



POLISHING TECHNOLOGY®

Flat Lapping - Flat Polishing

2016



MATCOR

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Meet your expectations
in surface finishing

Table of contents

▶▶ FLAT LAPPING



Flat Lapping Equipment

LAPPING AND POLISHING MACHINES

M.M.8400, 8600, 8380, 8700, 8100, 8120, 8120S4, 8150,
Options and Special machines pages 6 to 11

ACCESSORIES

Dosing pumps and Dosing units, Conditioning rings, Carriers, Carriers and skids,
Protection discs series 881 and 883, Holder discs series 885, FAS® plates,
FIXING disc, Protective film, Double sided adhesive, Diablocs and refills,
Monochromatic lamp, Optical flats, Flatness gauges, Washing stands and
Ultrasonic cleaning tank, Cleaning products
..... pages 12 to 19

Conventional Lapping System

FLAT LAPPING SUPPORTS

Cast iron plates page 20
Ternary alloy plate page 20

ABRASIVES: LIQUID PREPARATIONS

BIOLAM® composite abrasive liquids pages 21 to 23
CLASSIC composite abrasive liquids pages 23 to 24

ABRASIVE: COMPOUND PREPARATIONS

Abrasive compounds BIOLAP® pages 25 to 27
Abrasive compounds CLASSIC page 28
BIOJET Plus page 29
Abrasive bars page 29

ABRASIVE POWDERS

AQUA LAM® Al₂O₃ page 30
AQUA LAM® SiC page 31
AQUA LAM® B₄C page 31
AQUA LAM® CeO₂ page 31

ADDITIVES, LUBRICANTS, OILS

Additive 716 page 33
Lapping oil 708 page 33
Lubricant for cylindrical lapping AQUASUN page 33

Diamond Lapping System

FLAT LAPPING SUPPORTS	Plates NEW LAM® M'M'	pages 34 to 36
	Advanced composite plate EVOLAM.....	page 37
	Monocomponent Plates - Series 2000	page 37
	Manual lapping plates: LAMBLOCK CAMEO®, BI-LAMBLOCK, LAMBLOCK NEW LAM® M'M', TRI-BLOCS NEW LAM® M'M'	pages 38 to 39
	Lapping rods M.M.®	pages 40 to 43
	Expandable cylindrical Rods, Extractors	pages 44 to 45
ABRASIVE: LIQUID PREPARATIONS	Bio DIAMANT® NEOLAP® abrasive slurries	pages 46 to 48
	Diamond slurries - Series 241P.....	pages 47 to 49
ABRASIVE: COMPOUND PREPARATIONS	Bio DIAMANT® Compounds - Series 210	page 50 to 51
	Bio DIAMANT® Sticks - Series 122, M.M. 130 - 140	pages 50 to 51
LUBRICATING FLUIDS	NEOFLUID lubricating fluid	page 52
	M.M.712 et 705 lubricating fluids.....	page 52
	M.M.990-140 et 950-140 lubricating fluids	page 52

▶▶ FLAT POLISHING



Finish and Aspect Polishing

POLISHING CLOTHS & PADS	TOUHLAM® cloths from Ø 381 mm	pages 54 to 60
	Grooved, embossed and microperforated cloths	pages 59 to 60
	Diamond abrasive film HC	pages 61
ABRASIVE: COMPOUND PREPARATIONS	Bio DIAMANT® M.M.140 A Stick.....	page 62
ABRASIVE: LIQUID PREPARATIONS	AQUA LAM® Colloidal silicas: S.W. 30, NOVAL S finish, NOVAL concentrated, BIOLAM® Plus CeO ₂ liquid.....	page 63

**LAM
PLAN**® 2016

Flat Lapping



Flat lapping equipment



►► LAPPING AND POLISHING MACHINES

Originally designed to work with the patented LAM PLAN M.M.® system's products, the LAM PLAN range of lapping and polishing machines responds today to multiple lapping and polishing applications. The wide spectrum of the proposed versions allows treating parts of all dimensions.

► Lapping machine capacities (number of parts per ring)

Part Ø in mm	M.M. 8400	M.M. 8600	M.M. 8380 E/S	M.M. 8700 E/S	M.M. 8100 E/S	M.M. 8120 E/S	M.M. 8120 S4	M.M. 8150 E/S
6	408		408					
10.5	143		143					
15	67	225	67	275				
26	21	73	21	90	183	255	224	
38	9	35	9	43	86	119	105	
50	5	18	5	22	49	69	60	140
70	1	8	1	10	25	35	30	72
100	1	4	1	5	11	17	13	36
130	1	1	1	2	6	10	7	20
160	-	-	-	1	3	6	3	14
210	-	-	-	1	1	3	1	6
290	-	-	-	-	1	1	1	4
350	-	-	-	-	1	1	1	2
480	-	-	-	-	1	1	-	1
600	-	-	-	-	-	-	-	1

LAPPING

POLISHING

Ø
2000

Ø
700

Ø
400

Ø
380



M.M.8150



M.M.8100



M.M.8700



M.M.8600



M.M.8380



M.M.8400

Lapping and polishing machines Aluminium structure

The M.M.8400 and M.M.8600 machines offer the possibility at minimum cost to introduce in your workshop a reliable and productive lapping technique capable of responding to high specifications in terms of roughness and flatness. These machines can ensure small production series. Their compact overall dimensions and ergonomically designed controls facilitate their installation and usage.

M.M.8400

► Technical data

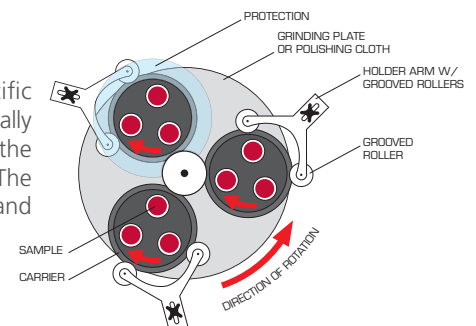
Plate Ø	381 mm
Ring inner Ø	138 mm
Number of rings	3
Electrical power supply	230 V single-phase – 50 Hz
Power	0.37 kW
Timer	3 sec to 30 hours
Speed	Variable from 30 to 90 rpm
Table	Antishock polypropylene
Overall dimensions	625 x 725 x 450 mm
Weight	70 kg
Support furniture (option)	H 73 cm (1 door ; 2 shelves)
Reference	10 08400 00



*M.M.8400 equipped
with the M.M.909 dosing unit*

► Option: Forced drive

The forced drive option allows performing polishing operations for special or specific applications: metallography, optical fibre, jewelry, optics, etc. This system allows automatically driving suspended carriers inside which the samples are placed. Thanks to this option, the use of conditioning rings is avoided and the rotating speed of the samples is constant. The system consists of a central drive wheel, a holder arm equipped with special rollers and notched carriers of a useful 130 mm diameter.



M.M.8600

► Technical data

Plate Ø	610 mm
Ring inner Ø	248 mm
Number of rings	3
Electrical power supply	230 V single-phase – 50 Hz
Power	2.2 kW
Timer	3 sec to 30 hours
Speed	Variable from 30 to 90 rpm
Table	Sanded stainless steel
Overall dimensions	1250 x 1400 x 1400 mm
Weight	400 kg
Reference	10 86010 00



► Equipment available for M.M.8400 and M.M.8600

These machines can be equipped with a patented NEW LAM® M'M' plate. The various proposed accessories (dosing unit, FAS® plate, polishing cloths, etc.) allow adapting the basic machine to all specific applications (micromechanics, watchmaking industry, electronics, etc.).

Lapping and polishing machines Stainless steel structure

Due to their design and their rigid frame made of mechano-welded stainless steel, these machines are intended for in-series production and maintenance work. The high-torque motor/reducer unit does not require any maintenance and thus allows guaranteeing a high reliability of this range of machines. The various options and accessories available will allow you to respond precisely to the most demanding specifications.



M.M.8380 S

M.M.8380 version E and version S

► Technical data

	M.M.8380 E	M.M.8380 S
Plate Ø	380 mm	380 mm
Ring inner Ø	138 mm	138 mm
Number of rings	3	3
Electrical power supply	230 V single-phase – 50 Hz	230 V single-phase – 50 Hz
Power	0.55 kW	0.55 kW
Load	/	Pneumatic jacks
Timer	3 sec to 30 hours	3 sec to 30 hours
Speed	Variable from 30 to 90 rpm	Variable from 30 to 90 rpm
Table	Stainless steel	Stainless steel
Overall dimensions	900 x 725 x 1400 mm	900 x 725 x 1800 mm
Weight	160 kg	215 kg
Reference	10 8380E 00	10 8380S 00



M.M.8700 S

M.M.8700 version E and version S

► Technical data

	M.M.8700 E	M.M.8700 S
Plate Ø	700 mm	700 mm
Ring inner Ø	275 mm	275 mm
Number of rings	3	3
Electrical power supply	230 V single-phase – 50 Hz	230 V single-phase – 50 Hz
Power	2.2 kW	2.2 kW
Load	/	Pneumatic jacks
Timer	3 sec to 30 hours	3 sec to 30 hours
Speed	Variable from 30 to 90 rpm	Variable from 30 to 90 rpm
Table	Stainless steel	Stainless steel
Overall dimensions	1250 x 1400 x 1400 mm	1450 x 1200 x 1800 mm
Weight	700 kg	950 kg
Reference	10 8700E 00	10 8700S 00

M.M.8100 version E and version S

► Technical data

	M.M.8100 E	M.M.8100 S
Plate Ø	1000 mm	1000 mm
Ring inner Ø	406 mm	406 mm
Number of rings	3	3
Electrical power supply	400 V three-phase+neutral – 50 Hz	400 V three-phase+neutral – 50 Hz
Power	4 kW	5.5 kW
Load	/	Pneumatic jacks
Timer	3 sec to 30 hours	3 sec to 30 hours
Speed	Variable from 20 to 60 rpm	Variable from 20 to 60 rpm
Table	Stainless steel	Polished stainless steel
Overall dimensions	1725 x 1725 x 1400 mm	1725 x 1725 x 2300 mm
Weight	1500 kg	2000 kg
Reference	10 8100E 00	10 8100S 00



M.M.8100 S

M.M.8120 version E and version S

► Technical data

	M.M.8120 E	M.M.8120 S
Plate Ø	1200 mm	1200 mm
Ring inner Ø	480 mm	480 mm
Number of rings	3	3
Electrical power supply	400 V three-phase+neutral – 50 Hz	400 V three-phase+neutral – 50 Hz
Power	5.5 kW	5.5 kW
Load	/	Pneumatic jacks
Timer	3 sec to 30 hours	3 sec to 30 hours
Speed	Variable from 20 to 60 rpm	Variable from 20 to 60 rpm
Table	Stainless steel	Stainless steel
Overall dimensions	1725 x 1725 x 1400 mm	1725 x 1800 x 2300 mm
Weight	1800 kg	2300 kg
Reference	10 8120E 00	10 8120S 00



M.M.8120 S

M.M.8120S4

► Technical data

Plate Ø	1200 mm
Ring inner Ø	450 mm
Number of rings	4
Electrical power supply	400 V three-phase+neutral – 50 Hz
Power	7.5 kW
Load	Pneumatic jacks
Timer	3 sec to 30 hours
Speed	Variable from 20 to 60 rpm
Table	Stainless steel
Overall dimensions	1750 x 1750 x 2300 mm
Weight	3200 kg
Reference	10 8120S400



M.M.8120 S4



M.M.8150 S

M.M.8150 version E et version S

► Technical data

	M.M.8150 E	M.M.8150 S
Plate Ø	1500 mm	1500 mm
Ring inner Ø	600 mm	600 mm
Number of rings	3	3
Electrical power supply	400 V three-phase+neutral – 50 Hz	400 V three-phase+neutral – 50 Hz
Power	7.5 kW	7.5 kW
Load	/	Pneumatic jacks
Timer	3 sec to 30 hours	3 sec to 30 hours
Speed	Variable from 20 to 60 rpm	Variable from 20 to 60 rpm
Table	Stainless steel	Stainless steel
Overall dimensions	2000 x 2500 x 1400 mm	2000 x 2500 x 2100 mm
Weight	3000 kg	3500 kg
Reference	10 8150E 00	10 8150S 00

Options for lapping and polishing machines

	M.M.8400	M.M.8600	M.M.8380	M.M.8700	M.M.8100	M.M.8120	M.M.8150
Protective casing (for version E and S)		X	X	X	X	X	X
Cooling system (cooling unit)				X	X	X	X
Weight compensation system (only for version E)					X	X	
Support cabinet w/ shelves	X						



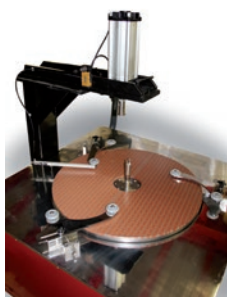
Peristaltic or venturi dosing units



Protective casing



Cooling unit



Weight compensation system

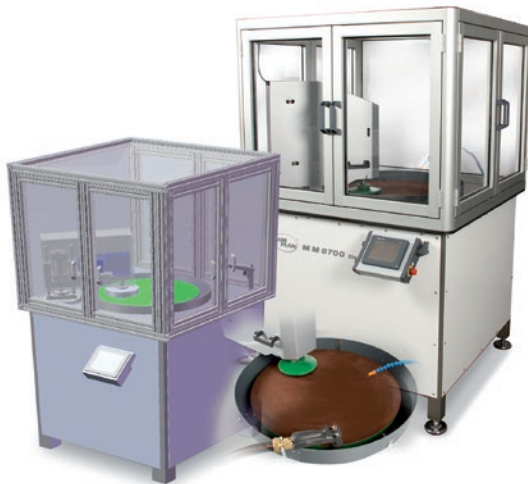


Support cabinet for M.M.8400



Specific development, special machines

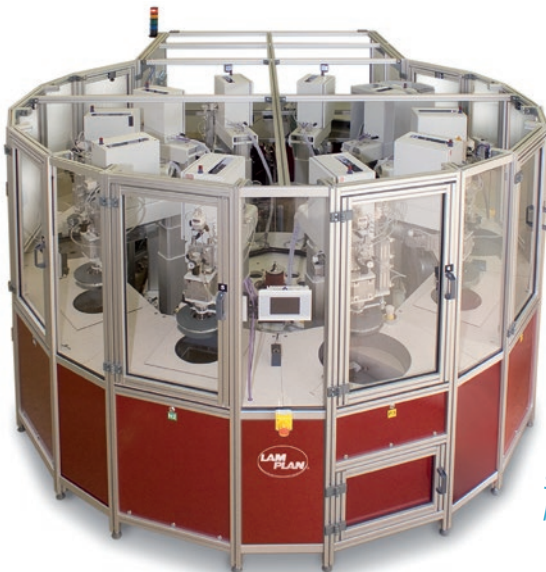
We are at your disposal to conduct a production and automatization study of your lapping and polishing processes.



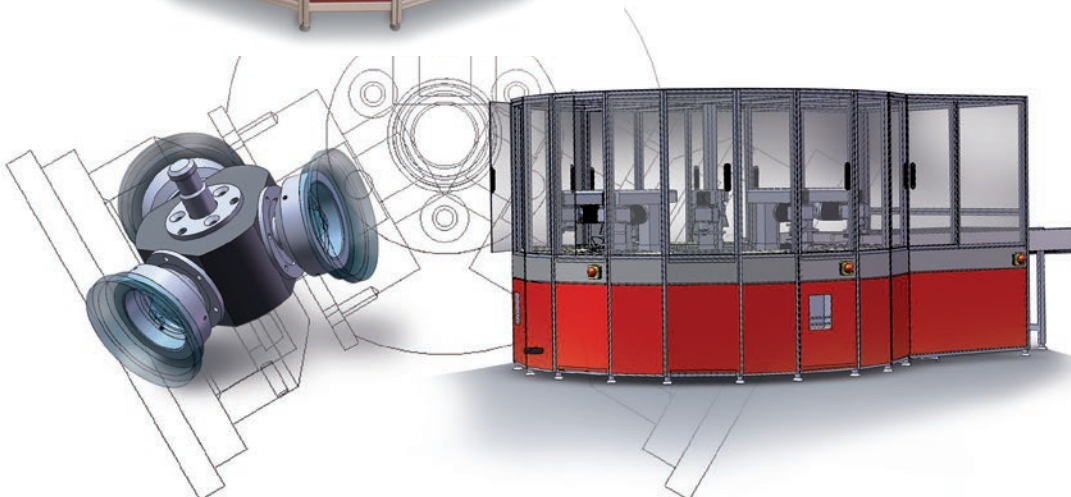
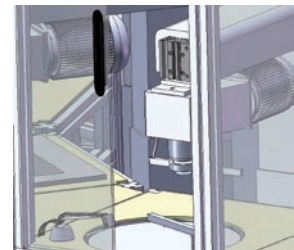
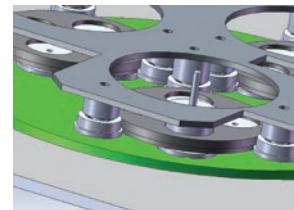
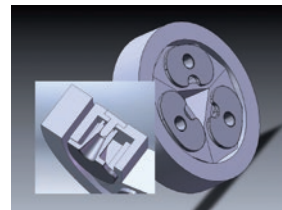
Machine for the polishing of wafers



Multi-nozzle abrasive dispenser



SPMS10 multi-stage automatic polishing system (carousel)



►► ACCESSORIES

Dosing pumps - Series 8000

High capacity AQUA LAM® dosing pumps types 8003 and 8007.

These distribution systems are ideal for any type of abrasive immersed in a liquid, regardless of its nature. They allow resolving settling-out problems and thus guarantee regular and repetitive results. The connection can be made directly to the LAM PLAN lapping machine's control panel or independently on others machines.



Dosing pump type 8003



Distribution system for Dosing pump type 8003 and 8007



Dosing pump type 8007

Dosing pump type 8003

For production application on machines of any diameters.

Tank	Useful volume: 50 litres
Electrical power supply	Pump: 220V single-phase Agitator: 220 V single-phase
Dosing machine communication	1 x 24 V input sequenced for solenoid valve
Pump flow rate	50 l/min.
Distribution system	3 orientable outlets with adjustable flow rate Bypass solenoid valve Fixing by 2 M8 screws to machine bracket (not supplied)

Dosing pump type 8007

For occasional use for machines up to 380 mm diameter.

Tank	Useful volume: 7 litres
Electrical power supply	Pump: 220V single-phase Agitator: 220 V single-phase
Dosing machine communication	1 x 24 V input sequenced for solenoid valve
Pump flow rate	25 l/min.
Distribution system	3 orientable outlets with adjustable flow rate Bypass solenoid valve Fixing by 2 M8 screws to machine bracket (not supplied)

Designations	Quantities	Capacities	References
Dedicated for LAM PLAN machines			
Dosing pump type 8003	1	50 litres	W000 08003
Dosing pump type 8007	1	7 litres	W000 08007
Adaptable version, with automatic sequencing system			
Dosing pump type 8003 automatic	1	50 litres	W001 08003
Dosing pump type 8007 automatic	1	7 litres	W001 08007

Diamond slurry dosing units Series 800 and 900

The distribution of diamond slurries or lubricating fluids requires the use of pulverizers. Our dosing units M.M.809B and M.M.909 associated with our spray nozzles ensure a precise and regular distribution of the products. The various adjustments (distribution interval, pulverization time, etc.) allow obtaining homogeneous and repetitive polishing results.

Dosing unit M.M.809B - Venturi

Distribution system	- Distribution of 2 different liquids by Venturi system - 1 liquid compartment equipped with an agitator
Controls	By analog buttons and timers
Compressed air feed system	2 bars
Electrical power supply	220 V single-phase – 50 Hz
Dosing machine communication	1 x 220 V input for machine servoing



Doser M.M.809B

Designations	Qty	Dimensions	References
Dosing unit M.M.809B	1	2 x 500 cc glass bottles	08 01809 10
Double spraying nozzle 815 on movable foot	1	For machine Ø ≤ 700 mm	08 00815 20
Double spraying nozzle 815 model L on movable foot	1	For machine Ø 700 to 1000 mm	08 00815 40
Double spraying nozzle 815 model XL on movable foot	1	For machine Ø ≥ 1200 mm	08 00815 60
Glass bottle	2	500 cc	08 02804 00

Dosing unit M.M.909 - peristaltic pumps

Distribution system	3 standard peristaltic pumps, with 1 outlet to drive an external pump
Controls	Touch screen
Electrical power supply	220 V single-phase – 50 Hz
Dosing machine communication	1 x 24 V input for machine servoing



Doser M.M.909

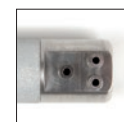
Dosing unit M.M.909 HV - peristaltic pumps

Distribution system	2 standard peristaltic pumps, 1 high flow rate pump for high viscosity slurries, with 1 outlet to drive an external pump
Controls	Touch screen
Electrical power supply	220 V single-phase – 50 Hz
Dosing machine communication	1 x 24 V input for machine servoing



Touch screen interface

Designations	Qty	Dimensions	References
Dosing unit M.M.909	1	3 x 500 cc glass bottles	08 01799 20
Distribution nozzle type 811 on movable foot	1	For machine Ø ≤ 700 mm	08 00811 00
Distribution nozzle type 811 model L on movable foot	1	For machine Ø >700 mm	08 00811 10
Dosing unit M.M.909 HV	1	3 x 500 cc glass bottles	08 00799100
Distribution nozzle type 813 on movable foot	1	For machine Ø ≤ 700 mm	08 00813 00
Distribution nozzle type 813 model L on movable foot	1	For machine Ø >700 mm	08 00813 10
Dosing unit M.M.909 ADAPTABLE version with manual switch on/off	1	3 x 500 cc glass bottles	08 03799 00
Stirrer	1	for 500 cc glass bottle	08 02816 00
Glass bottle	2	500 cc	08 02804 00



Detail Nozzle 811



Detail Nozzle 813



Nozzle 811

Cast iron conditioning rings

Specific high quality cast irons selected by us for optimum, sustainable results. Adaptable to all lapping machines, regardless of the trademark and size. Available in stock or made on request.



LAM PLAN machines	Other machines	Ø in mm		Qty	References
		Outer	Inner		
	14"	166	130	1	U166 A0355
MM 8400/8380 (Ø 381 mm)	15"	178	140	1	U178 A0381
MM 8600 (Ø 610 mm)	24"	286	248	1	U286 A0610
MM 8700 (Ø 700 mm)		315	275	1	U315 A0711
	36"	419	368	1	U419 A0914
MM 8120 (Ø 1200 mm)	48"	545	480	1	U545 A1219
MM 8120 (Ø 1200 mm)	48" (4 rings)	510	432	1	U510 A1219
MM 8150 (Ø 1500 mm)	59"	685	605	1	U685 A1500

SPYLAP® ceramic conditioning rings®

Guard against mechanical deformation problems. Ceramic rings allow you to preserve the inherent flatness of the plates, control over heating, while limiting pollution because no graphite present.

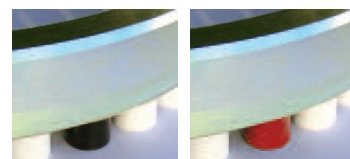
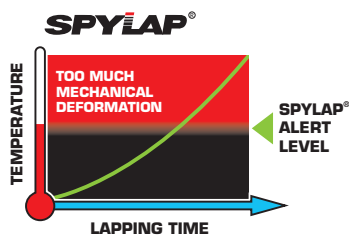
SPYLAP® allows the user to foresee visually a too large mechanical deformation of the lapping (or polishing) support and the parts to be lapped.

SPYLAP® permanently senses the support's temperature and goes from black to red at a precise predefined temperature.

SPYLAP®



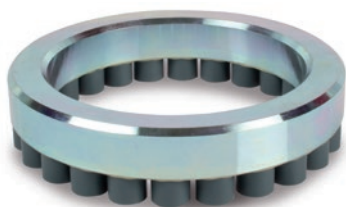
LAM PLAN machines	Other machines	Ø in mm		Qty	References
		Outer	Inner		
	12"	140	106	1	08 83062 10
MM 8400/8380 (Ø 381 mm)	15"	182	140	1	08 83562 10
MM 8600 (Ø 610 mm)	24"	290	248	1	08 86562 10
MM 8700 (Ø 700 mm)		317	275	1	08 87562 10
MM 8100 (Ø 1000 mm)	40"	450	406	1	08 81062 10
MM 8120 (Ø 1200 mm)	48"	544	480	1	08 81262 10



Standby

Alert

Plastic rings



LAM PLAN machines	Other machines	Ø in mm		Qty	References
		Outer	Inner		
	12"	140	106	1	08 83012 00
	14"	172	130	1	08 83112 00
MM 8400/8380 (Ø 381 mm)	15"	182	140	1	08 83512 00
MM 8600 (Ø 610 mm)	24"	290	248	1	08 86512 00
MM 8700 (Ø 700 mm)		317	275	1	08 87512 00
MM 8100 (Ø 1000 mm)	40"	450	406	1	08 87012 00
MM 8120 (Ø 1200 mm)	48"	544	480	1	08 87262 00

Carriers - Series 884

Easily machinable plastic discs. Allow holding your parts during the lapping operation on single side machines. Thickness 3 mm. On request, PMMA carriers will be delivered to you with the honeycomb cells at the dimensions of your parts.

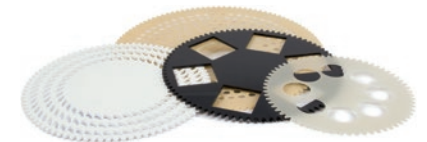
Designations	Quantities	Dimensions in mm	References
PVC carriers	3	138	08 83504 00
	3	245	08 86004 00
	3	275	08 87504 00
	3	406	08 81004 00
	3	480	08 81204 00
Skids	600	Ø 12	UPAT 012AC



Carriers

Make tailored carriers according to model and drawing for a double-side lapping machine from 12" (305 mm) to 48" (1219 mm). The carriers are available in various materials: epoxy, PVC and metal... Min. thickness 0.3 mm.

Designations	References
Epoxy carrier	USAT 00001
PVC carrier	USAT 00002
Metal carrier	USAT 00003



Carriers

Protection discs - Series 881 and 883

Series 881: Protection and low compensation discs (other diameters on request) .

Series 883: Discs for large thickness compensation. Thickness 10 mm.

Designations	Quantities	Ø in mm	References
Protection discs Series 881	10	138	08 83501 00
	10	245	08 86001 00
	10	275	08 87501 00
	10	406	08 81001 00
	10	480	08 81201 00
Compensation discs Series 883	3	138	08 83503 00
	3	245	08 86003 00
	3	275	08 87503 00
	3	406	08 81003 00
	3	480	08 81203 00



Series 881



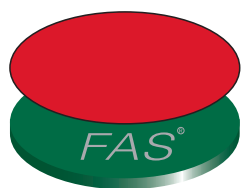
Series 883

Holder discs - Series 885

Anti-slipping holder discs for a part with a small thickness. Thickness 4 mm.

Designations	Quantities	Ø in mm	References
Holder discs	3	138	08 83505 00
	3	245	08 86005 00
	3	275	08 87505 00
	3	406	08 81005 00
	3	480	08 81205 00





Self-adhesive support FAS®

FAS® plate

FAS® plates

Plates with anti-adhesion coating for self-adhesive supports.

Designations	Quantities	Dimensions in mm	References
	1	381	09 FAS00 40
FAS plates	1	400	09 FAS00 80
	1	610	09 FAS00 60
	1	700	09 FAS00 70

► Other Ø on request.



Self-adhesive support

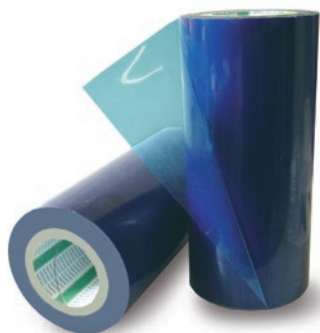
FIXING®

Metal plate

FIXING discs

Semi-flexible support disc: 1 self-adhesive side. Allows easy sticking and unsticking of large self-adhesive polishing supports.

Designations	Quantities	Dimensions in mm	References
	5	381	TFIX 60380
	5	400	TFIX 60400
FIXING discs	1	550	TFIX 60550
	1	610	TFIX 60610
	1	700	TFIX 60700
	1	914	TFIX 60914



Protective film

Adhesive technical film on one side. Protects the surfaces after polishing or treatment.

Designations	Quantite	Dimensions in mm	Reference
Protective film	1	30 cm x 100 m	Z000 G7BL1

Double sided adhesive

Double sided adhesive cloth with smooth protective sheet.

Designations	Quantite	Dimensions in mm	Reference
Double sided adhesive cloth	1	39 cm x 25 m	Z000 G739B



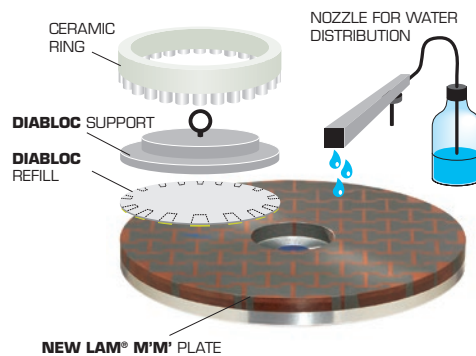
Diablocs and refills

Diablocs

The Diabloc is a self-adhesive disc with a series of diamond pellets. It is stuck to a stable, lapped aluminium support. It allows reconditioning NEW LAM® M'M' plates; it corrects the deformations and surface defects (glazing, scratches) of your plates.

- Diabloc blue for rough lapping plates.
- Diabloc green for fine lapping plates.

► Implementation



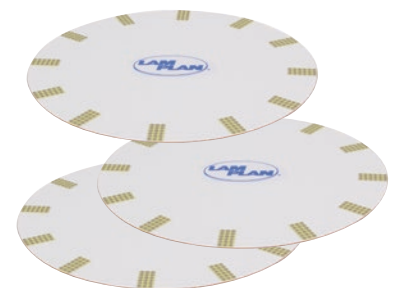
1 piece

Plate types	Colours	Ø in mm	References
NEW LAM M'M' Blue Ø 300 mm	Blue	155	08 00900 50
NEW LAM M'M' Blue Ø 381 mm	Blue	178	08 00900 60
NEW LAM M'M' Blue Ø 610 mm	Blue	286	08 00900 70
NEW LAM M'M' Blue Ø 700 mm	Blue	315	08 00900 90
NEW LAM M'M' Blue Ø 914 mm	Blue	419	08 00900 80
NEW LAM M'M' Blue Ø 1000 mm	Blue	451	08 00900180
NEW LAM M'M' Blue Ø 1200 mm	Blue		08 00900 00
NEW LAM M'M' Green and Yellow Ø 300 mm	Green	155	08 00901 50
NEW LAM M'M' Green and Yellow Ø 381 mm	Green	178	08 00901 60
NEW LAM M'M' Green and Yellow Ø 610 mm	Green	286	08 00901 70
NEW LAM M'M' Green and Yellow Ø 700 mm	Green	315	08 00901 90
NEW LAM M'M' Green and Yellow Ø 914 mm	Green	419	08 00901 80
NEW LAM M'M' Green and Yellow Ø 1000 mm	Green	451	08 00901180
NEW LAM M'M' Green and Yellow Ø 1200-1500 mm	Green		08 00901 00

Refills

1 piece

Plate types	Colours	Ø in mm	References
NEW LAM M'M' Blue Ø 300 mm	Blue	155	08 01900 50
NEW LAM M'M' Blue Ø 381 mm	Blue	178	08 01900 60
NEW LAM M'M' Blue Ø 610 mm	Blue	286	08 01900 70
NEW LAM M'M' Blue Ø 700 mm	Blue	315	08 01900 90
NEW LAM M'M' Blue Ø 914 mm	Blue	419	08 01900 80
NEW LAM M'M' Blue Ø 1000 mm	Blue	451	08 01900180
NEW LAM M'M' Blue Ø 1200-1500 mm	Blue		08 01900 00
NEW LAM M'M' Green and Yellow Ø 300 mm	Green	155	08 01901 50
NEW LAM M'M' Green and Yellow Ø 381 mm	Green	178	08 01901 60
NEW LAM M'M' Green and Yellow Ø 610 mm	Green	286	08 01901 70
NEW LAM M'M' Green and Yellow Ø 700 mm	Green	315	08 01901 90
NEW LAM M'M' Green and Yellow Ø 914 mm	Green	419	08 01901 80
NEW LAM M'M' Green and Yellow Ø 1000 mm	Green	451	08 01901180
NEW LAM M'M' Green and Yellow Ø 1200-1500 mm	Green		08 01901 00





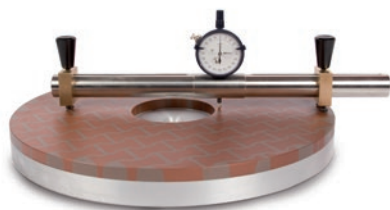
Monochromatic lamp and optical flats



Removable, also usable with its stand



Optical flat



Flatness gauge for machine Ø 200 – 400 mm

Monochromatic lamp, optical flats, flatness gauges

Monochromatic lamp

The flatness checking of your parts requires the use of a monochromatic lamp and an optical flat. For an easy reading of the geometry of your mechanical parts, the LAM PLAN monochromatic lamp is characterized by a large field of view at 180°. The light of the low pressure sodium vapour light bulb has a specific wavelength compatible with the LAM PLAN optical flats.

► Technical characteristics

Checking capacity	Optical flat Ø 150 mm maximum
Width	280 mm
Depth	330 mm
Height	390 mm
Equipment	Mirror delivered as standard to check deformable parts

Designations	Quantities	References
Monochromatic lamp	1	08 00801 00
Replacement bulb	1	08 00801 90

Optical flat

Dimensions	Quantities	References
Ø 50 mm, 2 sides (1/10 λ)	1	08 00805 00
Ø 50 mm, 1 side (1/10 λ)	1	08 01805 00
Ø 75 mm, 2 sides (1/10 λ)	1	08 00807 00
Ø 75 mm, 1 side (1/10 λ)	1	08 01807 00
Ø 100 mm, 2 sides (1/10 λ)	1	08 00810 00
Ø 100 mm, 1 side (1/10 λ)	1	08 01810 00
Ø 125 mm, 2 sides (1/10 λ)	1	08 00812 00
Ø 125 mm, 1 side (1/10 λ)	1	08 01812 00
Ø 150 mm, 2 sides (1/10 λ)	1	08 00814 00
Ø 150 mm, 1 side (1/10 λ)	1	08 01814 00
Ø 200 mm, 1 side (1/4 λ)	1	08 03820 00

Flatness gauges

For a fast and precise check of your lapping plates, with a direct reading of the measurement. Precision: 1 µm. Each set includes:

- 1 marble, precision: 0.8 µm.
- 1 gauge made of stabilized aluminium.
- 1 micron comparator.
- 1 transport and storage case.
- 1 user book with charts and mapping formulas.

Dimensions	Quantities	References
For machine Ø 200 – 400 mm	1	08 00898 00
For machine Ø 610 mm	1	08 00892 00
For machine Ø 700 mm	1	08 00894 00
For machine Ø 1000 mm	1	08 00893 00
For machine Ø 1200 mm	1	08 00895 00
For machine Ø 1500 mm	1	08 00897 00

Washing stands

Designations	Quantities	References
Ultrasonic cleaning tank M.M.275 – 2.75 L	1	60 US200 00
Ultrasonic cleaning tank M.M.1800 – 18 L	1	60 US180 00
Ultrasonic cleaning tank M.M.3000 – 28 L	1	60 US300 00
Ultrasonic cleaning tank M.M.4000 – 45 L	1	60 US450 00
Special stanol washing stand M.M.8066	1	08 00660 00
Special detergent washing stand M.M.8077	1	08 00770 00



Washing stand M.M.8077



Ultrasonic cleaning tank

Cleaning products

Stanol barrel

Solvent for washing stand M.M.8066.

Detergent 742

Concentrated detergent in aqueous phase used to degrease and clean parts after lapping or polishing cycles. This detergent with a high anticorrosion power is an excellent alternative to conventional cleaning solvents. Non inflammable, it is ideal for cleaning all types of materials (steels, cast irons, aluminium, etc.).

It is diluted 2 to 5% with water for use in ultrasonic cleaning tanks (40 to 55°C) or 7 to 20% with water for fountain based cleanings.

Detergent 743

Aqueous detergent specifically adapted for the cleaning of ceramics, refractory materials and glasses.

Dilute 1 volume of detergent in 9 volumes of water.



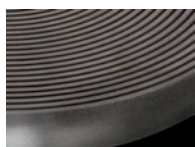
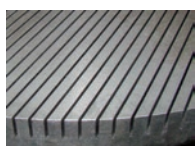
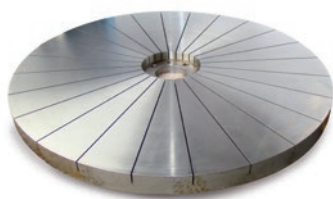
Designations	Quantities	References
Stanol barrel	60 litres	08 00614 00
Detergent 742	5 litres	08 01742 10
Detergent 742	30 litres	08 01742 30
Detergent 742	220 litres	08 01742 60
Detergent 743	5 litres	08 01743 10

Conventional lapping system

►► FLAT LAPPING SUPPORTS



As designer and manufacturer of cast iron rings and plates we select specific high quality cast irons for optimum and sustainable results. The AQUA LAM® rings and plates are adaptable to all lapping machines, regardless of the trademark and size. Available in stock or made on request, AQUA LAM® cast iron rings and plates have an exceptional quality/price ratio.



Cast iron plates

Grooved cast iron lapping plates with the LAM PLAN adaptation system. Any other machine adaptation on request.

Dimensions Ø	Thicknesses (according to lapping machine types)	References
14" 355 mm	25 - 40 mm	V014 RASTD
15" 381 mm	25 - 40 mm	V015 RASTD
24" 610 mm	35 - 40 mm	V024 RASTD
28" 711 mm	55 mm	V028 RASTD
36" 914 mm	57 - 58 mm	V036 RASTD
39" 991 mm	57 - 60 mm	V039 RASTD
48" 1219 mm	70 mm	V048 RASTD
56" 1420 mm	80 - 100 mm	V056 RASTD
59" 1500 mm	80 - 100 mm	V059 RASTD

Ternary alloy plate

Lapping plate used to make surfaces shine without stock removal.

Designation	Quantities	Ø in mm	References
Plate	1	150	VBLO A0150
	1	300	VBLO G0300

►► ABRASIVES: LIQUID PREPARATIONS

BIOLAM® composite abrasive liquids

New generation of biodegradable abrasive liquids refined by our Research & Development Department. Very practical for lapping machines equipped with small or medium capacity tanks.

► Advantages

- Easy and fast to implement.
- Very low settling of the abrasive, uniformity of results.
- Constant and stable abrasive film.
- Without dangerous substances.
- Reduction of operating costs.
- Practically non-existent odour.
- Cleanliness and great cleaning simplicity (eg, water or water + ordinary detergent).
- Compact packaging: containers of 2 and 20 litres, other packagings on request.

BIOLAM® PLUS to be diluted

Abrasive liquids which are smooth, odourless, biodegradable, easy-to-clean. Limited settling: does not require the addition of an additive. To be diluted 1 to 5 times in water.

OXYDE D'ALUMINIUM (Al ₂ O ₃)			
		By container of 2 litres	By container of 20 litres
FEPA	µm	References	References
100	125	A125 V92L1	A125 V9020
120	105	A105 V92L1	A105 V9020
150	88	A088 V92L1	A088 V9020
180	74	A074 V92L1	A074 V9020
220	62	A062 V92L1	A062 V9020
240	45	A045 V92L1	A045 V9020
280	37	A037 V92L1	A037 V9020
320	29	A029 V92L1	A029 V9020
360	23	A023 V92L1	A023 V9020
400	17	A017 V92L1	A017 V9020
500	13	A013 V92L1	A013 V9020
600	9	A009 V92L1	A009 V9020
800	7	A007 V92L1	A007 V9020
1000	5	A005 V92L1	A005 V9020
1200	3	A003 V92L1	A003 V9020
1400	2	A002 V92L1	A002 V9020
1500	1	A001 V92L1	A001 V9020
1800	0,7	CP70 V92L1	
2000	0,4	CP40 V92L1	
2200	0,2	CP20 V92L1	
4500	0,05	CP05 V92L1	





SILICON CARBIDE (SiC)			
		By container of 2 litres	By container of 20 litres
FEPA	µm	References	References
80	177	E177 V92L1	E177 V9020
100	125	E125 V92L1	E125 V9020
120	105	E105 V92L1	E105 V9020
180	74	E074 V92L1	E074 V9020
220	62	E062 V92L1	E062 V9020
240	45	E045 V92L1	E045 V9020
280	37	E037 V92L1	E037 V9020
320	29	E029 V92L1	E029 V9020
360	23	E023 V92L1	E023 V9020
400	17	E017 V92L1	E017 V9020
500	13	E013 V92L1	E013 V9020
600	9	E009 V92L1	E009 V9020
800	7	E007 V92L1	E007 V9020
1000	5	E005 V92L1	E005 V9020
1200	3	E003 V92L1	E003 V9020

The BIOLAM® Plus composite abrasive liquids to be diluted are also available in boron carbide (B_4C) and cerium oxide (CeO_2). Other grains on request.

BIOLAM® S ready-to-use

Abrasive liquids which are biodegradable, odourless, non toxic. Very easy to clean. Very easy to use: pour directly into the abrasive tank of the machine, limited settling. Depending on use, can be used pure or diluted up to 2 times in water.



ALUMINIUM OXIDE (Al_2O_3)			
		By container of 2 litres	By container of 20 litres
FEPA	µm	References	References
150	88	A088 V62L1	A088 V6020
180	74	A074 V62L1	A074 V6020
220	62	A062 V62L1	A062 V6020
240	45	A045 V62L1	A045 V6020
280	37	A037 V62L1	A037 V6020
320	29	A029 V62L1	A029 V6020
360	23	A023 V62L1	A023 V6020
400	17	A017 V62L1	A017 V6020
500	13	A013 V62L1	A013 V6020
600	9	A009 V62L1	A009 V6020
800	7	A007 V62L1	A007 V6020
1000	5	A005 V62L1	A005 V6020
1200	3	A003 V62L1	A003 V6020
1500	1	A001 V62L1	A001 V6020
1800	0.7	CP70 V62L1	CP70 V6020
2000	0.4	CP40 V62L1	CP40 V6020
2200	0.2	CP20 V62L1	CP20 V6020
4500	0.05	CP05 V62L1	CP05 V6020

SILICON CARBIDE (SiC)			
		By container of 2 litres	By container of 20 litres
FEPA	µm	References	References
80	177	E177 V62L1	E177 V6020
100	125	E125 V62L1	E125 V6020
120	105	E105 V62L1	E105 V6020
150	88	E088 V62L1	E088 V6020
180	74	E074 V62L1	E074 V6020
220	62	E062 V62L1	E062 V6020
240	45	E045 V62L1	E045 V6020
280	37	E037 V62L1	E037 V6020
320	29	E029 V62L1	E029 V6020
360	23	E023 V62L1	E023 V6020
400	17	E017 V62L1	E017 V6020
500	13	E013 V62L1	E013 V6020
600	9	E009 V62L1	E009 V6020
800	7	E007 V62L1	E007 V6020
1000	5	E005 V62L1	E005 V6020
1200	3	E003 V62L1	E003 V6020
1360	2	F1P5 V62L1	F1P5 V6020
1500	1	F001 V62L1	F001 V6020
1800	0.7	FP70 V62L1	FP70 V6020

The ready-to-use BIOLAM® S composite abrasive liquids are also available in boron carbide (B₄C) and cerium oxide (CeO₂). Other grains on request.

CLASSIC composite abrasive liquids

A high-performance product which has proven its adaptability to all uses, notably in large tanks and under intensive use. According to the desired concentration, 1 litre of abrasive solution allows obtaining between 5 and 10 litres of abrasive liquid.

► Advantages

- Increased work rate.
- Easy to resuspend the mixture.
- Flexible, efficient and balanced abrasive film.
- Very little odour.
- Reduction of operating costs.
- Cleanliness and great cleaning simplicity (eg, detergent 711-103).
- Ingenious packaging: stackable 2 x 2 and 4 x 2 litre packs (reduced handling).

Concentrated abrasive liquids, easy-to-use for easy cleaning.

One 2x2 litres pack = 20 to 30 litres of solution. These products allow working with abrasive concentrations adaptable to use. Requires stirring during usage. Easy to resuspend. Compatible with the additive 716.



ALUMINIUM OXIDE (Al₂O₃)			
		Pack of 2 x 2 litres	Pack of 4 x 2 litres
FEPA	µm	References	References
180	74	A074 S12L2	A074 S12L4
220	62	A062 S12L2	A062 S12L4
240	45	A045 S12L2	A045 S12L4
280	37	A037 S12L2	A037 S12L4
320	29	A029 S12L2	A029 S12L4
360	23	A023 S12L2	A023 S12L4
400	17	A017 S12L2	A017 S12L4
500	13	A013 S12L2	A013 S12L4
600	9	A009 S12L2	A009 S12L4
800	7	A007 S12L2	A007 S12L4
1000	5	A005 S12L2	A005 S12L4
1200	3	A003 S12L2	A003 S12L4
1500	1	A001 S12L2	A001 S12L4

SILICON CARBIDE (SiC)			
		Pack of 2 x 2 litres	Pack of 4 x 2 litres
FEPA	µm	References	References
180	74	E074 S12L2	E074 S12L4
220	62	E062 S12L2	E062 S12L4
240	45	E045 S12L2	E045 S12L4
280	37	E037 S12L2	E037 S12L4
320	29	E029 S12L2	E029 S12L4
360	23	E023 S12L2	E023 S12L4
400	17	E017 S12L2	E017 S12L4
500	13	E013 S12L2	E013 S12L4
600	9	E009 S12L2	E009 S12L4
800	7	E007 S12L2	E007 S12L4
1000	5	E005 S12L2	E005 S12L4
1200	3	E003 S12L2	E003 S12L4

The CLASSIC composite abrasive liquids are also available in boron carbide (B₄C) and cerium oxide (CeO₂). Other grains on request.

▸▸ ABRASIVES: COMPOUND PREPARATIONS

Abrasive compounds BIOLAP® - Series L

Concentrated abrasive compounds with lubricating fluids. Oil base, self-lubricating, intended for lapping parts together and/or for cylindrical lapping. Biodegradable, odourless, without dangerous substances.

► Advantages

- Without trace of water.
- Alumina, silicon carbide or boron carbide base.
- Grain sizes of 0.05 to 125 microns.
- Biodegradable products.
- Low viscosity.
- Packaged in cans of 50 and 250 cm³.



ALUMINIUM OXIDE (Al ₂ O ₃)			
		By can of 50 cm ³	By can of 250 cm ³
FEPA	µm	References	References
100	125	A125 O3P05	A125 O3P25
120	105	A105 O3P05	A105 O3P25
150	88	A088 O3P05	A088 O3P25
180	74	A074 O3P05	A074 O3P25
220	62	A062 O3P05	A062 O3P25
240	45	A045 O3P05	A045 O3P25
280	37	A037 O3P05	A037 O3P25
320	29	A029 O3P05	A029 O3P25
360	23	A023 O3P05	A023 O3P25
400	17	A017 O3P05	A017 O3P25
500	13	A013 O3P05	A013 O3P25
600	9	A009 O3P05	A009 O3P25
800	7	A007 O3P05	A007 O3P25
1000	5	A005 O3P05	A005 O3P25
1200	3	A003 O3P05	A003 O3P25
1500	1	A001 O3P05	A001 O3P25
1800	0.7	CP70 O3P05	CP70 O3P25
2000	0.4	CP40 O3P05	CP40 O3P25
2200	0.2	CP20 O3P05	CP20 O3P25
4500	0.05	CP05 O3P05	CP05 O3P25

SILICON CARBIDE (SiC)			
		By can of 50 cm ³	By can of 250 cm ³
FEPA	µm	References	References
80	177	E177 O3P05	E177 O3P25
100	125	E125 O3P05	E125 O3P25
120	105	E105 O3P05	E105 O3P25
150	88	E088 O3P05	E088 O3P25
180	74	E074 O3P05	E074 O3P25
220	62	E062 O3P05	E062 O3P25
240	45	E045 O3P05	E045 O3P25
280	37	E037 O3P05	E037 O3P25
320	29	E029 O3P05	E029 O3P25
360	23	E023 O3P05	E023 O3P25
400	17	E017 O3P05	E017 O3P25
500	13	E013 O3P05	E013 O3P25
600	9	E009 O3P05	E009 O3P25
800	7	E007 O3P05	E007 O3P25
1000	5	E005 O3P05	E005 O3P25
1200	3	E003 O3P05	E003 O3P25
1500	1	F001 O3P05	F001 O3P25
1800	0.7	FP70 O3P05	FP70 O3P25

BORON CARBIDE (B₄C)			
		By can of 50 cm ³	By can of 250 cm ³
FEPA	µm	References	References
120	105	G105 O3P05	G105 O3P25
180	74	G074 O3P05	G074 O3P25
220	62	G062 O3P05	G062 O3P25
240	45	G045 O3P05	G045 O3P25
280	37	G037 O3P05	G037 O3P25
320	29	G029 O3P05	G029 O3P25
360	23	G023 O3P05	G023 O3P25
400	17	G017 O3P05	G017 O3P25
500	13	G013 O3P05	G013 O3P25
600	9	G009 O3P05	G009 O3P25
800	7	G007 O3P05	G007 O3P25
1000	5	G005 O3P05	G005 O3P25
1200	3	G003 O3P05	G003 O3P25
1500	1	G001 O3P05	G001 O3P25

For personalized formulations, consult us (free estimate).

Abrasive compounds BIOLAP® - Series Cr L

Concentrated abrasive compounds with lubricating fluids, oil base, without water, self-lubricating. Reinforced with chromium oxide. Easy application. Biodegradable, odourless, without dangerous substances.



ALUMINIUM OXIDE (Al ₂ O ₃)			
		By can of 50 cm ³	By can of 250 cm ³
FEPA	µm	References	References
100	125	A125 O5P05	A125 O5P25
120	105	A105 O5P05	A105 O5P25
150	88	A088 O5P05	A088 O5P25
180	74	A074 O5P05	A074 O5P25
220	62	A062 O5P05	A062 O5P25
240	45	A045 O5P05	A045 O5P25
280	37	A037 O5P05	A037 O5P25
320	29	A029 O5P05	A029 O5P25
360	23	A023 O5P05	A023 O5P25
400	17	A017 O5P05	A017 O5P25
500	13	A013 O5P05	A013 O5P25
600	9	A009 O5P05	A009 O5P25
800	7	A007 O5P05	A007 O5P25
1000	5	A005 O5P05	A005 O5P25
1200	3	A003 O5P05	A003 O5P25
1500	1	A001 O5P05	A001 O5P25
1800	0.7	CP70 O5P05	CP70 O5P25
2000	0.4	CP40 O5P05	CP40 O5P25
2200	0.2	CP20 O5P05	CP20 O5P25
4500	0.05	CP05 O5P05	CP05 O5P25

SILICON CARBIDE (SiC)			
		By can of 50 cm ³	By can of 250 cm ³
FEPA	µm	References	References
80	177	E177 O5P05	E177 O5P25
100	125	E125 O5P05	E125 O5P25
120	105	E105 O5P05	E105 O5P25
150	88	E088 O5P05	E088 O5P25
180	74	E074 O5P05	E074 O5P25
220	62	E062 O5P05	E062 O5P25
240	45	E045 O5P05	E045 O5P25
280	37	E037 O5P05	E037 O5P25
320	29	E029 O5P05	E029 O5P25
360	23	E023 O5P05	E023 O5P25
400	17	E017 O5P05	E017 O5P25
500	13	E013 O5P05	E013 O5P25
600	9	E009 O5P05	E009 O5P25
800	7	E007 O5P05	E007 O5P25
1000	5	E005 O5P05	E005 O5P25
1200	3	E003 O5P05	E003 O5P25
1360	1.5	F1P5 O5P05	F1P5 O5P25
1500	1	F001 O5P05	F001 O5P25
1800	0.7	FP70 O5P05	FP70 O5P25

For personalized formulations, consult us (free estimate).

Abrasive compounds CLASSIC

High concentration abrasive compounds. Optimize the texture of the abrasive film in order to obtain a fast, maximum and extended abrasion. Non fatty compounds, miscible with water and the additive 716.



ALUMINIUM OXIDE (Al₂O₃)

		By can of 1 kg	By can of 10 kg
FEPA	µm	References	References
100	125	A125 R101K	A125 R110K
120	105	A105 R101K	A105 R110K
150	88	A088 R101K	A088 R110K
180	74	A074 R101K	A074 R110K
220	62	A062 R101K	A062 R110K
240	45	A045 R101K	A045 R110K
280	37	A037 R101K	A037 R110K
320	29	A029 R101K	A029 R110K
360	23	A023 R101K	A023 R110K
400	17	A017 R101K	A017 R110K
500	13	A013 R101K	A013 R110K
600	9	A009 R101K	A009 R110K
800	7	A007 R101K	A007 R110K
1000	5	A005 R101K	A005 R110K
1200	3	A003 R101K	A003 R110K

SILICON CARBIDE (SiC)

		By can of 1 kg	By can of 10 kg
FEPA	µm	References	References
120 rough	105	E105 R101K	E105 R110K
180 medium	74	E074 R101K	E074 R110K
240 fine	45	E045 R101K	E045 R110K
320	29	E029 R101K	E029 R110K
400	17	E017 R101K	E017 R110K
500	13	E013 R101K	E013 R110K
600	9	E009 R101K	E009 R110K
1000	5	E005 R101K	E005 R110K
1200	3	E003 R101K	E003 R110K
1500	1	F001 R101K	

For personalized formulations, consult us (free estimate).

BIOJET plus

Lapping, polishing and super finishing.

A series of abrasive composite compounds were developed under the name BIOJET Plus abrasive liquids for all lapping and polishing operations performed manually or on machines. Extremely precise calibration processes and stringent manufacturing methods allowed elaborating high technicity products to successfully respond to production requirements.

► Strong points

- A perfect homogeneity of the abrasive compound during its distribution on the support.
- Corrosion inhibitors.
- The product's viscosity guarantees a good spreading of the abrasive film.
- No toxicological risk for users.
- Easy cleaning.
- Easily biodegradable; they do not present any risk for the environment.



ALUMINIUM OXIDE (Al ₂ O ₃)		
By pack of 4 x 0.25 l		
FEPA	µm	References
280	37	A037 J3JL4
320	29	A029 J3JL4
360	23	A023 J3JL4
400	17	A017 J3JL4
500	13	A013 J3JL4
700	9	A009 J3JL4
800	7	A007 J3JL4
1000	5	A005 J3JL4
1200	3	A003 J3JL4
1500	1	A001 J3JL4

SILICON CARBIDE (SiC)		
By pack of 4 x 0.25 l		
FEPA	µm	References
80	177	E177 J3JL4
100	125	E125 J3JL4
120	105	E105 J3JL4
150	88	E088 J3JL4
180	74	E074 J3JL4
220	62	E062 J3JL4
240	45	E045 J3JL4
280	37	E037 J3JL4
320	29	E029 J3JL4
360	23	E023 J3JL4
400	17	E017 J3JL4
500	13	E013 J3JL4
600	9	E009 J3JL4
800	7	E007 J3JL4

BIOJET Plus is also available in boron carbide (B₄C) and cerium oxide (CeO₂).

Abrasive bars

For aspect polishing in jewellery, watchmaking, etc.
To use on felt, fabric or lapidary.

Designations	Binders	Quantities	µm	References
AL 101	oily	1 250 g	2.5	Z000 G3001
AL 102	dry	1000 g	7	Z000 G4001
AL 105	dry	450 g	2.5	Z000 G5001



►► ABRASIVES POWDERS

Aluminium oxide

Commonly called "polishing alumina", the chemical symbol Al_2O_3 , they comprise several families: purified aluminas, melted aluminas, calcinated aluminas, sub-micron aluminas. Their choice is defined according to the criteria of results and economic requirements. Grain sizes between 0.03 microns and 200 microns.

Silicon carbide

Silicon carbide is a chemically pure body, the chemical symbol SiC. The grains are coloured grey, green or black. The grain F1500 used for very specific super finishing is coloured grey. The AQUA LAM® silicon carbide undergoes a special treatment, as well as a separation under a strong magnetic intensity to ensure dust removal and a maximum cleanliness. AQUA LAM® proposes all the FEPA F grain sizes useful in lapping; they are scaled from F60 (250 microns) to F1200 (3 microns).

Cerium oxide

The chemical symbol CeO_2 . Used in superfinishing mainly for the polishing of glass (example BK7, 520 knoops), cerium oxide lowers the roughness by a chemical and mechanical action. Selected according to its maximum polishing action, the AQUA LAM® cerium oxide is present in grain sizes of 3 to 0.5 microns (other grain sizes on request).

Boron carbide

The chemical symbol B_4C . Micronized with the highest rigour, the AQUA LAM® boron carbide is ideal for all lapping and polishing applications requiring a high-performance ultra abrasive. Average hardness 2900 to 3500 knoops. It is available in stock in all grain sizes (Fepa F120 to F1500).

AQUA LAM® Al_2O_3



ALUMINIUM OXIDE (Al_2O_3)

FEPA	µm	By bucket of 5 kg		By bucket of 25 kg	
		References	References	References	References
100	125	A125 P105K		A125 P125K	
120	105	A105 P105K		A105 P125K	
150	88	A088 P105K		A088 P125K	
180	74	A074 P105K		A074 P125K	
220	62	A062 P105K		A062 P125K	
240	45	A045 P105K		A045 P125K	
280	37	A037 P105K		A037 P125K	
320	29	A029 P105K		A029 P125K	
360	23	A023 P105K		A023 P125K	
400	17	A017 P105K		A017 P125K	
500	13	A013 P105K		A013 P125K	
600	9	A009 P105K		A009 P125K	
800	7	A007 P105K		A007 P125K	
1000	5	A005 P105K		A005 P125K	
1200	3	A003 P105K		A003 P125K	
1500	1	A001 P105K		A001 P125K	

AQUA LAM[®] SiC

SILICON CARBIDE (SiC)			
		By bucket of 5 kg	By bucket of 25 kg
FEPA	µm	References	References
60	250	E250 P105K	E250 P125K
80	177	E177 P105K	E177 P125K
100	125	E125 P105K	E125 P125K
120	105	E105 P105K	E105 P125K
150	88	E088 P105K	E088 P125K
180	74	E074 P105K	E074 P125K
220	62	E062 P105K	E062 P125K
240	45	E045 P105K	E045 P125K
280	37	E037 P105K	E037 P125K
320	29	E029 P105K	E029 P125K
360	23	E023 P105K	E023 P125K
400	17	E017 P105K	E017 P125K
500	13	E013 P105K	E013 P125K
600	9	E009 P105K	E009 P125K
800	7	E007 P105K	
1000	5	E005 P105K	
1200	3	E003 P105K	



AQUA LAM[®] B₄C

BORON CARBIDE (B ₄ C)		
By can of 1 kg		
FEPA	µm	References
120	105	G105 P101K
180	74	G074 P101K
220	62	G062 P101K
240	45	G045 P101K
280	37	G037 P101K
320	29	G029 P101K
360	23	G023 P101K

BORON CARBIDE (B ₄ C)		
By can of 1 kg		
FEPA	µm	References
400	17	G017 P101K
500	13	G013 P101K
600	9	G009 P101K
800	7	G007 P101K
1000	5	G005 P101K
1200	3	G003 P101K
1500	1	G001 P101K

AQUA LAM[®] CeO₂

CERIUM OXIDE (CeO ₂)			
		By can of 1 kg	By can of 500 g
FEPA	µm	References	References
1200	3	I003 P101K	I003 P1P5K
1300	2	I002 P101K	I002 P1P5K
1400	1	I001 P101K	I001 P1P5K
1500	0.7	JP70 P101K	JP70 P1P5K
1600	0.5	JP50 P101K	JP50 P1P5K



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► Correspondences between various standards

MICRON µm	MESH	FEPA F Free abrasive	FEPA P Bonded abrasive	W (grain)	GRIT ASTM
3	1200	F1200	undefined	W14	1200
5	1000	F1000	P4000	W10	-
7	800	F800	P3200	W9	-
9	600	F600	P2500	W7/8	800
13	500	F500	P1500	W5/6	600
17	400	F400	P1000	W4	500
23	360	F360	P800	W2	400
29	320	F320	P600	W0	360
37	280	F280	P400	W350	280
45	240	F240	P280	W340	240
62	220	F220	P180	W240	220

Measurement correspondences for Al₂O₃

0.02 µm	200 Angstroms	48 h
0.3 µm	3000 Angstroms	24 h
0.8 µm	8000 Angstroms	12 h
1 µm	10 000 Angstroms	6 h

Definitions

1 nanometre	= 10 ⁻³ µm = 10 ⁻⁶ mm
1 nanometre	1 billionth of a metre (10 ⁻⁹ m)
Angstrom	Unit of length, equal to 0.1 nanometre

▸ ADDITIVES, LUBRICANTS, OILS

Additive

Additive for BIOLAM® and CLASSIC liquid preparations which allow an optimization of the abrasive film (more resistant) without reducing the cutting power. Can be used in the preparation of the abrasive solution as an addition to water.

ADDITIVE 716	
By container of 5 litres	By container of 10 litres
Reference	Reference
Z000 F25L1	Z000 F2010
By container of 20 litres	By drum of 200 litres
Reference	Reference
Z000 F2020	Z000 F2200



Lapping oil

Classical lapping oil for usage with abrasive powder.

OIL 708	
By container of 5 litres	By container of 10 litres
Reference	Reference
Z000 A35L1	Z000 A3010
By container of 20 litres	By drum of 60 litres
Reference	Reference
Z000 A3020	Z000 A3060
By drum of 200 litres	
Reference	
Z000 A3200	

Lubricant for cylindrical lapping

AQUASUN OIL
By container of 10 litres
Reference
Z000 A4010



Diamond lapping system

►► FLAT LAPPING SUPPORTS

NEW LAM® M'M' plates

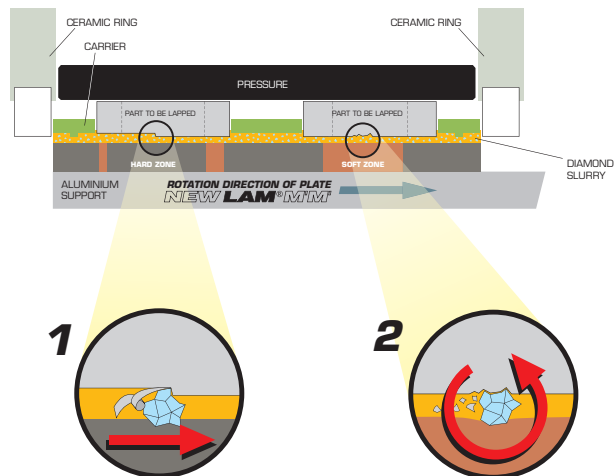
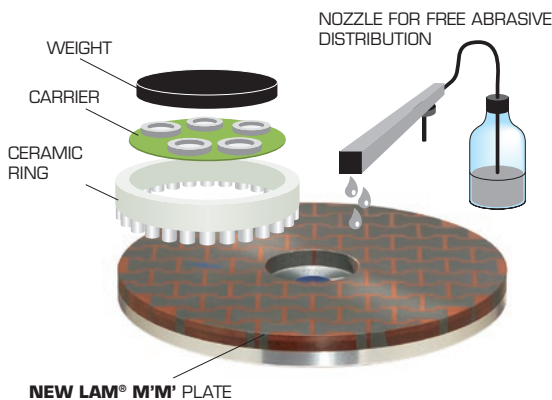
Already 25 years ago LAM PLAN innovated with the launching of the patented NEW LAM® M'M' poli-lapping system. Since then LAM PLAN continued making the process evolve to respond to the technical requirements of its customers. The system patented and established in production plants throughout the world is today a must in the lapping polishing process.

The NEW LAM® M'M' plate, derived from the LAM PLAN abrasion technique, uses for its operation free diamond abrasives. As soon as the plate starts rotating under the effect of the initial weight of the parts and the load applied by the machine's jacks, the diamond grains move and fix producing an abrasive action only on the side of the parts to be lapped.

► The patent

The arrangement and the shape of the plate's two components allow an optimum alternation between the hard areas and the soft areas. The cut angle of the diamond grains is permanently changed, which ensures a large stock removal and a perfect inherent flatness.

NEW LAM® M'M'



The free diamond contained in the abrasive film is momentarily fixed in the plate's hard material; when they are solid with each other, they produce a cut-off effect which favours the stock removal.

In contact with the plate's soft material, the free diamond is driven in, while remaining mobile, and removes the material by impact; it is the shock effect which contributes to the quality of the surface condition.

► **Application fields**

The NEW LAM® M'M' lapping system is characterized by its high performances in the lapping and polishing fields of flat parts. It is used in automatic as well as manual work and responds to both production and maintenance requirements.

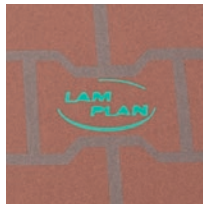
The NEW LAM® M'M' plates allow you to obtain an immediate brightness of the lapped surface for a direct check with the monochromatic lamp.

► **Range**

The colour coding of the NEW LAM® M'M' supports (identifiable thanks to the incrustated coloured logo in the plate's coating) facilitates their identification and the memorization of your lapping method. All risks of handling errors are eliminated.



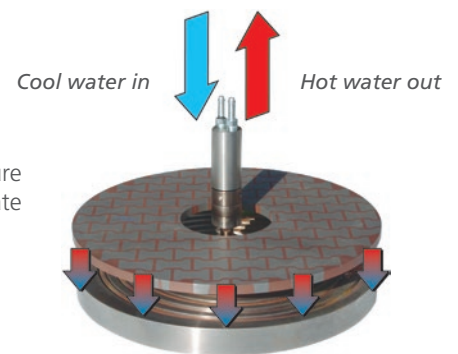
NEW LAM® M'M' Blue – Rough Lapping



NEW LAM® M'M' Green – Fine Lapping / Polishing



NEW LAM® M'M' Yellow – Super Finish Polishing



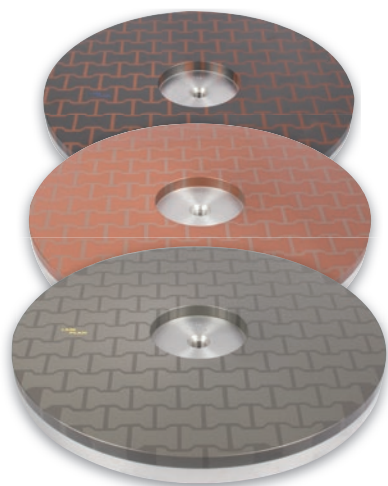
► **Cooling system**

The incorporation of the cooling system in the plates allows controlling temperature variations in large productions or long operations. This option allows you to avoid plate deformations and as a result the deformations of your parts.

► **Lapping process example**

Materials	Step 1		Step 2	
	Diamond slurries, fluids, NEW LAM® M'M' plates		Diamond slurries, fluids, NEW LAM® M'M' plates	
Silicon carbide	 NEOLAP® 325 NEOFLUID ▶ Ra : 0,15 µm NEW LAM® M'M' BLUE	 NEOLAP® 309 NEOFLUID ▶ Ra : 0,05 µm NEW LAM® M'M' GREEN		
Stellite	 NEOLAP® 312 NEOFLUID ▶ Ra : 0,06 µm NEW LAM® M'M' BLUE	 NEOLAP® 306 NEOFLUID ▶ Ra : 0,02 µm NEW LAM® M'M' GREEN		
Bronze	 NEOLAP® 309 NEOFLUID ▶ Ra : 0,04 µm NEW LAM® M'M' GREEN			
Carbon	 NEOLAP® 306 NEOFLUID ▶ Ra : 0,15 µm NEW LAM® M'M' GREEN	 NEOLAP® 306 NEOFLUID ▶ Ra : 0,10 µm NEW LAM® M'M' YELLOW		
Stainless steel X30CR13	 NEOLAP® 312 NEOFLUID ▶ Ra : 0,12 µm NEW LAM® M'M' BLUE	 NEOLAP® 309 NEOFLUID ▶ Ra : 0,035 µm NEW LAM® M'M' GREEN		

Patented NEW LAM® M'M' plates



BLUE – Rough Lapping

			Standard	Incorporated cooling circuit
Ø	Ø Central bore in mm	Thickness in mm	References	References
14"	355 mm	13	09 NL103 20	
15"	381 mm	100	09 NL103 30	09 NL203 30
16"	406 mm	100	09 NL103 40	
24"	610 mm	115	09 NL103 60	09 NL203 60
	700 mm	150	09 NL103 70	09 NL203 70
30"	762 mm	152	09 NL103 80	
36"	914 mm	175	09 NL103 90	
	1000 mm	188	09 NL103 00	09 NL203 00
	1200 mm	240	09 NL103 50	09 NL203 50
	1500 mm	300	09 NL103 10	09 NL203 10

GREEN – Fine Lapping / Polishing

			Standard	Incorporated cooling circuit
Ø	Ø Central bore in mm	Thickness in mm	References	References
14"	355 mm	13	09 NL106 20	
15"	381 mm	100	09 NL106 30	09 NL206 30
16"	406 mm	100	09 NL106 40	
24"	610 mm	115	09 NL106 60	09 NL206 60
	700 mm	150	09 NL106 70	09 NL206 70
30"	762 mm	152	09 NL106 80	
36"	914 mm	175	09 NL106 90	
	1000 mm	188	09 NL106 00	09 NL206 00
	1200 mm	240	09 NL106 50	09 NL206 50
	1500 mm	300	09 NL106 10	09 NL206 10

YELLOW – Super finish Polishing

			Standard	Incorporated cooling circuit
Ø	Ø Central bore in mm	Thickness in mm	References	References
14"	355 mm	13	09 NL105 20	
15"	381 mm	100	09 NL105 30	09 NL205 30
16"	406 mm	100	09 NL105 40	
24"	610 mm	115	09 NL105 60	09 NL205 60
	700 mm	150	09 NL105 70	09 NL205 70
30"	762 mm	152	09 NL105 80	
36"	914 mm	175	09 NL105 90	
	1000 mm	188	09 NL105 00	09 NL205 00
	1200 mm	240	09 NL105 50	09 NL205 50
	1500 mm	300	09 NL105 10	09 NL205 10

See Diabloc disc for servicing of your plates – page 17.

Advanced composite Plate - EVOLAM

The new lapping plate EVOLAM has been especially developed for hard materials as sapphires, technical ceramics, and hard alloys. The specific composition of this plate provides an excellent stock removal associated to a low roughness.

A type S or C grooving is performed on the EVOLAM plate in order to increase its performances.

EVOLAM – fine Lapping & stock removal - Hard material		
For abrasive 9 µm to 3 µm		
Ø	THK	References
15" 381 mm	13 mm	09 EL104 30
24" 610 mm		09 EL104 60
700 mm		09 EL104 70
1000 mm		09 EL104 00



Monocomponent Plates - Series 2000

Mainly used during rough lapping phases, these plates allow obtaining surface conditions which facilitate the finish step on the polishing cloths. Available in the solid version or on request with concentric, spiral, radial or linear grooves.



2006 – Middle & fine Lapping Polishing All material		
For abrasive 6 µm to 1 µm		
Ø	THK	References
15" 381 mm	13 mm	09 P2006 30
24" 610 mm		09 P2006 60
700 mm		09 P2006 70
1000 mm		09 P2006 00

2002 – Rough Lapping - All material		
For abrasive 30 µm to 15 µm		
Ø	THK in mm	References
15" 381 mm	13 mm	09 P2002 30
24" 610 mm		09 P2002 60
700 mm		09 P2002 70
1000 mm		09 P2002 00

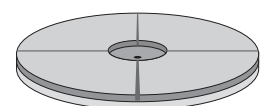
2005 – Super finish Polishing - All material		
For abrasive 3 µm to 1 µm		
Ø	THK	References
15" 381 mm	13 mm	09 P2005 30
24" 610 mm		09 P2005 60
700 mm		09 P2005 70
1000 mm		09 P2005 00

2001 – Fine Lapping - Hard material		
For abrasive 15 µm to 1 µm		
Ø	THK	References
15" 381 mm	6 mm	09 P2001 30
24" 610 mm		09 P2001 60
700 mm		09 P2001 70
1000 mm		09 P2001 00

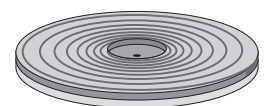
2003 – Fine Lapping - All material		
For abrasive 9 µm to 3 µm		
Ø	THK	References
15" 381 mm	13 mm	09 P2003 30
24" 610 mm		09 P2003 60
700 mm		09 P2003 70
1000 mm		09 P2003 00

2007 – Super finish Polishing All material		
For abrasive 2 µm to 1 µm		
Ø	THK	References
15" 381 mm	13 mm	09 P2007 30
24" 610 mm		09 P2007 60
700 mm		09 P2007 70
1000 mm		09 P2007 00

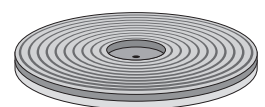
Different kinds of grooves



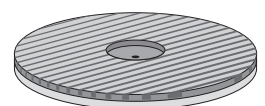
Radial (R)



Spiral (S)



Concentric (C)



Linear (L)

Manual lapping plates

Extend the usage of your sealing parts.

The LAMBLOCK is a simple, low cost, easy-to-use tool which will allow you to ensure at less cost the preventive maintenance of sealing parts on industrial sites. It allows manually performing all the necessary lapping/polishing operations to recondition worn sealing parts.

Time... and money savings

With the LAMBLOCK, your maintenance department ensures in real time the servicing of your sealing parts. Each part can thus be reused several times and you will obtain great savings. The NEW LAM® M'M' 300 mm lapping plate guarantees a perfect inherent flatness of your solid parts of 40 mm Ø max. and your rings of 70 mm Ø max.

The LAMBLOCK is proposed in a transportable case consisting of: a diamond doser stick and a fluid. Available in 3 versions (Rough lapping, Fine lapping and Polishing) adapted to the various materials encountered and required surface conditions.

► Other LAM PLAN lapping materials

LAMBLOCK CAMEO® Platinum

The LAMBLOCK CAMEO® Platinum is recommended for the rapid flat lapping of deteriorated semi-hard to extra hard parts (large scratches, chemical attacks, chipped edges, etc.).

It is used before the LAMBLOCK Blue or Green.

The LAMBLOCK CAMEO® Platinum is loaded with a diamond abrasive and is used with the lubricating fluid M.M 712.

The honeycomb cell structure of LAMBLOCK CAMEO® Platinum improves lubrication and leaves an optimum inherent flatness on all types of parts.

The 300 mm Ø LAMBLOCK CAMEO® Platinum allows the manual rough lapping and polishing of parts with a size up to 70 mm for rings and 40 mm for solid parts.

Bi-LAMBLOCK

An original design which allows associating a lapping part and a finishing part on the same plate.

TRI-BLOCKS case

The TRI-BLOCKS case combines in a single case three NEW LAM® M'M' plates, Lapping, Polishing and Super Fine Polishing. It is equipped with three diamond sticks and covers all needs. Thanks to the lapping plate diameter (140 mm), the TRI-BLOCKS case allows servicing sealing rings up to a diameter of 40 mm.



LAMBLOCK

ROUGH LAPPING PLATE – LAMBLOCK CAMEO

Designation	Ø in mm	Reference
LAMBLOCK CAMEO® Platinum - 1 CAMEO® Platinum plate - 2 bottles of lubricating fluid M.M.712 - 1 abrasive stone series 520	300	09 04LBX 00

**ROUGH LAPPING / POLISHING PLATE – Bi-LAMBLOCK**

Designation	Ø in mm	Reference
Bi-LAMBLOCK - 1 ergonomic double plate - Grey lapping / Copper polishing - 2 diadosers Bio DIAMANT® series 400 of 30 g	300	09 04LB9 00

**LAPPING/POLISHING PLATE – LAMBLOCK NEW LAM® M'M'**

Designation	Ø in mm	References
- 1 NEW LAM® M'M' plate	LAMBLOCK Blue – Lapping	300 09 04LB0 00
- 1 Bio DIAMANT® dosage stick – 10 g	LAMBLOCK Green – Polishing	300 09 04LB1 00
- 1 bottle of lubricating fluid M.M. 712	LAMBLOCK Yellow – Super Finishing	300 09 04LB2 00

**TRI-BLOCKS LAPPING PLATES – NEW LAM® M'M'**

Designation	Ø in mm	References
TRI-BLOCKS - 3 NEW LAM® M'M' plates - 3 dosage sticks Bio DIAMANT® - 10 g - 1 bottle of lubricating fluid 712 - 1 Diabloc for reconditioning	140	09 03NL0 00
Diabloc Blue for TRI-BLOCKS		08 00900 10
Diabloc Blue refill		08 01900 10



Lapping rods M.M.®

Immediately shape yourself your rods in all form from patented M.M.® preliminary shape containing no abrasive.



Applications

For internal and external lapping, and super finishing of spherical, conical and cylindrical parts, the internal lapping of the valve body, the lapping of hydraulic parts and many other shapes.

The solution

LAM PLAN offers an original, functional and adapted solution; it responds to the requirements of surface conditions difficult to attain with tools or grinding wheels. LAM PLAN delivers its rods in preliminary shape condition. The user finalizes the form of his choice. A fast machining using common tools (never a grinding wheel) allows adapting the rods to the shapes of the parts to be lapped and then proceeding with the lapping – polishing on machines or manually in some cases. This technique is possible thanks to the LAM PLAN M.M.® which combines rods and free diamond abrasives.

The technique

The LAM PLAN M.M.® rods consist of two different materials in terms of mechanical, physical and resistance characteristics. The composition and arrangement of the two components associated with the usage of specific diamond abrasive is the base of the patented LAM PLAN M.M.® system and its effectiveness.

The advantages of the LAM PLAN M.M.® system associated with Bio DIAMANT® diamond abrasives

The LAM PLAN M.M.® system uses special abrasives. A chemical binder allows a homogeneous, stable distribution of calibrated diamond grains, while preventing any settling phenomenon. As soon as the rod starts rotating under the effect of the applied pressure and the passage on the two different materials, the diamond grains move and fix alternatively. This causes a phenomenon of significant acceleration of these particles ensuring a high stock removal. Penetrating very low and for a very short time in the rod's metal mass, each diamond particle always presents an edge opposite the part to be machined.

All the cutting edges work under an overspeed. The abrasive's efficiency is therefore better and more sustainable.

In addition, thanks to the use of the diamond, the rod coating does practically not wear out (good behaviour in terms of shape or inherent flatness).

The LAM PLAN type M.M.® lubricant vaporized in a very small quantity allows cleaning the diamond's cutting edges loaded with metal waste and operates cooling action.

The small quantity of lubricant significantly reduces the "machining sludge" volume.

The work is cleaner and produces less waste.

Qualities


To obtain surface conditions varying from 0.2 to 0.01 micron/Ra, LAM PLAN proposes various types of rods. The distribution of the 2 materials which make up the patented bi-component rods type M.M.® remains constant, regardless of the shape given to them. The rods type 2000 are mono-components. They benefit from the quality of bi-component materials, but their efficiency is lower and their wear more rapid.

► Shapes

Preliminary shapes	A cylindrical
	B flat
	C rectangular

► Types

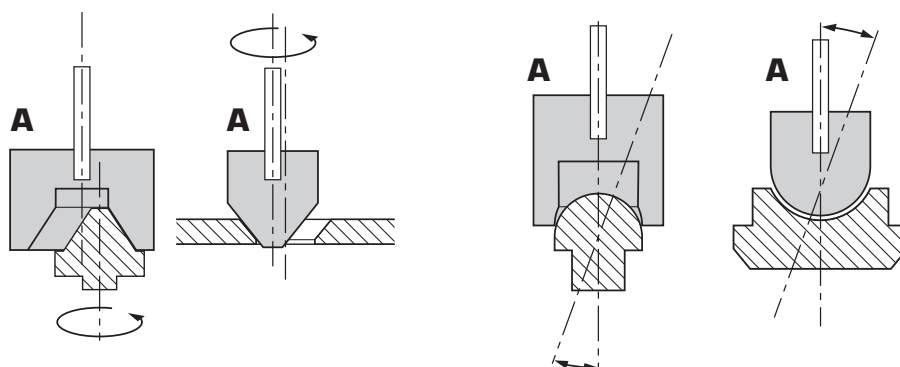
Patented M.M. Rods Bi-components	M.M.® 980 lapping
	M.M.® 991 polishing
	M.M.® 992 super finishing
Economic range Mono-component	2002 lapping
	2003 polishing



Rods M.M.® shape A

Cylindrical preliminary shape intended to be machined by turning with a dry carbide tool in order to adapt to the parts to be treated.

Implementation example				
Lapped part	Material	Rod	Abrasive	Result
Cupule for thigh prosthesis	Chromium Cobalt	Shape A Type 992	Stick M.M. 143	Sphericity 3 µm





Rods M.M.[®] shape B

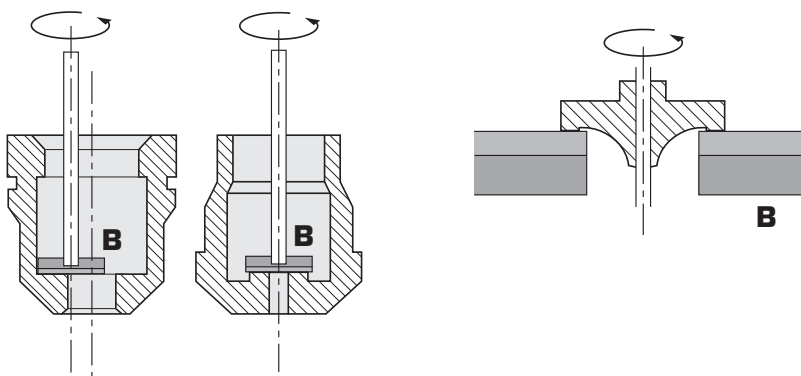
Intended to prepare the rods for the machining of flat or cylindrical parts, the active part's thickness is 5 mm. It is fixed to a steel* base, which ensures a great rigidity. For dimensions above 200 mm, please consult us. To machine the rods and use them, the shapes A or B must be tightened in a mandrel one turn or mounted on a metal rod (by tapping or gluing).

NOTE: The tapping must always remain below the steel* thickness in the case of shapes B. In any case (shapes A or B), the centre of the coating has to be cleared to avoid the dead point. During shaping, it is recommended to recover the chips and dusts to reduce the cleaning time.

*aluminium base on request.

Implementation example

Lapped part	Material	Rod	Abrasive	Result
Safety valve	Stellite	Shape B Type 991	Stick M.M.141	Tightness

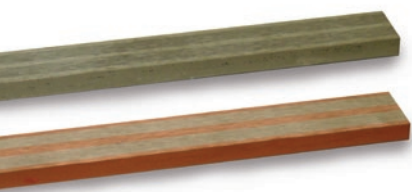
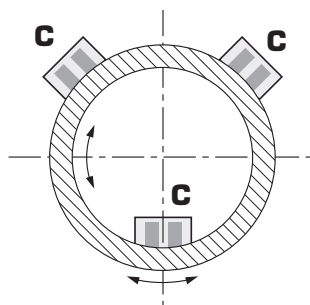


Lapidary M.M.[®] shape C

Intended to prepare the rods for the machining of special shaped parts.

Implementation example

Lapped part	Material	Lapidary	Abrasive	Result
Rolling machine cylinder	Cast iron	Shape C Type 980	Stick M.M.133	Roughness Ra 0.08



► Implementation example

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Types	Rods	Sticks	Gels	Treated steel		Tungsten carbide		Stellite	
				Surface roughness $\mu\text{m RA}$	Stock Removal	Surface roughness $\mu\text{m RA}$	Stock Removal	Surface roughness $\mu\text{m RA}$	Stock Removal
Lapping	M.M.980	M.M.131	M.M.31	0.3	6 $\mu\text{m/min}$	0.1	2.4 $\mu\text{m/min}$	0.15	4 $\mu\text{m/min}$
	M.M.980	M.M.132	M.M.32	0.2	3 $\mu\text{m/min}$	0.07	1.5 $\mu\text{m/min}$	0.09	2 $\mu\text{m/min}$
Polishing	M.M.991	M.M.133	M.M.33	0.09	1.6 $\mu\text{m/min}$	0.03	0.7 $\mu\text{m/min}$	0.05	1.2 $\mu\text{m/min}$
	M.M.991	M.M.141	M.M.41	0.06	1.3 $\mu\text{m/min}$	0.02	0.5 $\mu\text{m/min}$	0.03	0.6 $\mu\text{m/min}$
Super Finishing	M.M.992	M.M.142	M.M.42	0.05	1 $\mu\text{m/min}$	0.01	0.4 $\mu\text{m/min}$	0.02	0.5 $\mu\text{m/min}$
	M.M.992	M.M.143	M.M.43	0.03	0.6 $\mu\text{m/min}$	0.005	0.3 $\mu\text{m/min}$	0.01	0.4 $\mu\text{m/min}$

The sticks and gels recommended for common use are indicated in bold characters.
Refer to page 51 for sticks (informations on request for gels).

Rods M.M.[®]

SHAPE A		
Types	Ø in mm	References
980	50 x 50	09 09980 10
991	50 x 50	09 09991 10
992	50 x 50	09 09992 10
2002	50 x 50	09 20021 10
2003	50 x 50	09 20031 10
2002	50 x 100	09 20022 10
2003	50 x 100	09 20032 10
2002	50 x 150	09 20023 10
2003	50 x 150	09 20033 10
980	75 x 50	09 09980 80
991	75 x 50	09 09991 80
992	75 x 50	09 09992 80
2002	75 x 50	09 20021 80
2003	75 x 50	09 20031 80
2002	75 x 100	09 20022 80
2003	75 x 100	09 20032 80
2002	75 x 150	09 20023 80
2003	75 x 150	09 20033 80
2002	100 x 50	09 20021 90
2003	100 x 50	09 20031 90
2002	100 x 100	09 20022 90
2003	100 x 100	09 20032 90
2002	100 x 150	09 20023 90
2003	100 x 150	09 20033 90

SHAPE B		
Types	Ø in mm	References
980	50 x 15	09 09980 30
991	50 x 15	09 09991 30
992	50 x 15	09 09992 30
2002	50 x 15	09 02002 30
2003	50 x 15	09 02003 30
980	100 x 15	09 09980 40
991	100 x 15	09 09991 40
992	100 x 15	09 09992 40
2002	100 x 15	09 02002 40
2003	100 x 15	09 02003 40
980	150 x 15	09 09980 50
991	150 x 15	09 09991 50
992	150 x 15	09 09992 50
2002	150 x 15	09 02002 50
2003	150 x 15	09 02003 50
980	200 x 15	09 09980 60
991	200 x 15	09 09991 60
992	200 x 15	09 09992 60
2002	200 x 15	09 02002 60
2003	200 x 15	09 02003 60

Lapidary M.M.[®]

3 pieces

SHAPE C		
Types	Dimensions in mm	References
980	10 x 20 x 560	09 08445 30
991	10 x 20 x 560	09 08446 30
992	10 x 20 x 560	09 08449 30

Expandable cylindrical Rods



Arbor



Rod



Expander

The formula for bore finishing.

The assembly consists of:

- A conical shaft designed to be mounted on the mandrel.
- A cast iron rod with tight structure. A helical slot allows expansion while maintaining its geometric shape. The rod's interior is conical to receive the shaft.
- A pushrod in the form of a tube allows driving the rod on the shaft.

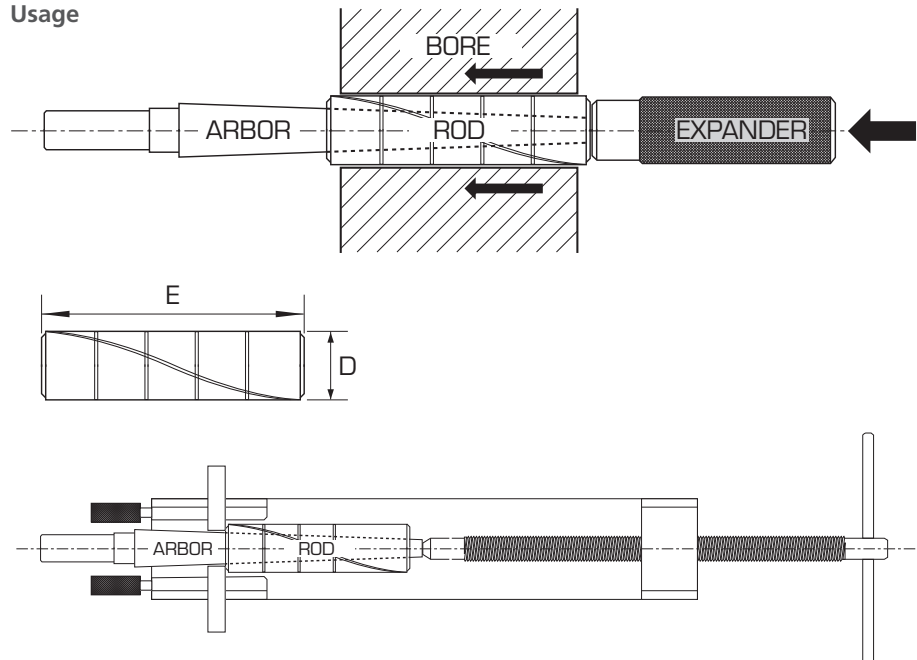
Procedure

The abrasive to be used with the rods is selected according to the work to be done:

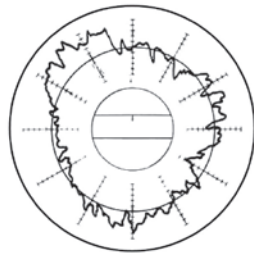
- Large amount of material to be removed: diamond dosage stick M.M.132.
- Super finishing: diamond dosage stick M.M.142 or 144.

Lubrication with the lubricating fluid M.M. 712.

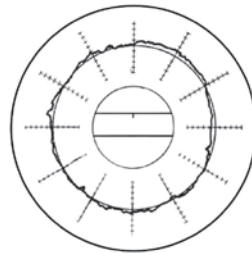
Usage



Results

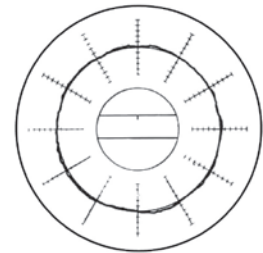


A diameter of 15.9 mm was drilled over a length of 38 mm. After checking, an ovalization of $4/100^{\text{th}}$ mm was measured and a surface condition of 0.5 micron Ra.



First operation

With rod and diamond dosage stick M.M.132: ovalization reduced to $4/10^{\text{th}}$ micron. Surface condition of 0.12 micron Ra.



Second operation

With rod and diamond dosage stick M.M.144: ovalization limited to $1/10^{\text{th}}$ micron. Surface condition of 0.03 micron Ra.

RODS				ARBORS		EXPANDERS	
Ø in mm	Length E mm	Expansion D mm	References	N°	References	N°	References
1.19	12.70	1,168 to 1,397	99 91011 90	4/0	99 92004 00	4/0	99 93004 00
1.59	15.85	1,574 to 1,930	99 91015 90	3/0	99 92003 00	3/0	99 93003 00
1.98	15.85	1,956 to 2,311	99 91019 80	3/0	99 92003 00	3/0	99 93003 00
2.38	19.05	2,362 to 2,743	99 91023 80	2/0	99 92002 00	2/0	99 93002 00
2.78	19.05	2,743 to 3,099	99 91027 80	2/0	99 92002 00	2/0	99 93002 00
3.17	22.19	3,149 to 3,479	99 91031 70	0	99 92000 00	0	99 93000 00
3.57	22.19	3,530 to 3,886	99 91035 70	0	99 92000 00	0	99 93000 00
3.97	22.19	3,937 to 4,318	99 91039 70	0	99 92000 00	0	99 93000 00
4.37	22.19	4,318 to 4,673	99 91043 70	0	99 92000 00	0	99 93000 00
4.76	34.91	4,724 to 5,105	99 91047 60	1	99 92000 10	1	99 93000 10
5.16	34.91	5,130 to 5,461	99 91051 60	1	99 92000 10	1	99 93000 10
5.56	44.45	5,537 to 5,918	99 91055 60	2	99 92000 20	2	99 93000 20
5.95	44.45	5,918 to 6,248	99 91059 50	2	99 92000 20	2	99 93000 20
6.35	50.80	6,324 to 6,705	99 91063 50	3	99 92000 30	3	99 93000 30
6.75	50.80	6,731 to 7,010	99 91067 50	3	99 92000 30	3	99 93000 30
7.14	50.80	7,112 to 7,340	99 91071 40	3	99 92000 30	3	99 93000 30
7.54	50.80	7,518 to 7,670	99 91075 40	3	99 92000 30	3	99 93000 30
7.94	50.80	7,924 to 8,305	99 91079 40	4	99 92000 40	4	99 93000 40
8.33	50.80	8,305 to 8,610	99 91083 30	4	99 92000 40	4	99 93000 40
8.73	50.80	8,712 to 8,915	99 91087 30	4	99 92000 40	4	99 93000 40
9.13	50.80	9,093 to 9,245	99 91091 30	4	99 92000 40	4	99 93000 40
9.53	63.50	9,499 to 9,855	99 91095 30	5	99 92000 50	5	99 93000 50
9.92	63.50	9,906 to 10,185	99 91099 20	5	99 92000 50	5	99 93000 50
10.32	63.50	10,287 to 10,515	99 91103 20	5	99 92000 50	5	99 93000 50
10.72	63.50	10,693 to 10,845	99 91107 20	5	99 92000 50	5	99 93000 50
11.11	63.50	11,074 to 11,430	99 91111 10	6	99 92000 60	6	99 93000 60
11.51	63.50	11,480 to 11,785	99 91115 10	6	99 92000 60	6	99 93000 60
11.91	63.50	11,861 to 12,090	99 91119 10	6	99 92000 60	6	99 93000 60
12.30	63.50	12,268 to 12,420	99 91123 00	6	99 92000 60	6	99 93000 60
12.70	82.55	12,674 to 13,081	99 91127 00	7	99 92000 70	7	99 93000 70
13.49	82.55	13,462 to 13,868	99 91134 90	7	99 92000 70	7	99 93000 70
14.29	82.55	14,249 to 14,579	99 91142 90	7	99 92000 70	7	99 93000 70
15.08	82.55	15,062 to 15,290	99 91150 80	7	99 92000 70	7	99 93000 70
15.88	82.55	15,849 to 16,256	99 91158 80	8	99 92000 80	8	99 93000 80
16.67	82.55	16,637 to 16,941	99 91166 70	8	99 92000 80	8	99 93000 80
17.46	82.55	17,424 to 17,627	99 91174 60	8	99 92000 80	8	99 93000 80
18.26	82.55	18,237 to 18,415	99 91182 60	8	99 92000 80	8	99 93000 80
19.05	88.90	19,024 to 19,380	99 91190 50	9	99 92000 90	9	99 93000 90
19.84	88.90	19,812 to 20,116	99 91198 40	9	99 92000 90	9	99 93000 90
20.64	88.90	20,599 to 20,853	99 91206 40	9	99 92000 90	9	99 93000 90
21.43	88.90	21,412 to 21,615	99 91214 30	9	99 92000 90	9	99 93000 90
22.23	88.90	22,199 to 22,580	99 91222 30	10	99 92001 00	10	99 93001 00
23.02	88.90	22,987 to 23,342	99 91230 20	10	99 92001 00	10	99 93001 00
23.81	88.90	23,774 to 24,079	99 91238 10	10	99 92001 00	10	99 93001 00
24.61	88.90	24,587 to 24,790	99 91246 10	10	99 92001 00	10	99 93001 00

EXTRACTORS**Characteristics****References**

For rods Ø 1.19 to 4.37 mm	99 94000 10
For rods Ø 4.76 to 15.48 mm	99 94000 20
For rods Ø 15.88 to 31.75 mm	99 94000 30



▸▸ ABRASIVES: LIQUID PREPARATIONS

Bio DIAMANT® NEOLAP® abrasive slurries

All the experience of LAM PLAN in a new diamond abrasive with incomparable performances. In direct line with our famous Bio DIAMANT® range, the new NEOLAP® diamond abrasive slurries go even further in terms of efficiency and user comfort. The NEOLAP® diamond slurry is a top-of-the-range product featuring exceptional performances.



VOC-free products – Respect of users and the environment

The products of our Bio DIAMANT® range are biodegradable by more than 70%. Non-toxic and harmless, they are neutral; the user's work conditions are thus respected. Anticipation of new regulations in terms of Volatile Organic Compounds (VOCs). Consolidation of your ISO 14001 and ISO 26000 formalities.

Biodegradable packaging: reduction of your activity's environmental impact.

For the first time in the polishing industry a diamond slurry is packaged in a plastic bottle of vegetal origin which is 100% compostable according to the standard 13 432 (for 400 ml packagings).

High yield – Reduced consumption

After many years of development, LAM PLAN formulated a new range of diamond slurries whose performances are clearly better than those of the old generation of Bio DIAMANT® products.

Comparative tests conducted by LAM PLAN prove it. The results in terms of stock removal are systematically better, which places NEOLAP® at the forefront of the diamond abrasive market in terms of polishing efficiency and speed.

The wettability of these diamond slurries is specially designed and optimized for NEW LAM® M'M' plates. The ease with which the diamond slurry is spread out over the plate's surface allows obtaining an excellent abrasive film very rapidly, which favours an immediate cutting.

Flatness

Contains specific additives to facilitate the mixing of the diamond slurry with the NEOFLUID lubricating fluid and improves the dissipation of heat from the plates during lapping.

NEOLAP®
LIQUIDE DIAMANT
DIAMOND LIQUID



Improved roughness

This new generation of diamond abrasive allows obtaining better roughness results while preserving a strong stock removal.

Easy cleaning

With water for NEOLAP® series 300 and 400 or with detergent fountain for the series 100.

Quality, procurement guarantee and total traceability.**Conformity to the REACH regulation**

LAM PLAN set up all the arrangements needed for its application in order to guarantee the quality and availability of all its products over the long term. All the substances contained in our preparations comply with the REACH regulation's specifications. To facilitate your administrative formalities, all the Safety Data Sheets (SDSs) of our products conform to the legislation in force and can be downloaded from www.lamplan.fr/fds.

Availability in monocrystalline and polycrystalline forms

Series 100 emulsion – monocrystalline
Series 300 water base – monocrystalline
Series 400 water base – polycrystalline

► Range

Use	Top-of-the-range diamond abrasive specific for lapping polishing applications
Positioning	Ready-to-use and without settling, to be sprayed or dosed drop by drop; it is indicated for all your lapping work on NEW LAM® M'M' plates and polishing work on our range of polishing cloths.
Range	Monocrystalline, polycrystalline – grains of ¼ to 45 µm
Bases	Water and emulsion
Packagings	400 ml – 2 L

Read a reference:

106 Grain in µm

Bases

1 = emulsion – monocrystalline
3 = water – monocrystalline
4 = water – polycrystalline

Diamond slurries - Series 241P

High-performance, oil-based polycrystalline diamond abrasives.

The high cutting performances of these products allow obtaining excellent results in terms of brightness and roughness on very hard materials, such as ceramics or silicon carbide.

Containing additives which limit the diamond's settling out, the suspending of these abrasives is thus facilitated and very rapid, which guarantees a perfect homogenization of the product before usage. These ready-to-use products can be used with the lubricating fluid 990-140 or 950-140. The formulation of these diamond slurries is particularly adapted to materials sensitive to water.

Parts are cleaned with Stanol or detergent 742.



Abrasive slurries Bio DIAMANT® NEOLAP®

NEOLAP® monocrystalline Emulsion – SERIES 100			
		Packaging 400 ml	Packaging 2 litres
Types	µm	References	References
197	0.25	22 NO197 60	22 NO197 70
195	0.75	22 NO195 60	22 NO195 70
101	1	22 NO101 60	22 NO101 70
102	2	22 NO102 60	22 NO102 70
103	3	22 NO103 60	22 NO103 70
106	6	22 NO106 60	22 NO106 70
109	9	22 NO109 60	22 NO109 70
112	12	22 NO112 60	22 NO112 70
115	15	22 NO115 60	22 NO115 70
125	25	22 NO125 60	22 NO125 70
145	45	22 NO145 60	22 NO145 70

NEOLAP® monocrystalline Water base – SERIES 300			
		Packaging 400 ml	Packaging 2 litres
Types	µm	References	References
397	0.25	22 NO397 60	02 NO397 70
395	0.75	22 NO395 60	02 NO395 70
301	1	22 NO301 60	02 NO301 70
302	2	22 NO302 60	02 NO302 70
303	3	22 NO303 60	02 NO303 70
306	6	22 NO306 60	02 NO306 70
309	9	22 NO309 60	02 NO309 70
312	12	22 NO312 60	02 NO312 70
315	15	22 NO315 60	02 NO315 70
325	25	22 NO325 60	02 NO325 70
345	45	22 NO345 60	02 NO345 70

NEOLAP® polycrystalline Water base – SERIES 400			
		Packaging 400 ml	Packaging 2 litres
Types	µm	References	References
497	0.25	22 NO497 60	02 NO497 70
494	0.5	22 NO494 60	02 NO494 70
495	0.75	22 NO495 60	02 NO495 70
401	1	22 NO401 60	02 NO401 70
402	2	22 NO402 60	02 NO402 70
403	3	22 NO403 60	02 NO403 70
406	6	22 NO406 60	02 NO406 70
409	9	22 NO409 60	02 NO409 70
412	12	22 NO412 60	02 NO412 70
415	15	22 NO415 60	02 NO415 70
425	25	22 NO425 60	02 NO425 70

Diamond slurries - Series 241P

SERIES 241 P – Polycrystalline			
		Packaging 500 ml	Packaging 5 litres
Types	µm	References	References
99 241P	0.1	02 99241P00	02 99241P40
97 241P	0.25	02 97241P00	02 97241P40
01 241P	1	02 01241P00	02 01241P40
02 241P	2	02 02241P00	02 02241P40
03 241P	3	02 03241P00	02 03241P40
06 241P	6	02 06241P00	02 06241P40
09 241P	9	02 09241P00	02 09241P40
10 241P	10	02 10241P00	02 10241P40
14 241P	14	02 14241P00	02 14241P40
25 241P	25	02 25241P00	02 25241P40



Examples of lapped parts

▶▶ ABRASIVES: COMPOUND PREPARATIONS

BIO DIAMANT®

The Bio DIAMANT® products do not present any risk of toxicity or harmfulness and respect user's health. During the development of the Bio DIAMANT® products, the chemical components were exclusively selected among substances not classified dangerous, in conformity with the REACH regulation (related to classification, packaging and labelling of dangerous substances and preparations and those sensitive to man).

Respect of the environment

The products of our Bio DIAMANT® range are biodegradable. A safety data sheet is available for each of our products in accordance with the REACH regulation.

Bio DIAMANT® Compounds - Series 210

High concentration, oil soluble compounds which ensure a very high yield on hard and extra hard materials.

To be used with the lubricating fluid type M.M. 705. These compounds are available in grain sizes of 1 to 90 µm. Your parts are cleaned in alcohol or solvent.

Bio DIAMANT® Sticks - Series 122, M.M. 130 - 140

The sticks allow a controlled dosing when it used on the manual lapping plates LAMBLOCK®.

The diamond compound is distributed according to a precise dosing thanks to a drum graduated every 0.2 g. The compound is repetitively loaded on the polishing cloth without any contact with fingers.



LAM PLAN
ADVISES
YOU

▶ Indicative quantities necessary to load a new cloth

Cloth Ø in mm	150	200	250	300	400
Woven	0.2 g	0,2 g	0,4 g	0,4 g	0,6 g
Flocked	0.3 g	0,4 g	0,5 g	0,6 g	0,7 g

Series 122

High concentration, monocrystalline diamond sticks for all lapping and polishing operations. The identification of the grain size of these sticks is facilitated by colour codes limiting the risks of error during usages. Cleaning is done with water, alcohol or with the detergent 742.

Series M.M. 130-140

Extra concentrated with monocrystalline diamond compounds, these high performance sticks allow a high, rapid stock removal on all types of materials. Their very strong concentration also facilitates obtaining rapidly bright and flat surfaces. Cleaning is done with water or with the detergent 742.

The M.M.130 series sticks are used for LAPPING operations.
The M.M.140 series sticks are used for POLISHING operations.

Bio DIAMANT® COMPOUNDS – SERIES 210 – 10 g			
Characteristics	Types	µm	References
Very high efficiency abrasives Hard and extra hard materials	1 213	1	01 01213 00
	3 213	3	01 03213 00
	6 213	6	01 06213 00
	8 213	8	01 08213 00
	14 213	14	01 14213 00
	25 213	25	01 25213 00
	40 213	40	01 40213 00
	60 213	60	01 60213 00
	90 213	90	01 90213 00

Bio DIAMANT® STICKS – SERIES 130-140 – 10 g			
Characteristics	Types	µm	References
Lapping	MM 131	25	01 MM131 00
	MM 132	14	01 MM132 00
	MM 133	12	01 MM133 00
Polishing	MM 141	9	01 MM141 00
	MM 142	6	01 MM142 00
	MM 143	3	01 MM143 00
	MM 144	2	01 MM144 00
	MM 145	1	01 MM145 00
	MM 140 A	0.75	01 MM149 00

Bio DIAMANT® STICKS – SERIES 122 – 20 g			
Characteristics	Types	µm	References
Finish on polishing support	025 122	1/4	01 97122 20
	1 122	1	01 01122 20
	3 122	3	01 03122 20
	6 122	6	01 06122 20
	9 122	9	01 09122 20
	15 122	15	01 15122 20

▸▸ LUBRICATING FLUIDS



NEOFLUID

Lubricating fluid whose usage is recommended for Bio DIAMANT® NEOLAP® slurries. With its formulation without volatile organic compounds (VOCs) and without dangerous substances, this biodegradable fluid is adapted to lapping and polishing of most materials. It allows controlling perfectly the heating of the lapping plates during production cycles, thereby guaranteeing excellent flatnesses. Its association with the Bio DIAMANT® NEOLAP® slurries guarantee a stable, uniform abrasive film during the various work processes. Its active principles protect materials sensitive to corrosion.

M.M.712

Aqueous lubricating fluid recommended for usages with the Bio DIAMANT® sticks series 122 and M.M.130-140. It is compatible with the new Bio DIAMANT® NEOLAP® slurries series 300 and 400. Ready-to-use, its specific formula limits the heating of supports and facilitates the cleaning of parts with water or with the detergent 742.

M.M.705

Lubricating fluid to be used with the diamond compounds series 210. Ready-to-use, it ensures an excellent dispersion of the compound and optimizes its cutting power. Cleans easily with the detergent 742 or Stanol.



M.M.990-140

This lubricating fluid is recommended for usages with the diamond slurries series 241P. Ready-to-use, this low viscosity fluid creates a very fine abrasive film during the work, which ensures a high cutting efficiency. It is compatible with the new Bio DIAMANT® NEOLAP® slurries series 100. Use the detergent 742, Stanol or approved solvents to clean the parts.

M.M.950-140

Oily lubricating fluid. Due to its low evaporation rate, it is recommended to be used on large size lapping or polishing supports. This fluid is not subject to the regulation on the transport of dangerous materials (ADR, IMDG, IATA).

NEOFLUID

Characteristics	Packagings	References
Used with the Bio DIAMANT® NEOLAP® slurries	1 litre	07 NEF10 30
	5 litres	07 NEF10 40

SERIES 712

Used with the Bio DIAMANT® slurries series M.M.330-340 and the Bio DIAMANT® compounds series 100	1 litre	07 MM712 30
	5 litres	07 MM712 40
	Pulmatic 350 cc	07 MM712 50

SERIES 705

Used with the Bio DIAMANT® compounds series 200-210	1 litre	07 MM705 30
	Pulmatic 350 cc	07 MM705 50

SERIES 990-140

Used with the Bio DIAMANT® slurries series M.M.130-140	1 litre	07 MM711 30
	5 litres	07 MM711 40

SERIES 950-140

Used with the Bio DIAMANT® slurries series M.M.130-140	1 litre	07 MM950 30
	5 litres	07 MM950 40

MANUAL DISPENSER

Bottle to be filled in	Pulmatic 350 cc 2 pieces	08 00802 00
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Flat Polishing



Finish and aspect polishing

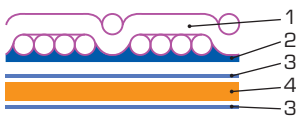
TOUHLAM® polishing cloth technology

LAM PLAN: a unique and recognised know-how recognised in the manufacture of polishing cloths.

When the super-finishing stage is reached, it is essential to use a cloth that is perfectly adapted to the purpose. To this end, it is necessary to master the composition and manufacture of the cloths proposed.

► Composition of polishing cloths

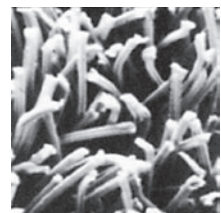
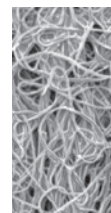
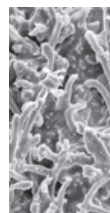
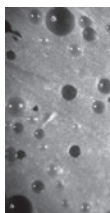
A polishing cloth is a complex assembly of different layers of materials, each one with a specific function. Certain versions have up to four different layers.



The active part **(1)**, visible on the polishing cloth, is obviously the primary selection criterion but the other parameters, defined by each layer, may vary technically and have a direct impact on the operation and result of the polishing cloth:

- A more or less impervious coating **(2)**.
- An adhesive film **(3)** with varying thicknesses and various bonding strengths.
- A more or less rigid support **(4)**.

► TOUHLAM® polishing cloths group 4 major classes:



Polyurethanes and Foams

Woven

Non-woven and compressed

Flocked

For each of these classes there are several types of cloth with different characteristics (active part material, woven, flocked or fibre type, density, thickness, etc.), which correspond to a given application.

These different parameters must be combined with the appropriate abrasive for each application. LAM PLAN proposes 4 product families: NEOLAP® and NEODIA® diamond abrasives, ECOA® composite abrasives and AQUA LAM® conventional abrasives.

Combining all these elements makes it possible to meet the 3 criteria that constitute the user specifications: stock removal **(SR)**, flatness **(F)** and finish or roughness **(FR)**.



To facilitate their identification the TOUHLAM® cloths are now stamped (only available on fabrics when the marking is possible)

►► POLISHING CLOTHS & PADS

LAM PLAN proposes the new generation of TOUCHLAM® polishing cloths. High technology products made from exclusive materials, these cloths are intended to satisfy very precise geometric and surface requirements. The TOUCHLAM® range is dedicated to aspect polishing, as well as all high precision polishings. Oriented toward research and industrial applications, these cloths integrate new materials and treatments in their manufacture to facilitate their use and guarantee the quality of the results. Self-adhesive, their implementation is fast and easy. They are available in all diameters.

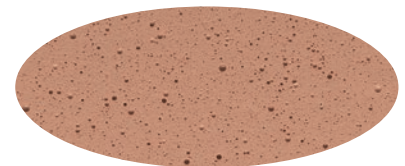
TOUCHLAM®

TOUCHLAM® cloths

Box of 5 pieces

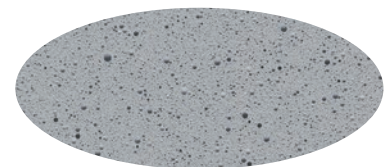
1PU1

Characteristics	Ø mm	References
	381	1PU10A03815
Polyurethane loaded with cerium oxide – extra hard	400	1PU10A04005
From rough polishing to the polishing of all materials	610	1PU10A06105
Inherent flatness and long service life	700	1PU10A07005
Commonly used with ECOA®* abrasive slurries	914	1PU10A09145
	1000	1PU10A10005



1PU2 (replaces LAM ALPUZ AL 0,8)

Characteristics	Ø mm	References
	381	1PU20A03815
Polyurethane loaded with zirconium oxide – hard	400	1PU20A04005
From rough polishing to the polishing of all materials	610	1PU20A06105
Inherent flatness and long service life	700	1PU20A07005
Commonly used with ECOA®* abrasive slurries	914	1PU20A09145
	1000	1PU20A10005



1PU3 (replaces LAM ALPUUN AL)

Characteristics	Ø mm	References
	381	1PU30A03815
Polyurethane not loaded – hard	400	1PU30A04005
From rough polishing to the polishing of all materials	610	1PU30A06105
Inherent flatness and long service life	700	1PU30A07005
Commonly used with ECOA®* abrasive slurries	914	1PU30A09145
Available with grooves (p 59)	1000	1PU30A10005



1PU4

Characteristics	Ø mm	References
	381	1PU40A03815
Polyurethane loaded with cerium oxide – medium-hard	400	1PU40A04005
From rough polishing to the polishing of all materials	610	1PU40A06105
Inherent flatness and long service life	700	1PU40A07005
Commonly used with ECOA®* abrasive slurries	914	1PU40A09145
Available with grooves (p 59)	1000	1PU40A10005



**1PC1**

Characteristics	Ø mm	References
Compressed polyurethane impregnated with fibers. Extra hard pad with excellent inherent flatness and long service life. May be used with all abrasive types.	381	1PC10A03815
	400	1PC10A04005
	610	1PC10A06105
	700	1PC10A07005
	914	1PC10A09145
	1000	1PC10A10005

**1PC2**

Characteristics	Ø mm	References
Compressed polyurethane impregnated with fibers. Hard pad with excellent inherent flatness and long service life. May be used with all abrasive types.	381	1PC20A03815
	400	1PC20A04005
	610	1PC20A06105
	700	1PC20A07005
	914	1PC20A09145
	1000	1PC20A10005

**2PC1**

Characteristics	Ø mm	References
Hard pad for finishing and super finishing Excellent flatness and long service time Can be used with diamond slurry or colloidal silica Available with different patterns (p 60)	381	2PC10A03815
	400	2PC10A04005
	610	2PC10A06105
	700	2PC10A07005
	914	2PC10A09145
	1000	2PC10A10005

**2PC2**

Characteristics	Ø mm	References
Medium hard pad for finishing and super finishing Excellent flatness and long service time Commonly used with diamond slurry or colloidal silica Compressed polyurethane impregnated with polyester fibers Available with different patterns (p 60)	381	2PC20A03815
	400	2PC20A04005
	610	2PC20A06105
	700	2PC20A07005
	914	2PC20A09145
	1000	2PC20A10005

**1NT1** (replaces LAM 5550 AL)

Characteristics	Ø mm	References
Non woven polyester From rough polishing to the polishing of non ferrous materials Commonly used with ECOA®* abrasive slurries	381	1NT10A03815
	400	1NT10A04005
	610	1NT10A06105
	700	1NT10A07005
	914	1NT10A09145
	1000	1NT10A10005

**1NT2** (replaces TITA09)

Characteristics	Ø mm	References
Non woven polyester - fine From rough polishing to the polishing of non ferrous materials Commonly used with ECOA®* and NEOLAP® abrasive slurries	381	1NT20A03815
	400	1NT20A04005
	610	1NT20A06105
	700	1NT20A07005
	914	1NT20A09145
	1000	1NT20A10005

* ECOA® please contact for further informations

2TT2

Characteristics	Ø mm	References
Taffeta woven synthetic fibres	381	2TT20A03815
High stock removal and inherent flatness on all materials	400	2TT20A04005
	610	2TT20A06105
Long service time	700	2TT20A07005
Commonly used with NEOLAP® diamond slurries	914	2TT20A09145
	1000	2TT20A10005

**2TS1** (replaces 9450)

Characteristics	Ø mm	References
Satin woven natural fibres	381	2TS10A03815
Excellent finish of all materials	400	2TS10A04005
Good inherent flatness	610	2TS10A06105
Commonly used with NEOLAP® diamond slurries	700	2TS10A07005
	914	2TS10A09145
	1000	2TS10A10005

**2TS2** (replaces 450)

Characteristics	Ø mm	References
Satin woven natural fibres on flexible support	381	2TS20A03815
Excellent finish of all materials	400	2TS20A04005
Good service life	610	2TS20A06105
Commonly used with NEOLAP® diamond slurries	700	2TS20A07005
	914	2TS20A09145
	1000	2TS20A10005

**2FL1** (replaces LAM 1423 AL)

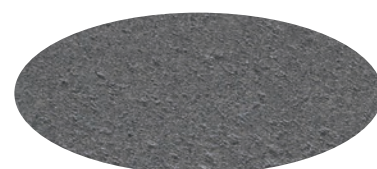
Characteristics	Ø mm	References
Compression wool felt	381	2FL10A03815
Finish of plastics and glasses	400	2FL10A04005
Long service life	610	2FL10A06105
Commonly used with AQUA LAM® cerium oxide	700	2FL10A07005
	914	2FL10A09145
	1000	2FL10A10005

**2FL2** (replaces LAM ARP)

Characteristics	Ø mm	References
Wool felt, extra flexible	381	2FL20A03815
Finish of plastics and glasses	400	2FL20A04005
Long service life	610	2FL20A06105
Commonly used with AQUA LAM® cerium oxide	700	2FL20A07005
	914	2FL20A09145
	1000	2FL20A10005

**2MS1** (replaces LAM 1729 AL)

Characteristics	Ø mm	References
Foam	381	2MS10A03815
Finish, "studding" on soft & medium-hard materials	400	2MS10A04005
Moulding of shapes	610	2MS10A06105
Commonly used with ECOA®* abrasive slurries	700	2MS10A07005
	914	2MS10A09145
	1000	2MS10A10005



**3SE2**

Characteristics	Ø mm	References
Tenacious synthetic silk fibers.	381	3SE20A03815
Finish on soft and semi-hard materials.	400	3SE20A04005
Excellent inherent flatness.	610	3SE20A06105
May be used with NEOLAP® diamond slurries.	700	3SE20A07005
	914	3SE20A09145
	1000	3SE20A10005

**3SA2**

Characteristics	Ø mm	References
Synthetic silk fibers.	381	3SA20A03815
Finish on soft and semi-hard materials.	400	3SA20A04005
Excellent inherent flatness.	610	3SA20A06105
May be used with NEOLAP® diamond slurries.	700	3SA20A07005
	914	3SA20A09145
	1000	3SA20A10005

**3SA4**

Characteristics	Ø mm	References
Composite synthetic fibers.	381	3SA40A03815
Finish on soft materials.	400	3SA40A04005
Good inherent flatness.	610	3SA40A06105
May be used with NEOLAP® diamond slurries.	700	3SA40A07005
	914	3SA40A09145
	1000	3SA40A10005

**3FP1** (replaces LAM 1742 AL)

Characteristics	Ø mm	References
Flocked polyester fibres	381	3FP10A03815
Finish of organic and mineral glasses	400	3FP10A04005
Very resistant	610	3FP10A06105
Commonly used with AQUA LAM® oxides	700	3FP10A07005
	914	3FP10A09145
	1000	3FP10A10005

**3FV1** (replaces 432 and 9432)

Characteristics	Ø mm	References
Flocked semi-hard short viscose fibres	381	3FV10A03815
Super finish of hard materials	400	3FV10A04005
Commonly used with NEOLAP® diamond slurries	610	3FV10A06105
	700	3FV10A07005
	914	3FV10A09145
	1000	3FV10A10005

**3FV2** (replaces 437 and 9437)

Characteristics	Ø mm	References
Flocked short viscose fibres	381	3FV20A03815
Super finish of all materials	400	3FV20A04005
Resistant to aggressive abrasives	610	3FV20A06105
Commonly used with NEOLAP® diamond slurries and AQUA LAM® oxides	700	3FV20A07005
	914	3FV20A09145
	1000	3FV20A10005

4FV3 (replaces 4FV1)

Characteristics	Ø mm	References
	381	4FV30A03815
Flocked soft long viscose fibres	400	4FV30A04005
Enhanced super finish of all materials, even very soft	610	4FV30A06105
Commonly used with NEOLAP® diamond slurries and AQUA LAM® oxides	700	4FV30A07005
	914	4FV30A09145
	1000	4FV30A10005

4MP1 (replaces Aquablack)

Characteristics	Ø mm	References
	381	4MP10A03815
Microporous polyurethane foam	400	4MP10A04005
Extreme super finish of all materials (chemical polishing)	610	4MP10A06105
	700	4MP10A07005
Commonly used with AQUA LAM® oxides and colloidal silicas	914	4MP10A09145
	1000	4MP10A10005

4MP2

Characteristics	Ø mm	References
	381	4MP20A03815
Microporous polyurethane foam	400	4MP20A04005
Very extreme super finish of all materials (chemical polishing)	610	4MP20A06105
Long service time	700	4MP20A07005
Commonly used with AQUA LAM® oxides, colloidal silicas and ECOA®* abrasive slurries	914	4MP20A09145
	1000	4MP20A10005



* ECOA® please contact for further informations

Structured cloths

The polishing cloths Touchlam 1PU3 and 1PU4 are available with grooves on their surface in order to improve their performance.

We can provide these pads with the following groove dimensions: 10 x 10 mm and 30 x 30 mm (the groove width is 1 mm).

The main advantages are:

- Higher stock removal
- Excellent flatness control
- Suitable for all kind of material.

Available in 1PU3 and 1PU4 material grooved.



1PU4 grooved in 10 x 10 mm



1PU4 grooved in 30 x 30 mm

The polishing cloths Touchlam 2PC1 and 2PC2 are available with four different patterns: embossed, squares (groove dimensions: 4.3 x 4.3 mm and 18.4 x 18.4 mm.), and small holes. These patterns enhance the efficiency of the cloth during the polishing process. The circulation and the action of the abrasive slurry are optimized on all the surface of large samples.

The main advantages are:

- Excellent flatness control
- Excellent polishing results – provides very low roughness
- Suitable for optic, microelectronic and semiconductor (glass, quartz, crystals, GaAs, ceramics, ...).

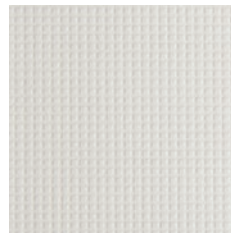
Available in 2PC1 and 2PC2 material grooved, embossed or microperforated.



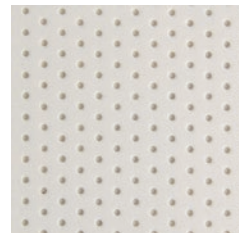
Grooved in 4,3 x 4,3 mm



Grooved in 18,4 x 18,4 mm



Embossed



Microperforated

► Summary table

TOUHLAM® cloths	Replaces	Characteristics				Applications
		SR*	Flatness	Finish	Super finish	
1PU1		X	X			Fine grinding of soft materials Polishing of hard materials
1PU2	LAM ALPUZ AL	X	X			Fine grinding of soft materials Polishing of hard materials
1PU3	LAM ALPUUN AL	X	X			Fine grinding of soft materials Polishing of hard materials
1PU4		X	X	X		Fine grinding of soft materials Polishing of hard materials
1PC1			X	X		Finishing of soft materials Fine finishing of hard materials
1PC2			X	X		Finishing of soft materials Fine finishing of hard materials
2PC1			X	X	X	Finishing on all materials especially developed for optics, micro-electronics and semi-conductors
2PC2			X	X	X	Finishing and super finishing on all materials especially developed for optics, micro-electronics and semi-conductors
1NT1	LAM 5550 AL	X				Semi-finish polishing of non ferrous materials
1NT2	TITA09	X				Semi-finishing of precious metals
2TT2		X	X			Rough polishing on all materials
2TS1	9450		X	X		Intermediary polishing of soft to medium-hard materials. Final polishing on hard materials
2TS2	450			X		Intermediary polishing of soft to medium-hard materials. Final polishing on hard materials
2FL1	LAM 1423 AL			X		Final polishing on glasses and plastics
2FL2	LAM ARP			X		Final polishing on glasses and plastics (large size parts)
2MS1	LAM 1729 AL			X		Polishing / studding of various materials (watchmaking industry)
3FP1	LAM 1742 AL				X	Polishing on minerals and organic glasses
3SE2			X	X	X	Fine polishing on soft and semi-hard materials
3SA2			X	X	X	Fine polishing on soft and semi-hard materials
3SA4			X	X	X	Fine polishing on soft materials
3FV1	432 / 9432				X	Final polishing on hard materials
3FV2	437 / 9437				X	Final polishing on all materials
4FV3	4FV1				X	Final polishing on soft to medium-hard materials
4MP1	AQUABLACK				X	Chemical/mechanical polishing on varied materials
4MP2					X	Chemical/mechanical polishing on varied materials Especially developed for high production

*Stock removal

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Diamond abrasive film HC

The diamond abrasive films HC are high concentrated diamond films. Available in different diamond size from 0.5 μm to 45 μm , these films provide excellent flatness and polishing results.

The uniformity of the diamond layer ensures constancy of the polishing process.

Easy to use, the high stock removal and the quality of polishing they insure, will decrease the polishing times.

With a higher service time than standard diamond films, they can be used on all kind of materials, especially small parts.



5 pieces

DIAMOND ABRASIVE FILM HC		
Self-adhesive		
\varnothing mm	μm	References
200	45	05D45A02005
200	30	05D30A02005
200	15	05D15A02005
200	9	05D09A02005
200	6	05D06A02005
200	3	05D03A02005
200	1	05D01A02005
200	0,5	05D95A02005
250	45	05D45A02505
250	30	05D30A02505
250	15	05D15A02505
250	9	05D09A02505
250	6	05D06A02505
250	3	05D03A02505
250	1	05D01A02505
250	0,5	05D95A02505
300	45	05D45A03005
300	30	05D30A03005
300	15	05D15A03005
300	9	05D09A03005
300	6	05D06A03005
300	3	05D03A03005
300	1	05D01A03005
300	0,5	05D95A03005
400	45	05D45A04005
400	30	05D30A04005
400	15	05D15A04005
400	9	05D09A04005
400	6	05D06A04005
400	3	05D03A04005
400	1	05D01A04005
400	0,5	05D95A04005

5 pieces

DIAMOND ABRASIVE FILM HC		
Non-adhesive		
\varnothing mm	μm	References
200	45	05D45N02005
200	30	05D30N02005
200	15	05D15N02005
200	9	05D09N02005
200	6	05D06N02005
200	3	05D03N02005
200	1	05D01N02005
200	0,5	05D95N02005
250	45	05D45N02505
250	30	05D30N02505
250	15	05D15N02505
250	9	05D09N02505
250	6	05D06N02505
250	3	05D03N02505
250	1	05D01N02505
250	0,5	05D95N02505
300	45	05D45N03005
300	30	05D30N03005
300	15	05D15N03005
300	9	05D09N03005
300	6	05D06N03005
300	3	05D03N03005
300	1	05D01N03005
300	0,5	05D95N03005
400	45	05D45N04005
400	30	05D30N04005
400	15	05D15N04005
400	9	05D09N04005
400	6	05D06N04005
400	3	05D03N04005
400	1	05D01N04005
400	0,5	05D95N04005

►► ABRASIVE: COMPOUND PREPARATIONS

Bio DIAMANT® M.M.140 A Stick

Diamond paste dosage stick for the finishing of watchmaker parts.



► Characteristics

The Bio DIAMANT® M.M.140 A stick consists of a solid chemical binder soluble in water and oil. The Bio DIAMANT®, M.M.140 A stick can be used both with the M.M.712 lubricating fluid (water base) and with the M.M.705 lubricating fluid (oil base).

► Applications

Particularly recommended for the finish of watchmaker parts. Its easy usage, yield, and abrasive quality allow obtaining an exceptional result recognized in this sector of activity. Its association with the TOUCHLAM®, polishing cloths authorizes the final polishing of many materials and mainly those used in the watchmaking industry (brass, silver, stainless steel, stavax, coating, etc.). Very often used in restoring terminated parts to eliminate micro-scratches, it can also be integrated in a complete production polishing process.

► Use and presentation

This stick is to be manually used. The precise dosing of the paste's distribution is ensured by a graduated cylinder. Each graduation represents 0.2 grammes. This system allows loading in a perfectly repetitive fashion an entire new cloth without the product coming in contact with fingers.

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As a guideline, here are the quantities needed to load a new polishing cloth:

Cloth type	Ø 150 mm	Ø 200 mm	Ø 250 mm	Ø 300 mm	Ø 400 mm
Woven	0,2 g	0,2 g	0,4 g	0,4 g	0,6 g
Flocked	0,3 g	0,4 g	0,5 g	0,6 g	0,7 g

Bio DIAMANT® DOSAGE STICK SERIES 140 - 10 g

Characteristics	Type	µm	Reference
Monocrystalline diamond Strong concentration	M.M.140 A	<1	01 MM149 00

AQUA LAM® colloidal silicas

S.W. 30

Mechano-chemical abrasive liquid for compatible materials.
Standard super finish liquid to be used pure or diluted up to 50%.

Packaging	References
5 litre can	Z000 A25L1
10 litre can	Z000 A2010

NOVAL S finish

Final polishing liquid to be used pure or diluted. Does not crystallize.
Does not settle out. Ultra low roughnesses obtained. Better stock removal.

Packaging	References
5 litre can	Z000 F75L1
10 litre can	Z000 F7010
20 litre can	Z000 F7020

NOVAL concentrated

Additive which cancels the crystallization and settling out of pure colloidal silica.
Increases the stock removal. Lowers roughness.
Formulated to be added to pure colloidal silica.

Packaging	References
10 litre can	Z000 F8010
20 litre can	Z000 F8020



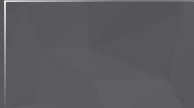
BIOLAM® Plus CeO₂ liquid

Liquid to be used for finishes on glass, sapphire and plastic. To be diluted 2 to 5 times with water. 2 litre can.

Cerium oxyde

FEPA	µm	References
1200	3	I003 V92L1
1300	2	I002 V92L1
1400	1	I001 V92L1

Distributed by:



Flat Lapping - Flat Polishing 2016

POLISHING TECHNOLOGY®

For 50 years LAM PLAN has been developing high performance abrasive solutions to help you meet your requirements of surface finishing.

Specialist of polishing technologies, we offer you our skills and expertise to assist you in an increasingly fine control of your lapping and polishing issues.

Every day our teams set in the most varied sectors, effective and environmental friendly processes, from R&D to recommendation and implementation of high performance abrasive solutions.



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