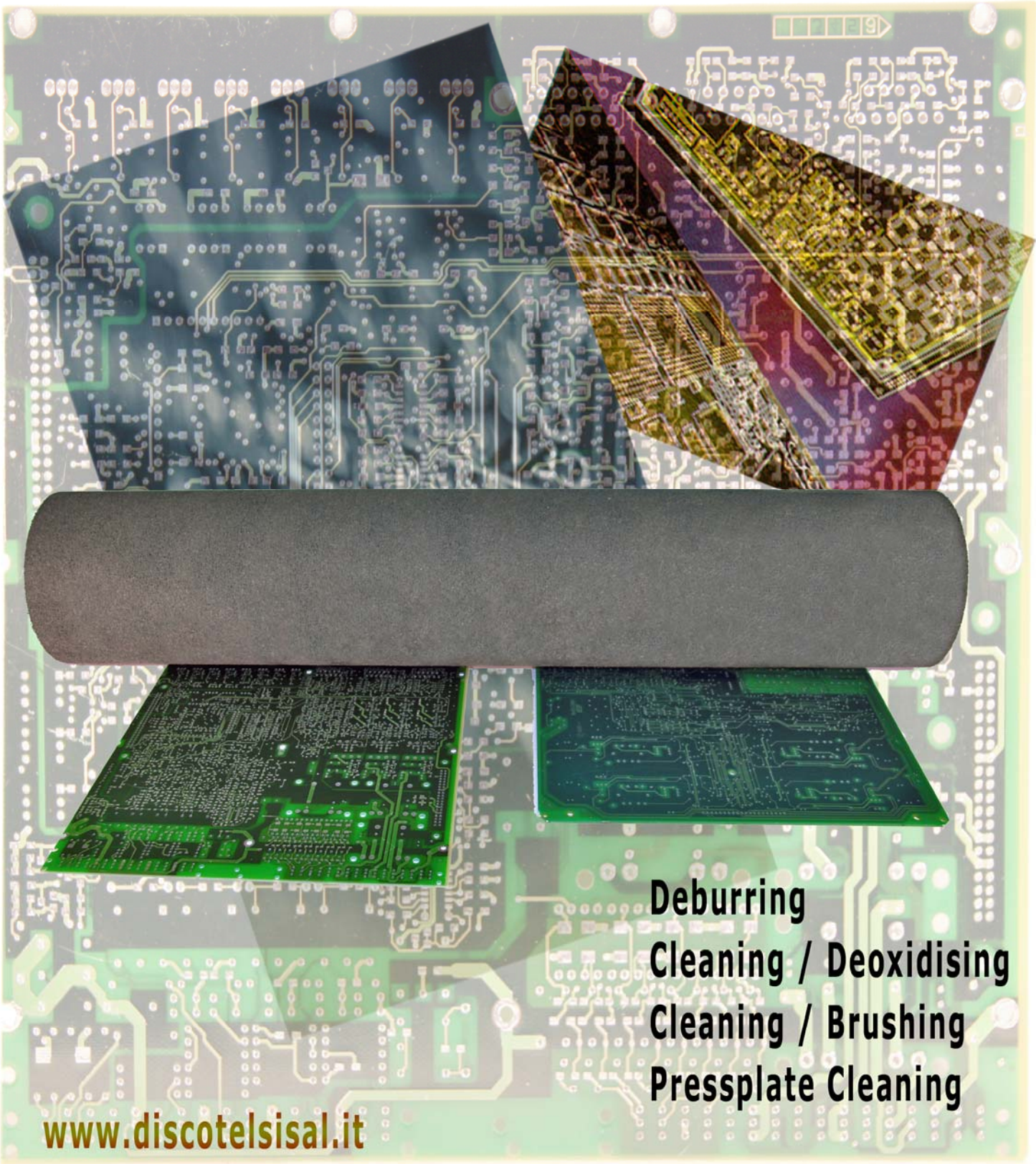




Discotelsisal

SANDING SOLUTIONS

The Printed Circuit Process "PCB"



**Deburring
Cleaning / Deoxidising
Cleaning / Brushing
Pressplate Cleaning**

www.discotelsisal.it

CONVOLUTED ROLLS

The convoluted rolls are manufactured by the spiral winding and simultaneous compression of non-woven abrasive nylon fibre fabric around a central fibre core through the binder action of polyurethane foams.

They are produced in different grains using both aluminium oxide and silicon carbide non woven nylon fibre fabric.

These rolls offer different advantages during the works:

- Long life and high efficiency
- Very uniform finishing quality of treated surface
- No damages on edges of the hole
- Perfect preparation for the next coating
- Very high constancy of hardness and abrasion throughout its duration

VERY IMPORTANT: each roll is marked laterally with a directional arrow, the must work on the marked direction.

FLAP ROLLS for PCB

These rolls are manufactured by using flap elements of non woven abrasive materials radially glued around a central fibre core.

It is also possible to make a particular impregnation treatment by the use of a mixture of chemical resins that weld the single flaps to each other.

This impregnation allows to obtain a more compact roll which increases performance, efficiency, life and uniformity for wider adaptability to the different work processes.

This type of impregnation improves the performance of the roll and it's possible to use the rolls during different step of the work.

These rolls offer different advantages during the works:

- Effectiveness of removal
- Uniform finishing of treated surface
- The treatment with chemical resins gives a very good performance
- Adaptable to various applications

SPIRAL TYNEX BRUSH

These rolls is manufactured by the spiral winding and high concentration of abrasive wires around a metallic core.

wrapping on a inner core a monofilament abrasive.

It's normally used the silicon carbide abrasive wires with the following grits: 180, 240, 320 e 500.

The rolls are rectified and dynamically balanced; they allow a very long life and very high precision work.

CONVOLUTED WHEEL



IMPREGNATED FLAP WHEELS



SPIRAL TYNEX BRUSH



SPIRAL NYLON ROLL

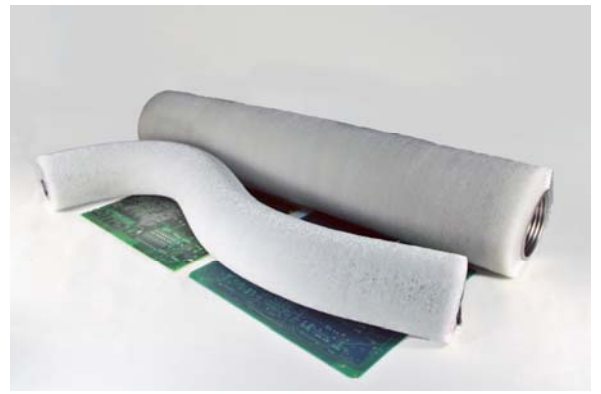
The spiral nylon roll can be manufactured in two different ways:

- Free spiral
- Spiral mounted around a metal core

The material used is non abrasive nylon of white or black colour; normally with undulated filament of thickness 0.20 and 0.30mm.

The guarantee a non-directional finishing and a surface with low reflexion properties.

SPIRAL NYLON BRUSH



Discotelsisal's products are recognised by their high quality thanks to an accurate selection of raw materials and continuous quality control.

The are manufactured in all the various dimensions required by the PCB sector.

The very close cooperation with major PCB manufactures and the experience and cooperation with principals Italian machine manufactures have allows Discotelsisal to achieve a deep knowledge on this field that has permitted to find the best solution to our customers needs.

APPLICATION

DEBURRING

It's the removal of burrs created during the drilling of the plates.

This is a very important and delicate operation, it's necessary:

- Avoid projections that create problems in next process phases
- Keep the flatness of the circuit in the presence of holes
- Keep as much as possible uniform the collar of the hole (avoiding any ovality).

We recommend a CONVOLUTED ROLL in GRITS: S/Very Fine e S/Super Fine with a medium density.

It can be used together with an **IMPREGNATED FLAP ROLL in GRITS: S/Very Fine IMP/D2 e S/Super Fine IMP/D2.**

Some PCBs manufactures use **Tynex Rolls in GRITS: 240 e 320 with high density of silicon carbide** (only for printed circuit with a thickness more than 0.5mm.)

CLEANING and DEOXIDATION

It's the preparation of the PCB surface for the lamination process of the dry film before the application of the solder mask.

The film must be perfectly joined to the surface of the laminated plate to guaranty the total absence of wrong contacts during the engraving process.

It's indeed require a clean surface, without oxidation, with a uniform roughness and limited property of reflection.

We recommend: **IMPREGNATED FLAP ROLL in GRITS: S/Very Fine IMP/D, S/Super Fine IMP/D e S/Ultra Fine IMP/D.**

CLEANING and BRUSHING with Nylon Wires

It consists in the process of brushing with **pumice**.

This is the best way to obtain a homogeneous surface with a finer and uniform roughness; this allows better adhesion of dry films and paints.

They have the advantage of being able to be used on very thin PCBs and to obtain a non-directional finish and a surface with limited property of reflection.

We recommend: SPIRAL BRUSH ROLL with way white nylon support (wire thickness 0.20 and 0.30 mm).

CLEANING and BRUSHING with Tynex Wires

If the main target is the total removal of waste, the SPIRAL TYNEX ROLLS ensure the total absence of abrasive particles on the surface of PCBs.

They are also valued for the long duration and chemical resistance.

Any obstacles not foreseen (folded edges, broken tips of the drill...) not damage the structure of the brush.

It is recommended that you use on circuits thickness exceeding 1 mm.

They are recommended for PCBs with a thickness greater than 1 mm.

We recommend: SPIRAL TYNEX ROLL in silicon carbide (grits 320, 500 and 600 with high density).

CLEANING before Solder Resist Process

Before the delicate process of application of solder resist, with a screen printer or trough a lithographic method, the PCBs must be prepared in such a way as to obtain:

- A surface clear and clean
- Clean up from any contamination
- A perfect surface for solder adhesion

This cleaning process must not damage the PCBs or create small imperfections.

We recommend: IMPREGNATED FLAP ROLL in GRITS: S/Super Fine IMP/D and S/Ultra Fine IMP/D.

PCBs CLEANING on single face

During the process called "first printing", it's necessary to quickly prepare the surface of the PCBs with particular characteristics of roughness and definition.

We recommend: FLAP ROLL in GRITS: A/Fine and A/Very Fine with hardness: 10 e 12.

CLEANING of SBU plates

During the SBU process the holes are filled with resins, this operation consists in spreading the resin inside the hole and totally cleaning of the surface of the copper circuit.

We recommend: IMPREGNATED FLAP ROLL.

OTHER FINISHING

The flexible printed circuit thanks to its quality and its lower weight is increasingly used for connections in narrow spaces. Likewise the sheets of very thin copper can be mechanically processed without the risk of deformation and bend.

We recommend:

- IMPREGNATED FLAP ROLL in GRITS: S/Super Fine IMP/D and S/Ultra Fine IMP/D
- FLAP ROLL in GRITS: S/Super Fine and S/Ultra Fine with hardness 10.

PRESSPLATE CLEANING

The objective of this operation is the removal of residues of resin that remained on the surface of the plate after the pressing process. During this process the initial roughness of the plate should remain the same, so it's very important that the quality of roll used be constant throughout its duration.

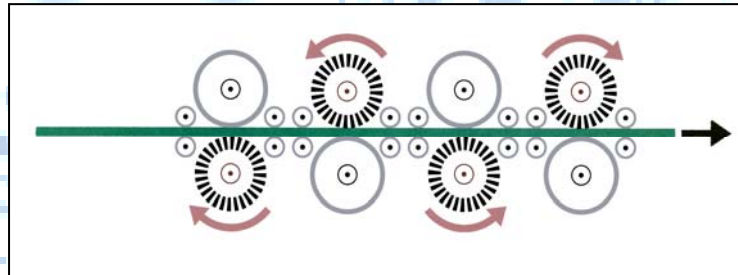
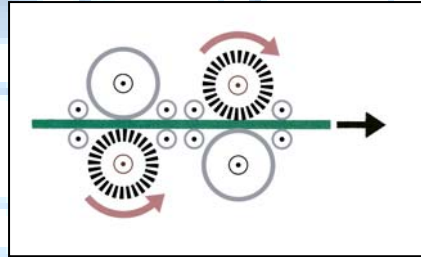
We suggest: IMPREGNATED FLAP ROLL in GRITS: A/Corse IMP/D2, A/Medium IMP/D2 and A/Fine IMP/D2.

PROCESS

MACHINES

Rotation scheme of the rolls for machines with 2 heads and 4 heads

Both the rolls of the first station have to work in the same direction, instead in the second station the rolls have to work in the opposite sense.



Technical Specification of TMC material

Discotelsisal	Quality	Granulometry (theoretical value)	International Specification
A/C	O/A	80	A/Coarse
A/M	O/A	120	A/MEDIUM
A/F	O/A	240	A/FINE
A/VF STRONG	O/A	320	A/VERY FINE STRONG
A/VF SOFT	O/A	320	A/VERY FINE SOFT
S/M	S/C	120	S/MEDIUM
S/F	S/C	240	S/FINE
S/VF	S/C	320	S/VERY FINE
S/SSF	S/C	400	S/SUPER FINE
S/UF	S/C	600	S/ULTRA FINE
S/UF SPECIAL	S/C	1000	S/MICRO FINE
S/UF SPECIAL2	S/C	1200	S/MICRO FINE