

HOW TO START MANUFACTURING INDUSTRIES

PRODUCTION OF LIGHT SENSITIVE (DIAZO) PAPER

Light sensitive diazo-materials are well known for being irreplaceable in the multiplication of all kinds of documents, especially plans, charts and texts, when contact copying paper is used with highly intense lighting on light sensitive paper, film or folios. This method is also called heliographic printing.

PROCESS DESCRIPTION

The process of producing light sensitive (diaz) paper includes the following phases:

- preparation of the solutions to be applied to the base,
- applying the solutions to the base and drying in a stream of warm air,
- packaging into rolls and sheets.

Three solutions are applied to the paper base, two are applied to the front and one to the back side. The front side is covered with a precoating, which is, after drying, covered with the main coat. When the latter is dry, the required solution is applied to the back side.

The preparation of the solutions must be done in a separate, well ventilated room which must be equipped with electricity, cold and hot water and cooling equipment. The prepared solutions are brought in vessels to the machines used for coating the paper base. The application of the precoating, the main coat and the back coat on the paper base is carried out by a machine in a continuous process. The paper base is 120 cm wide and is unrolled at a speed of 50 m a minute. The solutions are applied one after another at a speed which allows the previous coating to dry in a stream of warm air. After the third solution has been applied and the paper base, now already a diazo-material, has dried it is again rolled into a bale which is then taken for packaging. The packaging requires the unrolling of the large rolls and their rolling into smaller ones 10, 20, 50 or more meters long or alternatively the diazo-material is cut into standard sized sheets. Thus prepared the material is packed into protective wrapping paper and put into cardboard boxes for

transportation to the market.

The production process is continuous.

PRODUCTION CAPACITY

The capacity of the plant is 1 500 000 rolls whose length is 10 meters which equals 1 200 tons a year.

The calculation is based on a 250 day year and a 24 hour day.

REQUIRED MACHINERY AND EQUIPMENT

<u>I t e m</u>	<u>No.</u>
Vessel with mixer	5
Duplicator with mixer	3
Duplicator without mixer	3
Various vessels	5
Filtering equipment	3
Machine for applying the three layered coating and drying with warm air	1
Rerolling machine	1
Machine for cutting rolls to size	1
Laboratory equipment	5
Equipment for de-ionization of water	1
Accessories (tables, shelves, laboratory table)	

The FOB price of the equipment and know-how is approx. 1 000 000 US dollars.

REQUIRED RAW MATERIALS

<u>I t e m</u>	<u>Quantity</u>
Untreated heliographic paper	1,200 t/year
Chemicals necessary for the precoating solution (silicate dioxide, barium sulphur, starch, pvc)	72 "
Chemicals necessary for the main coat (diaz compounds, aluminium sulphate, phosphoric acid, couplers, thiourea, acetic acid)	56 "
Water de-ionizer	512 "

REQUIRED MANPOWER

<u>Qualification</u>	<u>No.</u>
University graduates (engineers)	3
Operatives	15
TOTAL	18

REQUIRED UTILITIES

Electrical energy	200 kWh/t of product
Gas	400 m ³ /t of product

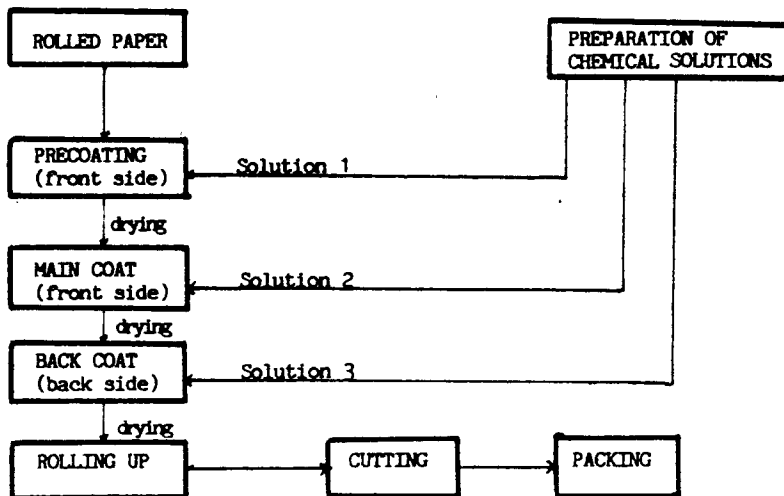
REQUIRED AREA FOR PLANT SITE

The total land requirement is 2 000 m² which includes the building, warehouses, laboratory, office and other rooms.

SAFETY MEASURES

No special safety precautions for the workers are necessary but special attention must be given to the prevention of fire.

PROCESS FLOW SHEET FOR PRODUCTION OF LIGHT SENSITIVE (DIAZO) PAPER



PROCESS FLOW SHEET FOR PRODUCTION
OF LIGHT SENSITIVE (DIAZO) PAPER

