

## MC – 3

### Machinery for Manufacturing of Technical Textiles

Sr. No.	Name of the machine with specifications
1	Machinery for Poly Tetro Fluro Ethylene (PTFE) Breathable film

#### b. Weaving Preparatory

Sr. No.	Name of the machine with specifications
1	PLC controlled High speed computerized warping / sectional warping machine <ul style="list-style-type: none"><li>• For Direct warping machines warping speed should be 1000 mpm and above</li><li>• For sectional warping machines warping speed should be 900 mpm and above.</li></ul>
2	PLC Controlled, 4 axis filament winding machine for composites. Specifications: Mandrel Rotation of 150 rpm or more.

#### c. Weaving

Sr. No.	Name of the machine with specifications
1	PLC based Shuttleless weaving machine with or without creel & weft yarn feeding device for the manufacturing of technical textiles (with specifications given in MC-1)
2	Minimum 5.0 mtr wide shuttle loom with computer controlled shedding mechanism to produce seamless tubes, substrate for wide width belting and other technical textiles
3	PLC based Geo Grid Weaving Machine having minimum width of 380cm with impregnation plant
4	Multi-axial Loom.
5	3-D and Block weaving machine/ Non Crimp Weaving Machines for 3D Weaving of Glass and Carbon Fibres.
6	High Speed Needle looms for narrow woven fabrics
7	Position Driven Compressor stand assembly for weaving
8	Narrow width shuttle loom with positive let off and take up motions with electronic jacquard / dobby and with micro processor controls for producing tubular fabric meant for filters, medical textiles and other technical textiles.

**d. Knitting**

<b>Sr. No.</b>	<b>Name of the machine with specifications</b>
1	PLC based Weft Inserted Warp Knitting machine (WIWK).
2	PLC based Knitting machine for spacer fabrics
3	PLC based Bi- axial & Multi axial knitting machine
4	PLC based Tricot machinery for the manufacture of technical textiles (Eligible for units having in house capacities for converting grey fabrics into technical textiles)
5	PLC based Rachel double needle bar Machine
6	PLC based Rachel machine for netting
7	PLC based Knitting Machine for the manufacturing of Fish nets with warp knotting system
8	PLC based Circular warp knitting machine for compression garments
9	PLC based Stitch bonding knitting machine
10	PLC based Seamless Knitting machine

**e. Processing**

<b>Sr. No.</b>	<b>Name of the machine with specifications</b>
1	Mechanical foamer with Crush calendar.
2	Pultrusion machine and equipment for manufacturing of textile composites
3	FRP (Fibre Reinforced Plastic) processing machine & equipment for manufacturing of textile composites
4	RTM (Resin Transfer Moulding) machine and equipment for manufacturing of textile composites
5	Multi cylinder Calendering machines with following specifications: Running Speed : Minimum 30 mts/min Pressure : Minimum 35 ton Heating : Steam, Electric, Gas
6	Finishing machinery for impregnating yarn or fabrics
7	PLC based Dipping machine for tyre cord / industrial fabrics / belting ducks
8	PLC based Dipping machine for single end or cord for reinforcement of v-belts / hoses / hose tires
9	PLC based Coagulated PU or PVC dip coating machine / PU or PVC coating line or coating dipping / knife machine with infrared dryer
10	PLC based Hotmelt and Hot Glue applicators for coating with working width of 500-2600 mm and working speed of 2-200 m/min
11	High precision Plasma Welding and Cutting machines for Sealed Edge Cutting
12	PLC based Precision Annealing Furnace for Stress relieving of fabrics
15	HHP Jigger to process nylon, aramid fabrics

**f. Madeup Technical Textile (TT) Store**

Sr. No.	Name of the machine with specifications
1	RF (Radio Frequency) welding equipment
2	Automatic Ultrasonic cutting and sealing equipment.
3	Laser cutting and sealing equipment.
4	PLC based Back Coating Lines
5	PLC based Braiding machinery
6	Machinery for manufacture of clay liner
7	Machinery for manufacture of prefabricated vertical drains / prefabricated wick drains
8	Complete line for manufacturing chopped strand Glass mat

**g. Non-woven textile manufacturing machines:**

Sr. No.	Name of the machine with specifications
1	<p>Complete production lines or the component / parts forming the production line for the manufacture of following non-wovens upto rolled goods preparation and packing, viz.,</p> <ul style="list-style-type: none"> <li>i. Chemically bonded non-woven</li> <li>ii. Stitch bonded non-woven</li> <li>iii. Spun bonded non-woven</li> <li>iv. Melt blown non-woven</li> <li>v. Spun bond melt blown non-woven (SMS non-wovens)</li> <li>vi. Needle punch non-woven</li> <li>vii. Thermal bond non-woven</li> <li>viii. Spun lace non-woven</li> <li>ix. 3-D Nonwoven Machines</li> <li>x. Eletrospun Nonwoven Machines</li> </ul> <p><b>Note :- The machineries listed at Sr. Nos. g of above are eligible for non-wovens</b></p>

**h. Finishing machines:**

Sr. No.	Name of the machine with specifications
1	Hot melt cold glue applicators for coating
2	Ultrasonic slitting machines/edge sealer
3	Brazing machine with torch (for hot air)
4	PLC operated system with servo drives for measurement/control of tension and temperature
	Film calendering machine
5	Heatset oven with stenter facility
6	Pilot/lab coating line

7	High pressure pump for water jet cutting system
8	Robotic waterjet cutting system
9	Robot for water jet cutting system
10	Water softening/purification system for water jet cutting
11	Machines for powder scattering/paste dot/powder dot
12	PLC based Coating for fusible interlinings
13	PLC based Padding mangle
14	PLC based Lamination machine for technical textiles
15	PLC based Clip/pin stenter for heat setting
16	PLC based Flame lamination machine
17	Jacquard machines for joining two edges by inter weaving.
18	Turret winder and unwinder
19	High speed precision mixers for plastisols/ organosols.
20	Gunning and cutting machine.
21	PU tumbling machine and drying machine.
22	Dimethyl formamide (DMF) recovery plant and distillation plant.
23	Multi cylinder drying range
24	Plasma Machine For Finishing Lines For Technical Textiles
	<b>Note: The machineries listed at Sr. No. h of above are eligible for non-wovens, wovens, knitted technical textiles and convertors of non-wovens into finished products</b>

**i. Non-woven converting machinery:**

Sr. No.	Name of the machine with specifications
1	Complete thermo moulding lines
2	Complete thermosetting lines
3	Machinery of carpet/NVH moulding lines oven/ press
4	Conveyor/thermopack for heating/chiller for cooling
5	Machinery for moulded roofliners
6	Machinery for conversion of nonwovens into face masks / dust masks / duck bill masks / earloop mask sealing / tie on mask sealing / blank mask /Gloves
7	Machinery for conversion of nonwovens into bouffont caps / surgical caps / medicap making machine
8	Machinery for conversion of nonwovens into gowns / pillowslip / shoe covers / ice pack body / ice pack band sealing and cutting / hand bags / filter pocket /head rest cover / CD / DVD cover and other such items
9	Machinery for conversion of nonwovens into sanitary napkins / baby diapers / adult diapers
10	Machinery for conversion of nonwovens into dry and wet wipes
11	Machinery for slitting and rewinding of nonwoven roll
12	Surgical gauze machine making
13	Combined dressing making machine
14	Bandage Roll making machine
15	Machine to compress

<b>16</b>	Abdominal sponge making machine
<b>17</b>	Automatic packing machines
<b>18</b>	Machine for manufacture of tubular filter bag

**j. Complete Production Line for Manufacture of Surgical Bleached Cotton**

Note:

- i. Since some of the machinery eligible for technical textiles can also be used by the other segments of the industry, Joint Inspection Team (JIT) has to verify and certify that the product manufactured by the unit is a Technical Textile.
- ii. The unit which converts the normal textile to technical textile shall be eligible under the segment unless the manufacturer provides proof that the material produced by them can only be used in technical textiles and not in any other general textiles

