



**PRECISION
POLISHING**



**MICROABRASIVES
FOR INDUSTRY**



biffignandi
GROUP

WE IMPROVE THE WORLD OF SURFACE FINISHING

biffignandi s.p.a.





Biffignandi Spa was founded in **1923**, and has been a leader in the production, conversion and distribution of coated **abrasives** for **almost a century**.

The company is headquartered in Italy, and through a program of planned domestic and **international** expansion, Biffignandi now comprises a group of companies and divisions – each being innovators in their respective markets.

All entities in the Biffignandi Group are principally engaged in **surface treatment**, through the development of technologies, equipment and systems.

The philosophy of the Biffignandi Group is to deliver **optimal solutions** to our customers. We put the concept of sustainability, respect for our environment, investing in research and striving for innovation at the heart of what we do.



PRECISION POLISHING – FOCUS ON THE PERFECT FINISH

Industrial users are increasingly demanding products of a higher quality and reduced lead times from suppliers who can offer flexible solutions.

With a focus on meeting these demands, the **Precision Polishing** division sets the standard in the microfinishing and lapping sector.

- ▢ A **comprehensive range** of consistently high performance microabrasive film.
- ▢ **R&D and production** of innovative microfinishing flexible abrasives.
- ▢ **ECC (Environment Controlled Conversion)** to provide an optimal quality through the prevention of contaminates in the production of rolls, sheets, discs and belts.
- ▢ **Technical support and training** available at either the customer premises or at our in-house demonstration center.
- ▢ **Flexibility and efficient customer service** which has characterized Biffignandi for almost 100 years.



TARGET APPLICATIONS

Cylindrical components:

- Cylinders for industrial applications
- Cylinders for rotogravure
- Cylinders with surface coatings

Automotive sector:

- Crankshaft
- Camshaft
- Steering, engine and various components
- Valves

Other:

- Metallography
- Jewellery and watches
- Glasses
- Lenses





A PRODUCT FOR ALL MATERIALS...

DIAMOND POLISHING FILM
MICROFINISHING FILM
POLISHING FILM
MICROFINISHING FINAL FILM
POLISHING FLOCKED FILM



...CONVERTED INTO

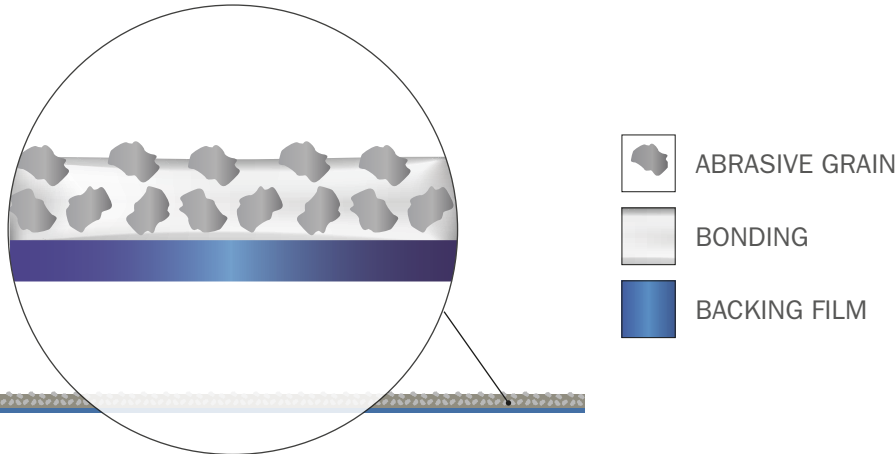
ROLLS, BOTH STANDARD AND CUSTOMIZED
SHEETS WITH AND WITHOUT PSA
DISCS WITH AND WITHOUT PSA
BELTS WITH SPECIAL SPLICED JOINTS

DIAMOND POLISHING FILM

Diamond microabrasive slurry coated on high precision 75 micron film, achieving a high-precision finish with excellent flexibility and durability.

It can be used either dry or wet with a water based soluble.

The main applications are lapping and polishing of hard materials such as carbides, ceramics, hard metals, minerals, gem stones and glass.



SERIES	GRIT RANGE MICRON	0,5	1	2	3	5	9	12	15	20	30	40	45	60
FD30	Diamond	✓	✓		✓	✓	✓		✓		✓		✓	✓

MICROFINISHING FILM

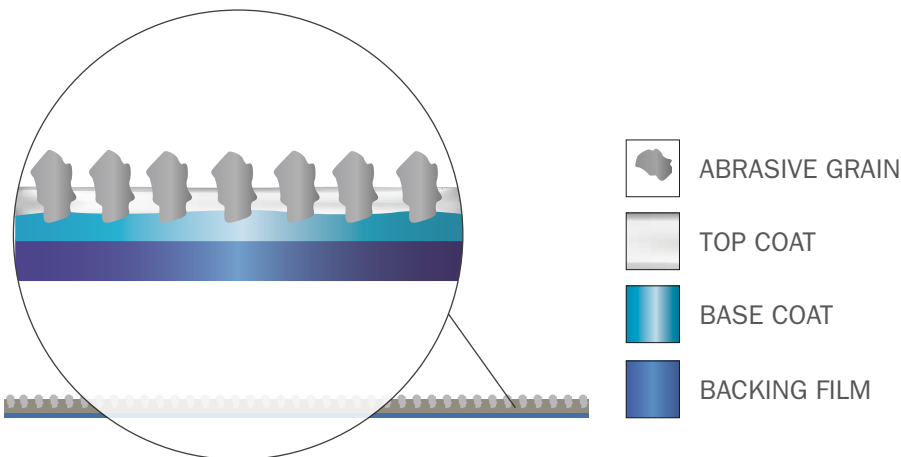


Microabrasives electrostatically coated on high precision 100 micron or 125 micron film, provide a solution for even the harshest and most aggressive applications, whilst achieving excellent surface finish and consistent results.

It can be used either dry or wet with a water based soluble.

Abrasive grains are available in either aluminum oxide or silicon carbide, and the microfinishing film can be supplied with an optional non-slip backing.

The main applications are the finishing and microfinishing of metals, plastics, rubber and other composite materials.



SERIES	GRIT RANGE MICRON	5	9	12	15	20	30	40	50	60	80	100
FA50	Aluminium Oxide	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
FS50	Silicon Carbide		✓		✓	✓	✓	✓		✓		
FA45	Aluminium Oxide		✓	✓	✓	✓	✓	✓	✓			

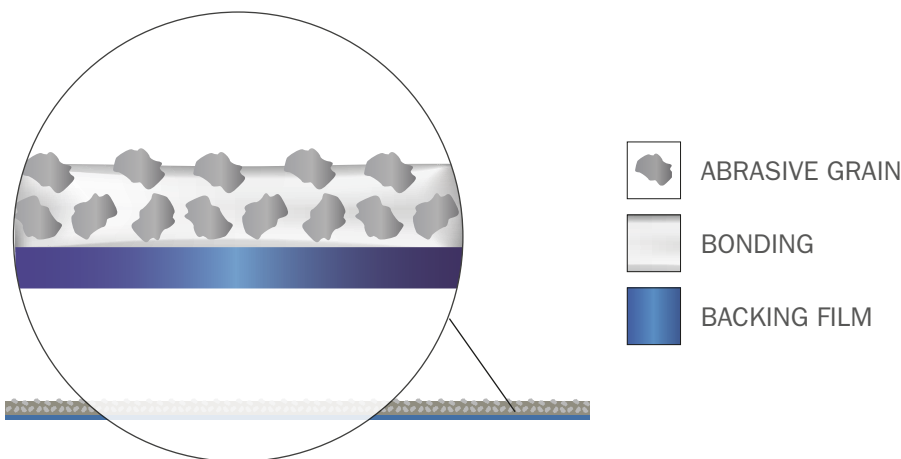
POLISHING FILM

Microabrasive slurry coated on high precision 75 micron film, gives an excellent finish with flexibility and durability.

It can be used either dry or wet with a water based soluble.

The main applications are polishing and lapping of metals, plastics, rubber and other composites materials.

Abrasive grains are available in either aluminum oxide or silicon carbide.

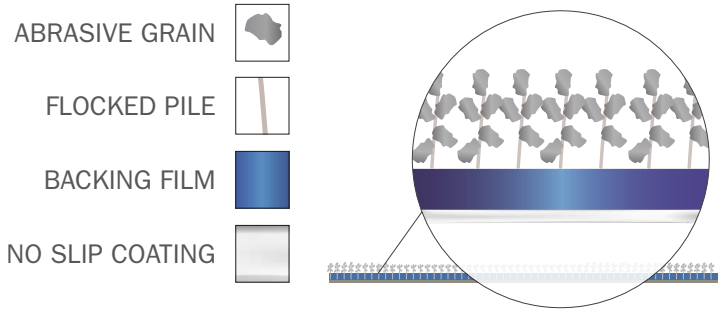


SERIES	GRIT RANGE MICRON	0,5	1	2	3	5	9	12	16	20	30	40
FA30	Aluminium Oxide	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
FS30	Silicon Carbide		✓		✓	✓	✓		✓	✓	✓	✓

MICROFINISHING FINAL FILM

Microabrasives coated on a soft flocked 125 micron film for final polishing.

Using a superfine aluminium oxide grain results in a perfect finish with a high gloss and shine.

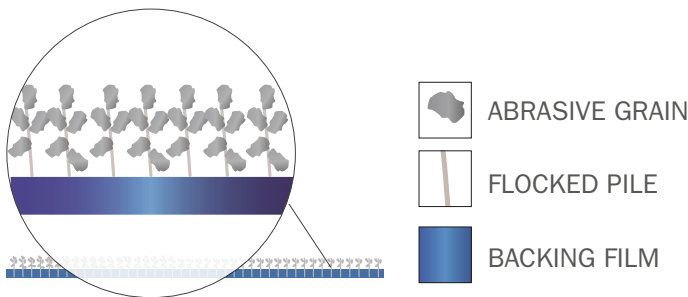


SERIES	GRIT RANGE MICRON	0,5	1
FA91	Aluminium Oxide	✓	✓

POLISHING FLOCKED FILM

Polishing microabrasives coated on a soft flocked 75 micron polyester film.

Available in fine and superfine grains in a choice of aluminum oxide, siliconcarbide or cerium oxide resulting in a perfect finish with enhanced gloss and shine.

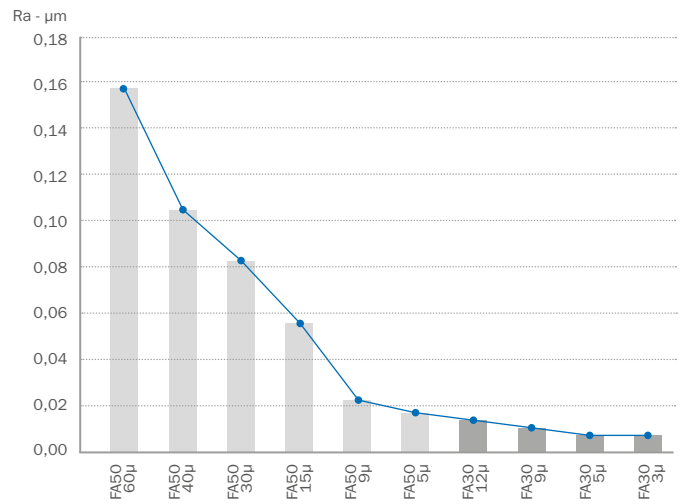


SERIES	GRIT RANGE MICRON	0,3	0,5	1	2	3	5	16
FA92	Aluminium Oxide			✓	✓		✓	✓
FS92	Silicon Carbide	✓				✓		
FE92	Cerium Oxide		✓	✓				

SUPERFINISHING TEST RESULTS

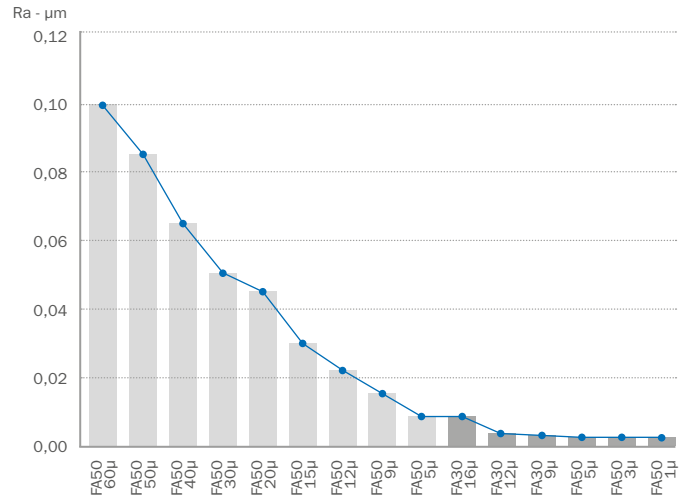
HARD CHROME - 65 HRC

DIMENSIONS	Ø 40 mm X 300 mm length
FILM SPEED	7 cm/min
ROLL ROTATION	260 rpm
TRAVERSE SPEED	20 cm/min
TRANSITIONS	4+4
CONTACT WHEEL	Rubber, 85 ShA (FA50) - 60 ShA (FA30)
OSCILLATION	30 Hz
PRESSURE	4 bar (FA50) - 3 bar (FA30)



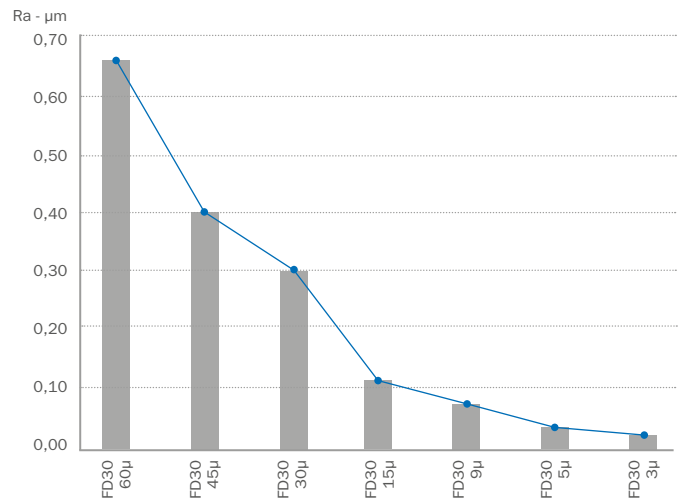
COPPER PLATED

DIMENSIONS	Ø 40 mm X 250 mm length
FILM SPEED	10 cm/min
ROLL ROTATION	550 rpm
TRAVERSE SPEED	40 cm/min
TRANSITIONS	2+2
CONTACT WHEEL	Rubber, 60 ShA
OSCILLATION	30 Hz
PRESSURE	3 bar



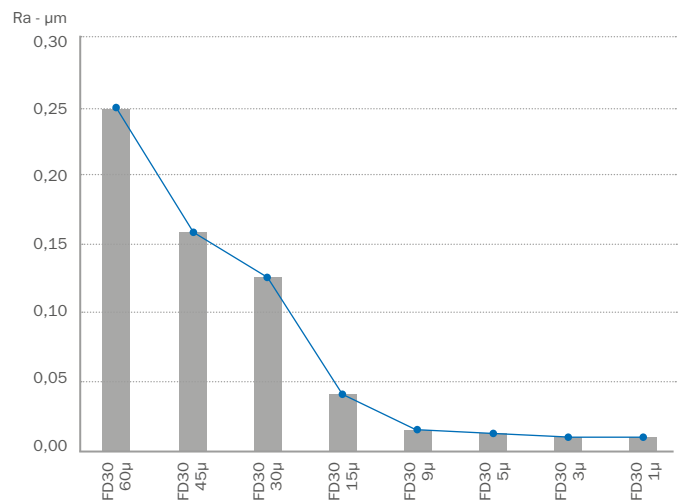
HVOF COATING - 1700 HV

DIMENSIONS	Ø 72 mm X 280 mm length
FILM SPEED	5 cm/min
ROLL ROTATION	70 rpm
TRAVERSE SPEED	40 cm/min
TRANSITIONS	3+3
CONTACT WHEEL	Rubber, 85 ShA
OSCILLATION	30 Hz
PRESSURE	4 bar



TUNGSTEN CARBIDE - 2600 HV

DIMENSIONS	Ø 40 mm X 300 mm length
FILM SPEED	5 cm/min
ROLL ROTATION	550 rpm
TRAVERSE SPEED	40 cm/min
TRANSITIONS	2+2
CONTACT WHEEL	Rubber, 85 ShA
OSCILLATION	30 Hz
PRESSURE	4 bar



		POLISHING FILM			MICROFINISHING FILM			FLOCKED FILM			
		ALUMINIUM OXIDE	SILICON CARBIDE	DIAMOND	ALUMINIUM OXIDE	SILICON CARBIDE	ALUMINIUM OXIDE	ALUMINIUM OXIDE	SILICON CARBIDE	CERIUM OXIDE	
		FA30	FS30	FD30	FA50	FS50	FA45	FA91	FA92	FS92	FE92
WORKPIECE MATERIALS	COPPER	✓			✓		✓	✓	✓	✓	
	HARD CHROME	✓		✓	✓		✓	✓	✓	✓	
	STEEL	✓	✓		✓	✓	✓	✓	✓	✓	
	CERAMIC			✓				✓			
	RUBBER	✓	✓	✓	✓	✓	✓				
	CAST IRON	✓		✓	✓						
	CARBIDE			✓				✓			
	PLASTIC		✓			✓					
	TEFLON		✓		✓	✓	✓				
	NICKEL		✓	✓		✓					
	GEM STONES			✓							✓
	ALUMINIUM	✓	✓		✓	✓	✓				
GLASS			✓		✓					✓	
		FA30	FS30	FD30	FA50	FS50	FA45	FA91	FA92	FS92	FE92
ENGINEERING INDUSTRIES	HYDRAULIC COMPONENTS	✓			✓		✓				
	BEARINGS	✓			✓		✓				
	METALLOGRAPHY		✓	✓	✓	✓	✓				
	PNEUMATIC COMPONENTS	✓	✓	✓				✓	✓	✓	
	WATCH & JEWELLERY	✓	✓	✓			✓			✓	✓
	CYLINDERS MAINTENANCE	✓	✓	✓	✓	✓	✓	✓	✓	✓	
	CYLINDERS MANUFACTURING	✓	✓	✓	✓	✓	✓	✓	✓	✓	
	ROTOGRAVURE CYLINDERS	✓			✓		✓				
AUTOMOTIVE INDUSTRIES	CRANKSHAFTS				✓						
	STEERING RACKS	✓			✓		✓				
	ENGINE COMPONENTS	✓	✓	✓	✓	✓	✓				
	VALVES	✓			✓		✓				
	CAMSHAFTS				✓						
	SHOCK ABSORBER				✓		✓				
	GEAR COMPONENTS	✓			✓		✓				
	PRECISION PARTS	✓	✓	✓	✓	✓	✓				
ELECTRONIC MARKETS	FIBRE OPTIC CONNECTORS	✓	✓	✓					✓	✓	✓
	HARD DISCS	✓	✓	✓							
	MICROMOTOR	✓		✓							
	MAGNETIC HEADS	✓		✓							
	OPTICAL CONNECTORS	✓			✓						
	CD RESTORING	✓	✓								
		FA30	FS30	FD30	FA50	FS50	FA45	FA91	FA92	FS92	FE92
TARGET FINISHING	FINISHING				✓	✓	✓				
	MICROFINISHING			✓	✓	✓	✓				
	POLISHING	✓	✓	✓					✓		
	MIRRORING							✓	✓	✓	✓



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