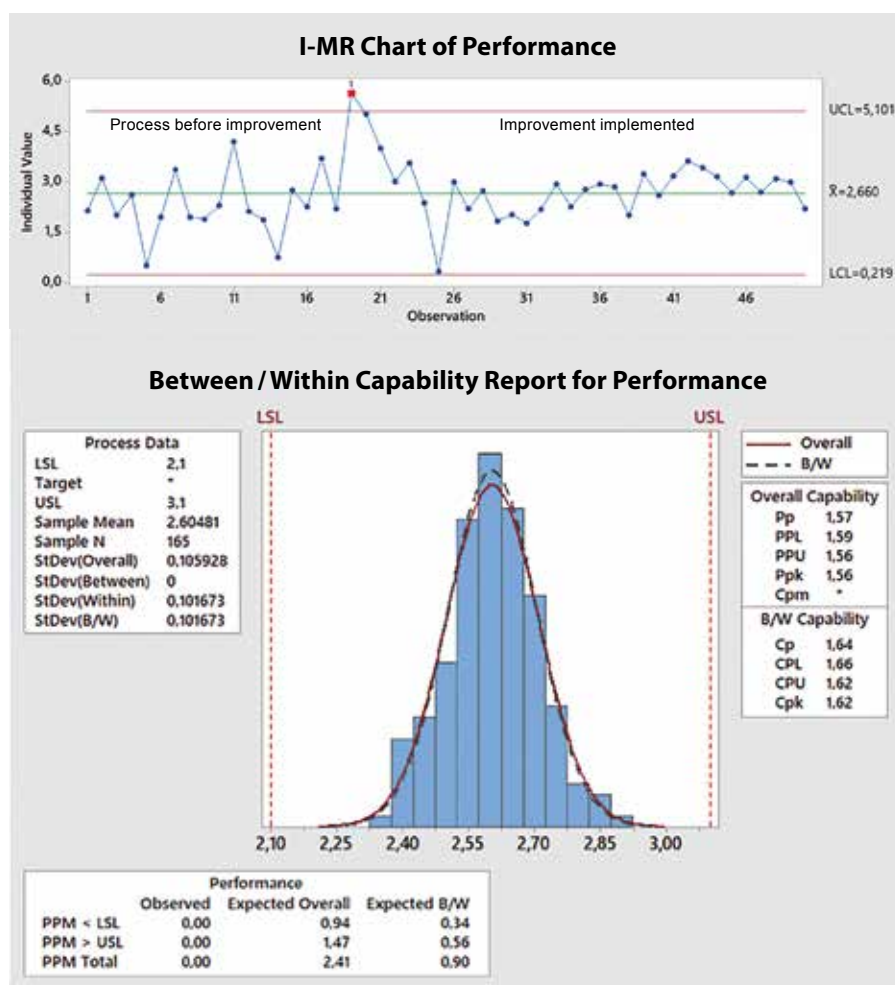


**Occupational Health and Safety standard**  
**OHSAS 18001:2007**

# Quality at Mirka

Our ambition is to give people the opportunity to perform better. To deliver the right products on time. To add value through our systematic specialization in unique abrasive products, tools and finishing systems. When this is our customers' experience – that's quality to us.

Mirka has been using Six Sigma methods for more than 15 years. With Six Sigma we seek to improve the quality of the output of a process by identifying and removing the causes of defects and minimizing variability in manufacturing. By working according to DMAIC and using statistical tools as Minitab we control and improve the process output.



## CONTENTS

### 3C SANDING SOLUTIONS 4

Aluminium .....	5
Plastics .....	6
Stainless steel .....	7

### PRODUCTS FOR 3C 8

Abranet® and Abralon® .....	9
Mirlon® & Mirlon Total® .....	10
Gold & Interface for Mirlon .....	11
AbraWheel .....	12
Mirka Power Tools .....	13

### PRODUCT CONSTRUCTION 14

Backing material.....	14
Make coat & size coat .....	14
Amount of grains .....	15
Grit sizes .....	15



Please visit [www.mirka.com/downloads](http://www.mirka.com/downloads) for the most recent brochures.

## SYMBOLS



Discs



Net discs



Sheets



Net sheets



Rolls



Net rolls



# **3C** SANDING SOLUTIONS



# ALUMINIUM SANDING CNC TOOLED PARTS

Sanding of parts after the CNC process. Removal of CNC marks.



## BIG FACE & STRAIGHT EDGE

» Wet sanding of flat aluminum surfaces requires a fast cutting product with consistent performance. For hard straight edges a stiff product is needed.

### ABRASIVE RECOMMENDATIONS

#### FIRST RECOMMENDATION



» Gold P240–P800

#### SECOND OPTION



» Abranet P240–P1500

#### COMPLIMENTARY SUGGESTION



» Abralon 360–4000 • **hard** foam options

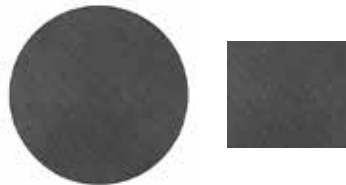


## CURVED SURFACE

» Sanding curved surfaces requires a product that can follow the profile of the object and not reshape it. It is also important to choose the right tools for the sanding process.

### ABRASIVE RECOMMENDATIONS

#### FIRST RECOMMENDATION



» Abralon discs / sheets 360–4000

#### SECOND OPTION



» Mirlon or Mirlon Total + Interface for Mirlon

#### COMPLIMENTARY SUGGESTION



» Abralon + AbraWheel idea

# PLASTICS SANDING MOLDED PLASTIC PARTS

Sanding of parts after mold process. Removal of defects prior to coating.



## PARTING LINE

» Parting lines on plastic have to be removed before polishing or coating. It is critical to have a consistent and high performing product.

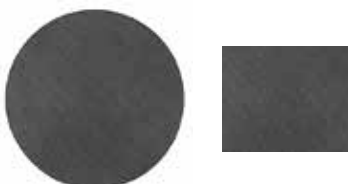
### ABRASIVE RECOMMENDATIONS

#### FIRST RECOMMENDATION



» Abranet P240–P1500

#### SECOND OPTION



» Abralon disc / sheets 360–4000

#### COMPLIMENTARY SUGGESTION



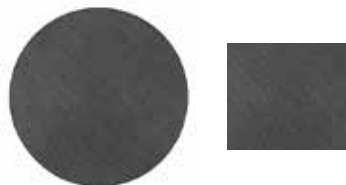
» Abralon + AbraWheel idea

## PLASTIC PRIOR TO COATING

» Sanding plastics requires a product that does not cause fibers to rise. Curved surfaces require a product that can follow the profile of the object and not reshape it.

### ABRASIVE RECOMMENDATIONS

#### FIRST RECOMMENDATION



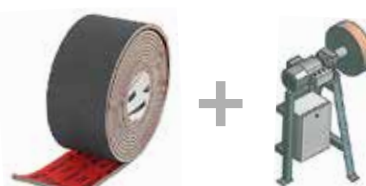
» Abralon disc / sheets 360–4000

#### SECOND OPTION



» Abranet P240–P1500

#### COMPLIMENTARY SUGGESTION



» Abralon + AbraWheel idea

# STAINLESS STEEL

Creating a beautiful and even brushed surface.



## A BRUSHED SURFACE ON STEEL



### CURVED SURFACE

» To achieve the brushed structure requested it is important to have a product with a broad grit range and the right foam hardness. For curved objects it is recommended to use a softer foam.

#### ABRASIVE RECOMMENDATIONS

##### FIRST RECOMMENDATION



» Abralon **soft** foam options + AbraWheel idea

### FLAT SURFACE

» To achieve the brushed structure requested it is important to have a product with a broad grit range and the right foam hardness. For a flat surface use a harder foam to achieve a good result

#### ABRASIVE RECOMMENDATIONS

##### FIRST RECOMMENDATION



» Abralon **hard** foam options + AbraWheel idea



# PRODUCTS FOR 3C






## ABRANET®

The multifunctional and classic Abranet is especially developed for sanding primers, lacquers, composite materials, aluminum and a wide range of other materials for industrial use. Abranet combines high performance and a longer lifespan than traditional abrasives, making it a cost-effective solution. Designed for dry sanding by machine or by hand, its true dust-free sanding characteristics result in a cleaner work environment, as well as a better surface finish. It also performs excellently in wet sanding operations



### TECHNICAL SPECIFICATIONS

<b>Bonding</b>	Resin over resin
<b>Grain</b>	Aluminium oxide
<b>Coating</b>	Closed
<b>Colour</b>	Brownish
<b>Grit range</b>	P80–P180, P240, P320–P1500
<b>Backing</b>	PA net
<b>Available as</b>	




## ABRALON® VERSIONS

Abralon is a patented, unique, multifunctional sanding material developed for tackling both smooth and profiled surfaces. The flexible weave also allows water and air to pass freely, making it suitable for both dry and wet sanding, by machine or by hand. Abralon comes in different foam hardness and thickness, tailor-made for sanding different shapes and sizes. The customer can choose the foam fit for purpose.



### TECHNICAL SPECIFICATIONS

<b>Bonding</b>	Special resin
<b>Grain</b>	Silicon carbide
<b>Coating</b>	Special Abralon® method
<b>Colour</b>	Grey
<b>Grit range</b>	180, 360, 500, 600, 1000, 2000, 3000, 4000
<b>Backing</b>	Knitted fabric on foam
<b>Foam hardness</b>	Soft / Medium / Hard
<b>Foam thickness</b>	3.0 mm / 3.8 mm / 5.0 mm
<b>Available as</b>	



## MIRLON®

Thanks to its special structure, Mirlon is a flexible, three-dimensional fibre sanding material that is easy to use on profiled surfaces and produces an excellent finish. It is ideal for matting of surfaces and creates an excellent base for coating or before polishing. Suitable for both wet and dry applications.

### TECHNICAL SPECIFICATIONS

<b>Bonding</b>	Resin
<b>Grain</b>	Aluminium oxide (GP,VF)/Silicon carbide (UF,MF)
<b>Coating</b>	Three-dimensional
<b>Colour</b>	Green (GP) / Red (VF) / Dark grey (UF) / Brownish (MF)
<b>Grit range</b>	General Purpose – 320, Very Fine – 360, Ultra Fine –1500, Micro Fine –2000
<b>Backing</b>	Non-woven
<b>Available as</b>	



## MIRLON TOTAL®

Developed using Mirka's innovative Total Coating™ Technology, Mirlon Total is more aggressive than Mirlon and produces a dense scratch pattern and rapid result. Suitable for use in wet and dry modes, it features an open and flexible structure and strengthened fibres which makes it strong and long-lasting.

### TECHNICAL SPECIFICATIONS

<b>Bonding</b>	Special resin
<b>Grain</b>	Silicon carbide
<b>Coating</b>	Special Abralon® method
<b>Colour</b>	Grey
<b>Grit range</b>	180, 360, 500, 600, 1000, 2000, 3000, 4000
<b>Backing</b>	Knitted fabric on foam

Available as



# GOLD

This durable, all-round sanding material is very well suited for high speed sanding in a multitude of applications. Gold features semi-open and special stearate coatings designed to prevent clogging and pill forming which helps achieve an optimal sanding result.



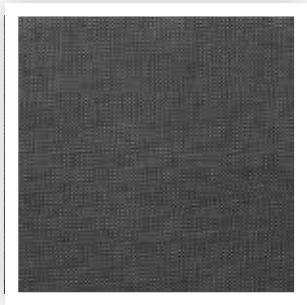
### TECHNICAL SPECIFICATIONS

<b>Bonding</b>	Resin over resin
<b>Grain</b>	Aluminium oxide
<b>Coating</b>	Semi-open
<b>Colour</b>	Gold
<b>Grit range</b>	P80–P800
<b>Backing</b>	D-paper/C-paper
<b>Available as</b>	



# INTERFACE FOR MIRLON

This unique interface provides great dust extraction when sanding with Mirka non-woven products. The interface removes the need to use velour on a non-woven product and thereby enables usage of both Mirlon and Mirlon Total, as discs or sheets when doing tool-sanding. The unique construction is based on a patented spacer backing.



### TECHNICAL SPECIFICATIONS

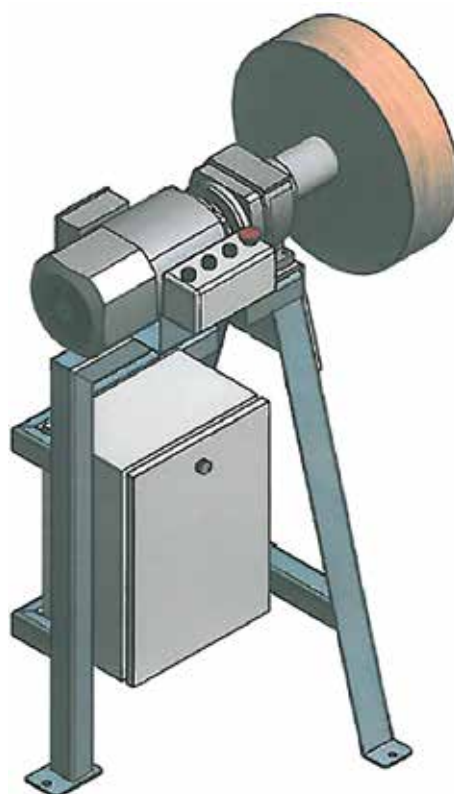
<b>Top layer</b>	Hook and loop
<b>Backing</b>	Mirka Spacer technology
<b>Available as</b>	





## AbraWheel

The AbraWheel is made to support sanding with Abralon products. AbraWheel allows Abralon to perform as a belt. Using Abralon products on a wheel will provide great cutting speed as well as a uniform sanding pattern. The AbraWheel is not sold by Mirka, but can be sent to the customer on a loan-agreement for concept evaluation. We recommend modifying the wheel for the process to enhance the yield.



# Mirka Power Tools

**MIRKA HAS EXPANDED** from a leading abrasive maker into a developer and manufacturer of complete sanding systems. As an integral part of that, Mirka's Power Tools unit is focused on manufacturing, designing, developing and marketing advanced tools for professional sanding and polishing, providing outstanding benefits to the users.

Ergonomic features together with an outstanding design and user-friendliness are putting Mirka's high quality professional tools as a state-of-the-art on the market. Thanks to the excellent ergonomic design, the machines can be used for long periods without fatigue.

Mirka's tool range consists of electric and pneumatic sanding machines, polishing machines, hand blocks and industrial dust extractors, along with equipment for the sanding of walls and ceilings. Together with a complete range of spare parts, backing pads and other accessories, Mirka is offering you total sanding and polishing solutions.

**Read more:** [www.mirka.com](http://www.mirka.com)

## myMirka for Digital Services & Connectivity



Mirka's digital transformation and connectivity vision is to transform surface finishing into a digital future, by launching smart interconnections, providing added values and

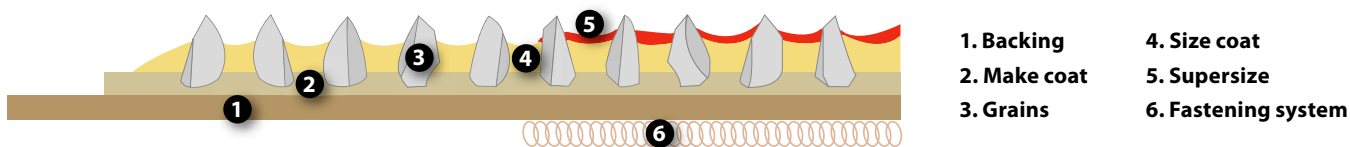
instant feedback to our customers and other stakeholders in a high tech smart fully integrated business environment with help of device intelligence and Big Data.

In the digital era, connectivity counts. myMirka is the platform providing you digital services and connectivity solutions, that creates value for the operators in their working environment.


Join myMirka, stay connected and utilise the added value Mirka brings the surface finishing industry, by transforming the business into a digital future.



# PRODUCT CONSTRUCTION



## Backing material

 The backing is the foundation of the product and when choosing a backing you will also choose what can be done with the product. The backing material not only carries the abrasive layers,

it must also transfer the sanding power through to the surface. This means that larger abrasive grains demand more power and, therefore, also need a stronger backing material.


### Paper backings

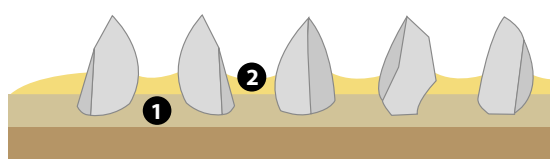
TYPE	WEIGHT	EXAMPLE
A-paper	90 g/m <sup>2</sup>	Goldflex
B-paper	110 g/m <sup>2</sup>	Gold Proflex
C-paper	125 g/m <sup>2</sup>	Gold
D-paper	150–180 g/m <sup>2</sup>	Gold
E-paper	220–250 g/m <sup>2</sup>	Gold Max
F-paper	270 g/m <sup>2</sup>	Jepuflex®
T-paper	300 g/m <sup>2</sup>	Sica Coarse

### Unique / Special backings

TYPE	SPECIAL FEATURES	EXAMPLE
Net-backing	Dust-free	Abranet®
Non-woven backing	Three-dimensional structure	Mirlon®
Knitted fabric on foam	Foam layer for damp sanding	Abralon®
Paper on foam	Ergonomic structure	Goldflex-Soft
Fiber reinforced paper	Strong and durable	Coarse Cut
Film backing	Even construction	Microstar®

## Make coat & size coat

 The 'make coat' and 'size coat' are layers of resin. The make coat is the first layer on which the abrasive grains are applied, while the size coat is added to keep the grains firmly in place.



1. Make coat 2. Size coat

A key factor in producing flexible abrasives is the amount of resin that is applied. A low amount of resin results in an aggressive product but with restricted working lifespan. Increasing the amount of resin increases the products working lifespan.

A constant research and development program has enabled Mirka to continually enhance the performance of its products. By optimising the construction of our products we have been able to provide innovative and cost effective solutions that meet the demanding requirements of modern customers.



## Amount of grains

➔ The performance is greatly affected by the amount of abrasive grains used. For example, less grains results in an open coating which is highly resistant to clogging, whereas more grains produce a closed coating with good stock removal and a smooth surface finish.



» Closed coating



» Semi-open coating



» Open coating (Mainly used in wood sanding)

## Grit sizes

➔ Different grit sizes are used for different purposes. Therefore, grit sizes are sorted during manufacture. Abrasive products can be made with different grit size standards such as FEPA, ANSI and GOST. Mirka uses grains according to the FEPA standards – Federation of European Producers of Abrasives. Products produced according to this standard are recognised by the 'P' mark – for example P80. Grain size is determined by passing them through sieves that are measured in 'threads-per-inch'. When it comes to micro grains, the threads-per-inch measurement is a theoretical amount.



**Abranet®**  
(closed coating)



**Gold**  
(semi-open coating)



**Avomax® Antistatic**  
(open coating)

## Grit standards

MACRO GRAIN SIZES			
FEPA		ANSI	GOST
FEPA P	Grain size (microns)		
P12	1,815	12	160
P16	1,324	16	125
P20	1,000	20	100
P24	764	24	80
P30	642	30	63
P36	538	36	50
P40	425	40	40
P50	336	50	32
P60	269	60	25
P80	201	80	16
P100	162	100	12
P120	125	120	10
P150	100	150	8
P180	82	180	6
P220	68	220	5

MICRO GRAIN SIZES			
FEPA		ANSI	GOST
FEPA P	Grain size (microns)		
P240	59		
P280	52	240	M63
P320	46		M50
P360	41	280	M40
P400	35	320	
P500	30		M28
P600	26	360	M20
P800	22	400	M10
P1000	18	500	M7
P1200	15	600	M5
P1500	13	800	
P2000	10	1000	
P2500	8	1200	

*Note! Standards are not directly comparable to each other.*



**Mirka Ltd**  
Finland

**Brazil** Mirka Brasil Ltda.

**Belgium** Mirka Belgium Logistics NV

**Canada** Mirka Canada Inc.

**China** Mirka Trading Shanghai Co., Ltd

**Finland & Baltics** Mirka Ltd

**France** Mirka France Sarl

**Germany** Mirka GmbH

**India** Mirka India Pvt Ltd

**Italy** Mirka Italia s.r.l., Cafro S.p.A

**Mexico** Mirka Mexicana S.A. de C.V.

**Russia** Mirka Rus LLC

**Singapore** Mirka Asia Pacific Pte Ltd

**Spain** KWH Mirka Ibérica S.A.U.

**Sweden** Mirka Scandinavia AB

**Turkey** Mirka Turkey Zimpara Ltd Şirketi

**United Kingdom** Mirka (UK) Ltd

**United Arab Emirates** Mirka Middle East FZCO

**USA** Mirka USA Inc.

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please visit **[www.mirka.com](http://www.mirka.com)**

