



# **Abrasives & Sanding Tech Tips**

# The main uses of Coated Abrasives

Removal of unwanted material:

- Corrosion removal
- Stripping panel of paint



# The main uses of Coated Abrasives

Restoring form and shape:

- Shaping of polyester stopper



# The main uses of Coated Abrasives

Gaining a finish:

- Feather edge sanding
- Polyester Stopper (putty) and pre-paint sanding



# The “P” Number

- Abrasive papers vary in grades / grits to suit individual needs.
- The grading of a paper is by a “P” number (e.g. “P240”).
- The greater the “P” number, the smoother the abrasive paper.
- The “P” number describes the number of openings within a defined area on the paper.

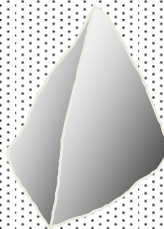
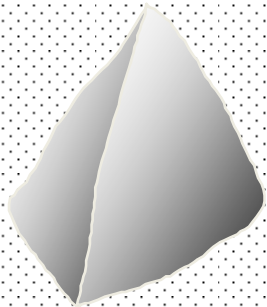
very coarse

coarse

fine

very fine

ultra fine



# Abrasive Scale for Sandpaper

US Standard (CAMI)  
“Grit”

versus

European Standard (FEPA)  
“P-Scale”

Notes:

The “P” grading system is the standard worldwide apart from in the U.S.A., where the ANSI grading system is used and also in Japan where the JIS grading system is used

CAMI = Coated Abrasives Manufacturers Institute (North America)

FEPA = Federation of European Producers Association (Europe)

## Abrasive Grading Scales for Sandpaper

	CAMI (U.S. Std) (See Note 1)	FEPA (P-Scale) (See Note 2)	Finishing Scale	Average Grit Particle Size	
				Microns	Inches
F I N I S H I N G	1200				
	1000	P2000		9.6	0.00042
	800	P1500		12.3	0.00051
		P1200	A16	15.8	0.00060
	600			16.0	0.00062
		P1000		18.3	0.00071
	500			19.7	0.00077
		P800	A25	21.8	0.00085
	400		A30	23.6	0.00092
		P600	A35	25.8	0.00100
S M O O T H I N G	360			28.8	0.00112
		P500		30.2	0.00118
		P400	A45	35.0	0.00137
	320			36.0	0.00140
		P360		40.5	0.00158
	280			44.0	0.00172
		P320	A60	46.2	0.00180
		P280		52.5	0.00204
	240		A65	53.5	0.00209
		P240	A75	58.6	0.00228
R O U G H I N G		P220	A90	65.0	0.00254
	220			66.0	0.00257
		P180	A110	78.0	0.00304
	180		A130	93.0	0.00363
		P150		97.0	0.00378
	120			116.0	0.00452
		P120	A160	127.0	0.00495
	100			141.0	0.00550
		P100	A200	156.0	0.00608
	80			192.0	0.00749
R O U G H I N G		P80		197.0	0.00768
		P60		260.0	0.01014
	60			268.0	0.01045
		P50		326.0	0.01271
	50			351.0	0.01369
		P40		412.0	0.01601
	40			428.0	0.01669
		P36		524.0	0.02044
	36			535.0	0.02087
		P30		622.0	0.02426
30			638.0	0.02488	
R O U G H I N G	24			715.0	0.02789
		P24		740.0	0.02886

# Sanding by Hand or Machine?



40	80	120	150	180	240	320	400	500	600	800	1000	1200	1500	2000
<b>production paper sheets or strips</b>			[Blue grid pattern]		waterproof paper sheets									
[Blue grid pattern]		Self lubricating dry paper sheets or strips									[Blue grid pattern]			
All grit sizes are available in disc form, production or lubricated														

# Abrasive Particles and Sandpaper Backings

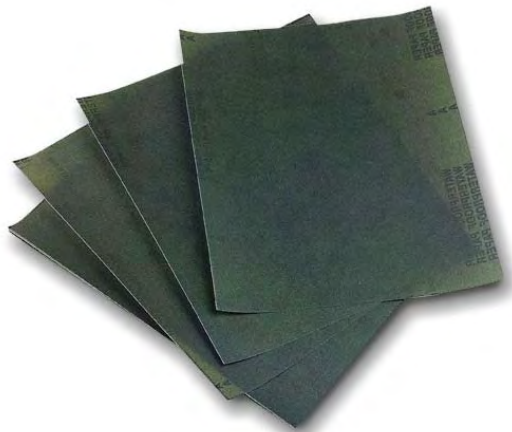


The abrasive particles on papers can vary, as can the backing material and the resins used for fixing the abrasive particles.

wet or dry paper

Closed coat silicone carbide

waterproof paper backing



production paper

Open coat aluminum oxide

reinforced paper backing



lubricated paper

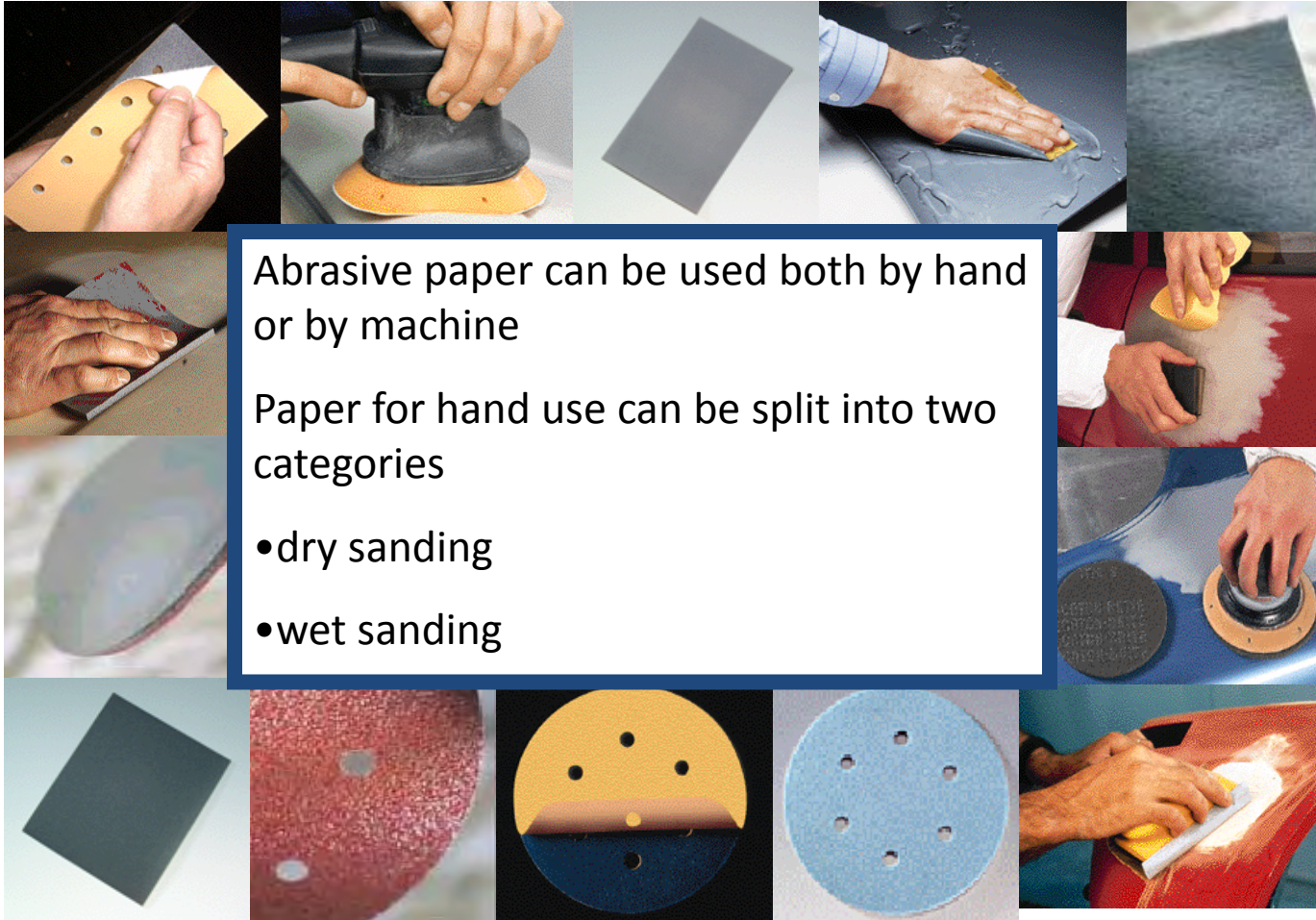
Semi open coat aluminum oxide + stearate coating

flexible paper backing





# Sanding by Hand or Machine?

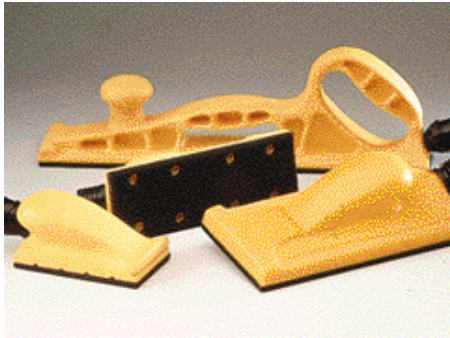


Abrasive paper can be used both by hand or by machine

Paper for hand use can be split into two categories

- dry sanding
- wet sanding

# Velcro or PSA Attachment Method



Many types of sanding blocks and sanding machines are available for attaching the chosen strip or disc.



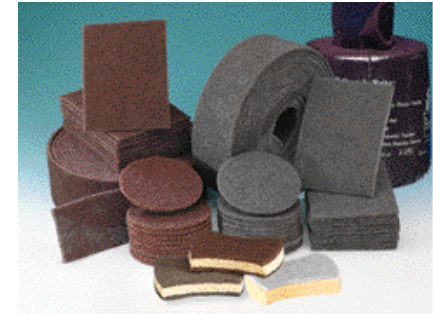
Discs and strips for dry use should be supplied with holes for dust extraction, if you have a vacuum assisted sander.

Ensure that the hole pattern matches the tool or block.

Discs and strips are attached by either Velcro (Hook-it) or are self adhesive (PSA – pressure sensitive adhesive)

# Interwoven Nylon (AKA “Scotch Brite”)

Abrasive manufacturers continue to introduce new products and systems into the marketplace



Interwoven nylon abrasive pads for abrading all substrates

Different grades allow for use in all stages of refinishing

Flexibility allows use in hard to reach areas



Hand or machine use



# Particles and Backings

Interface pads to give greater control when machine dry sanding



Micro blocks for precise local rectification's prior to polishing



Foam backed discs for rectification and final preparation P 1000 - 4000 wet or dry

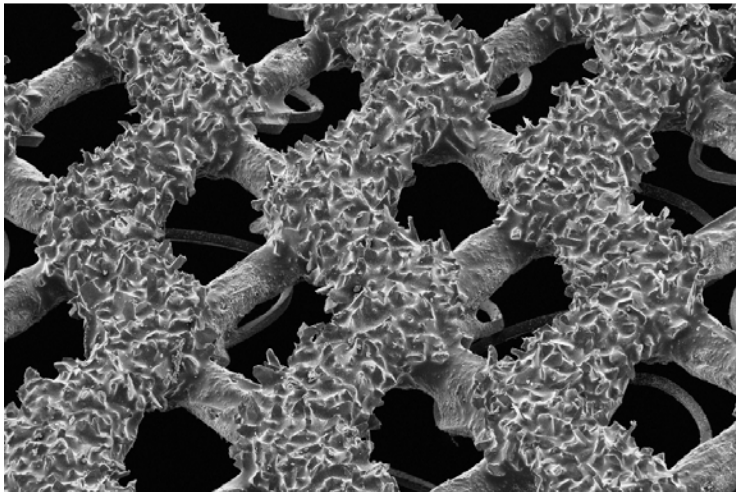


Liquid abrasives can be used solo or with abrasive pad

# New Technology - ABRANET

The surface of the ABRANET has approximately. 24 000 holes for a 150mm disc, the benefits of this are:

- Improved dust extraction
- Cleaner surface and working environment
- Virtually no clogging

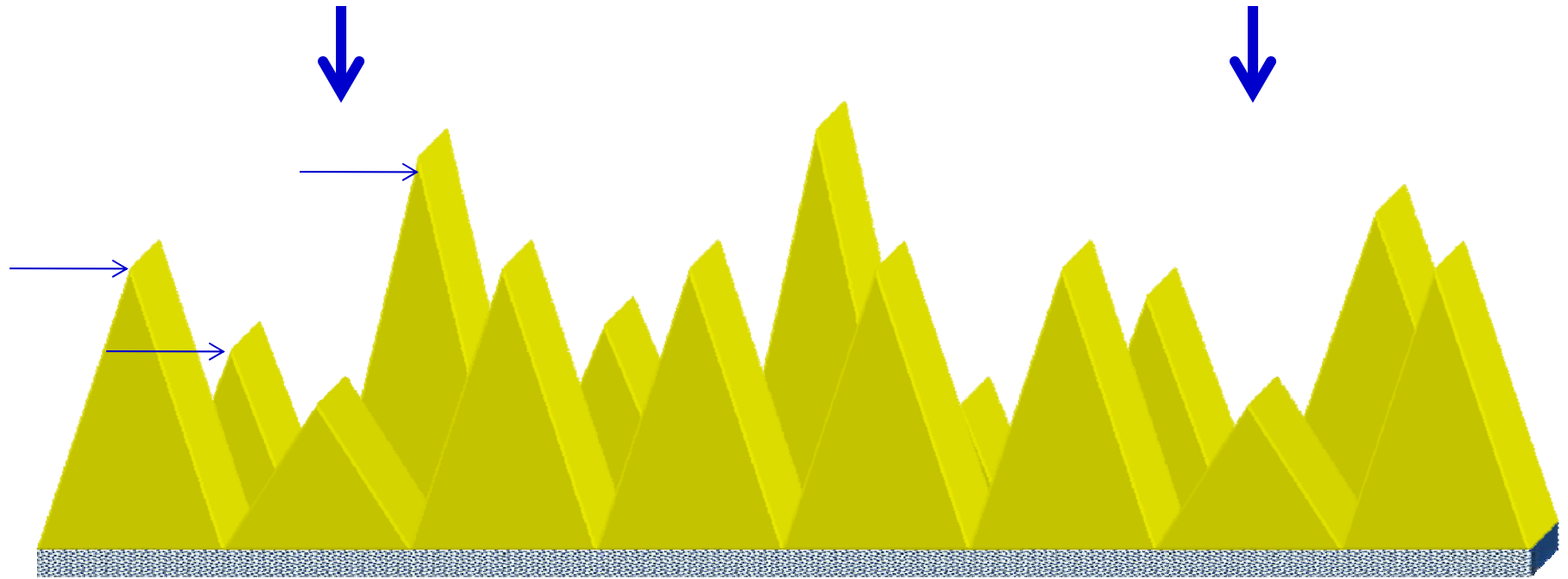


# Traditional Abrasive Technology

Traditional pattern of abrasive particles – random size abrasive particle and not uniform.



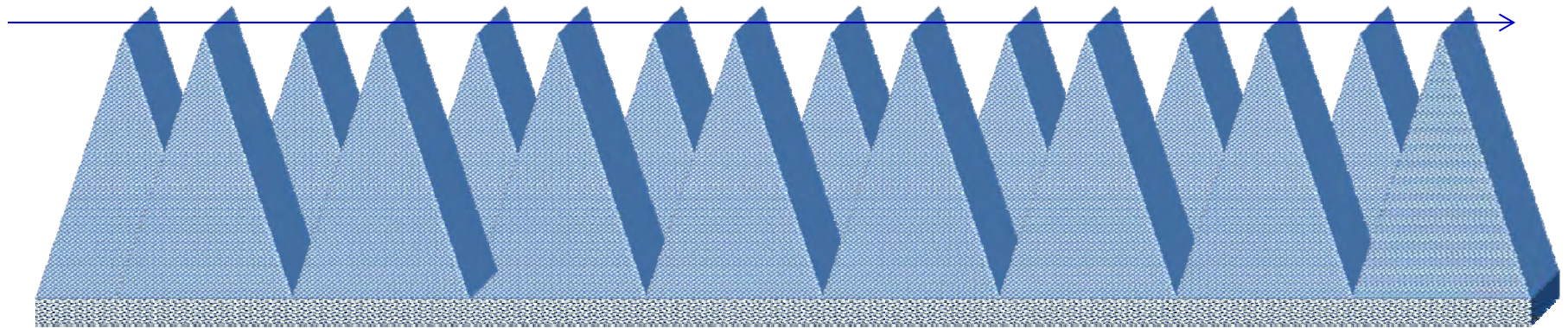
After sanding the abrasive is not evenly worn, producing an uneven scratch pattern.



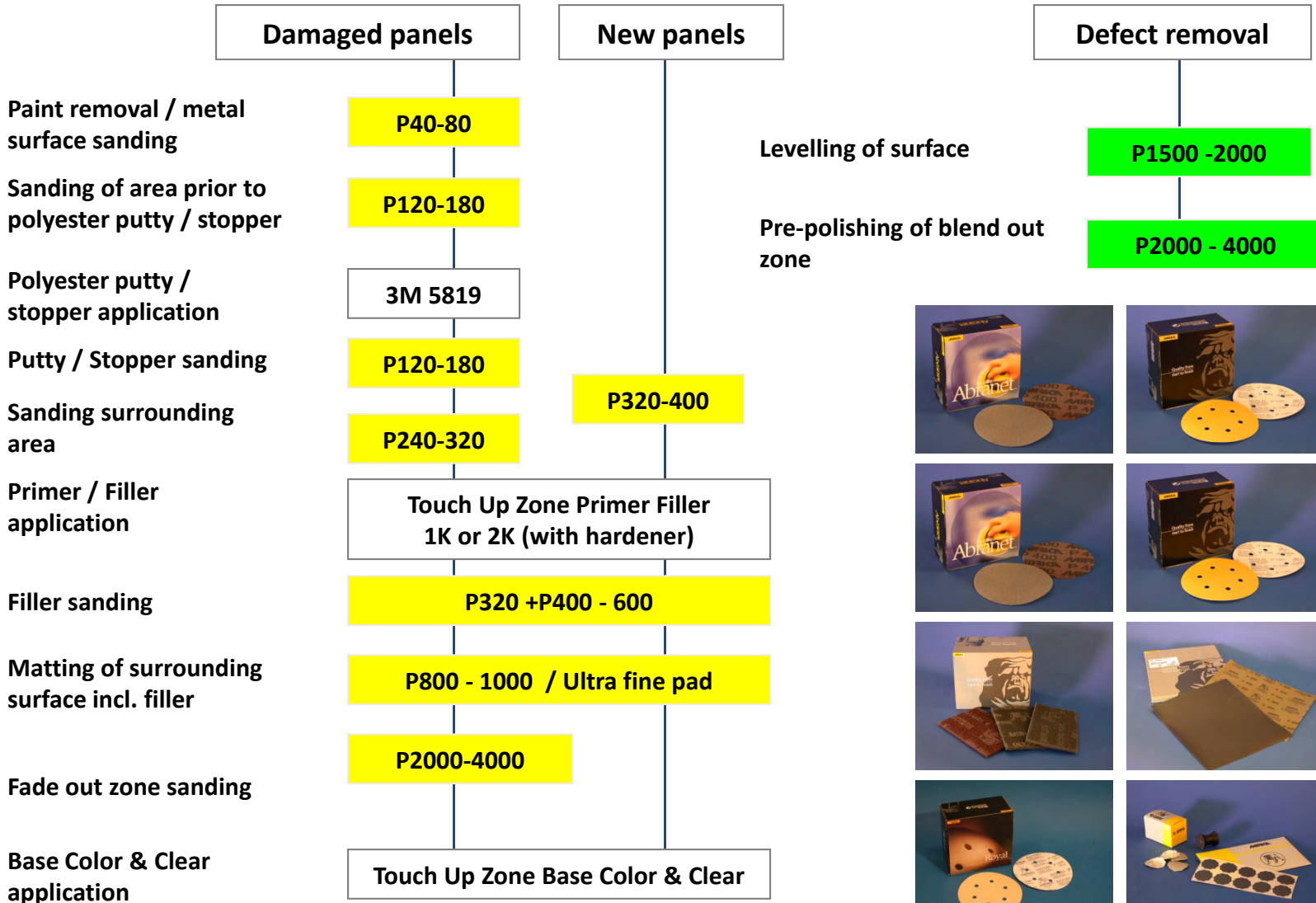
# 3M Trizact Abrasive Technology

3M Trizact abrasive particles are all of equal size, shape and very uniform.

After sanding the abrasive is evenly worn producing a perfect P3000 scratch pattern



# Process Review Chart







# Abrasives & Sanding Tech Tips

Please email any questions that you may have to  
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