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**Occupation: - *Apparel Fashion Designing and Technology Supervision***

**NTQF Level – IV**

**Learning Guide # 08**

**Unit of competence: - Cut Fabrics for Prototype Designs**

**Module Title: - Cutting Fabrics for Prototype Designs**

bd07067_



**LG Code:** TXT FDT4 M11

MODULE CODE: TXT FDT4 M11 06 1206

**LO1:- Prepare workstation**

* Workstation, cutting table and seating are set up according to ***OHS practices*** and specifications for work.
* **OHS practices**

OHS practices must include hazard identification and control, risk assessment and implementation of risk reduction measures specific to the tasks described by this unit and may include:

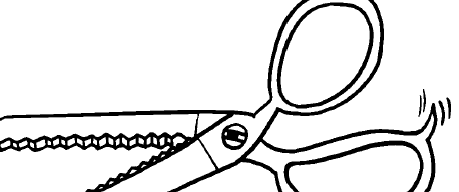
* Manual handling techniques and safe materials handling
* Standard operating procedures
* Personal protective equipment
* Taking of rest breaks
* Ergonomic arrangement of workplaces
* Following marked walkways
* Safe storage of equipment
* Housekeeping
* Reporting accidents and incidents
* Other OHS practices relevant to the job and enterprise
* *******Cutting equipment*** is cleaned, checked and servicing assessed according to manufacturer instructions.
* **Cutting tools and equipment**

May include:

1. **Continuous**

* Vertical reciprocating cutting machine
* Electric Rotary cutting machine
* ****Band knife

**B. Intermittent**

* Hand shears
* Short knifes
* Drills
* Notcher

**-** Cutting table is prepared to suit correct lay length.

- ***Lay-up and marking equipment*** is set up and prepared for use.

* **Lay-up and marking equipment**
* Computers and required software
* Patterns
* Fabric
* Marker card or paper
* Weights and clamps

**LO2:- Layup fabric**

**Lay**: is a stack of fabric plies that have been prepared for cutting. ***Fabric*** is collected and checked.

* **Fabric May include:**
* Woven fabrics
* Knitted fabrics
* Fabrics with a variety of finishes

- Fabric width and quality are checked with laying-up instructions.

- Fabric is laid up and fabric tension adjusted to match fabric performance.

- Fabric is checked for faults and ***required action*** taken.

* **Required action**

May include:

* Cutting out faults using splicing (overlap joining)
* Other appropriate repair techniques

**LO3:- Draft lay marker**

* Cutting order is interpreted for marking requirements such as fabric type, width, quantity and garment sizes.
* Required pattern pieces are collected and checked manually or by computer.
* Pattern pieces are manipulated and positioned manually on paper or by computer for most efficient fabric use.
* Lay marker is drawn up manually or by computer.
* Laying-up instructions are prepared according to order requirements.
* ***Marker:*** is a diagram of a precise arrangement of pattern pieces for a specific style and size to be cut from a single spread.
* ***Marker planning:*** is the process of determining the most efficient combination of sizes and shades for each order and to produce the best fabric yield and equipment utilization.
* ***Marker making:*** is the process of determining the most efficient layout of pattern pieces for a specified style, fabric and distribution of sizes.
* **Method of marker making**

In computerized method all information are in the pre fashionable data file and an operator helps the computer to make the best choice. In manual method marker making is done by efficient marker maker.

Manual marker making method Computerized marker making method

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* **Manual marker method**

In this process marker is making both by manually. It can be done with full size pattern and/or also with minimized pattern.

Marker planning with full size pattern and/or Marker with minimized pattern:

In this process:

* More time consuming
* High labor cost
* Expensive method
* **Computerized marker method**

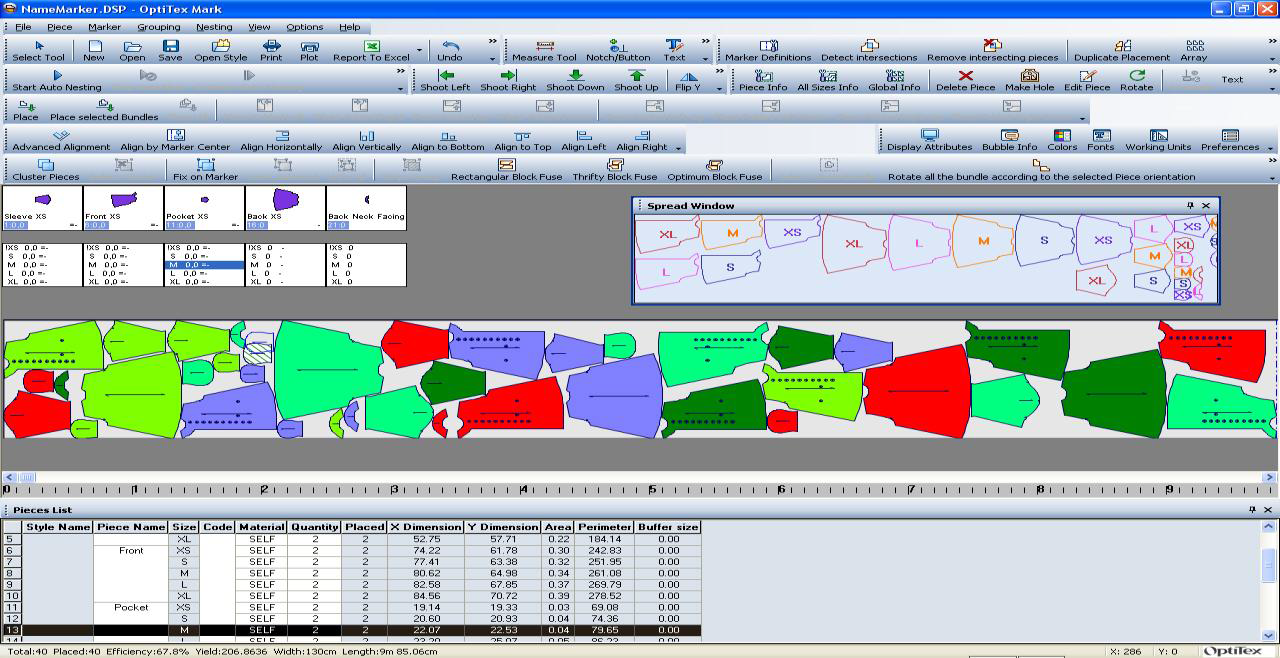
Computer system for pattern development, grading, marker planning and marker plotting.

Digitizer Computer



Plotter**/**printer

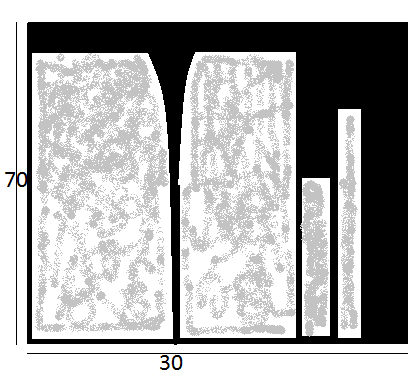
* In this process, at first production pattern is entered in the memory of computer by using digitizing, scanning, and full size production pattern also stored in memory of computer but all pattern pieces are displayed in miniature from at the top of screen.
* After selecting the most economical marker plan devised in the time available, the computer will provide an accurate piece count, calculate a marker plan efficiency percentage and total the length of the pattern peripheries.
* After planning the marker on the computer, the marker planner instructs the computer to plot the marker automatically onto paper. Granted a well-maintained plotter, this provides the most accurate marker.



* **Requirement of marker making**
* The nature of the fabric and the desired result in the finished garment
  + Grain Pattern alignment in relation to the grain of the fabric
  + The design characteristic of the finished garment
* The requirements of quality cutting
* The requirement of production planning
* **Marker efficiency**

**Marker efficiency** is determined by fabric utilization the percentage of the total fabric that is actually used in garment parts.









***Marker efficiency*** depends on how tightly the pattern pieces fit together within the marker. The area not used in garment parts is considered as waste.

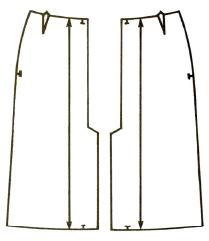
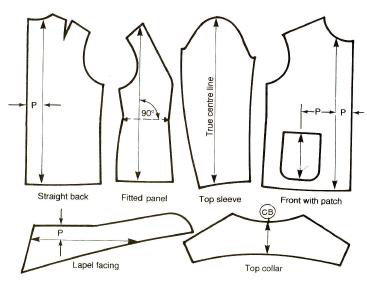
* **Factors affecting marker efficiency**
* **Fabric characteristics:**
* Fabric width
* Stripes or plaids lines
* Length of design repeat
* **Characteristics of pattern pieces**
* Shape of pattern pieces determines how clothe they can fit together.
* Variety of garment sizes.
* **Grain orientation** 
  + Combination of several bias pieces and straight grain pieces.

**Grain** It refers to the position of the pattern components in relation to the length of the fabric.

All garments pieces have to be marked with a grain line for its complete length. As a general guide, the grain line for main component has to be positioned as follow:

* ***Front***: parallel to the center front
* ***Back***: parallel to the center back
* ***Sleeves***: on or parallel to the center line
* ***Lapel facing***: The grain line runs parallel to the edge of the lapel section
* ***Patch pockets***: Relative to their position on the front; the grain line is parallel to that of the front.
* ***Top collar***: On the center back line of the collar
* ***Other parts***: Generally the grain line can be derived from the grain line of the component on which the parts are located.

**Placement of grain markings**

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**LO4:- Copy marker**

- Marker is checked against order requirements.

- Marker is copied either manually or by computer.

**LO5:- Position marker**

- Marker is placed on the lay.

- Marker and lay alignment are checked and adjustments made as required.

**LO6:- Cut work**

* Lay is cut using cutting equipment according to requirements for operation.
* Cut work is inspected, any faults identified and appropriate action taken to ensure cut pieces meet quality standards.
* Preventative action is taken to avoid any recurrence of defective pieces and is recorded.
* Performance of cutting equipment is regularly checked for signs of faulty operation, including evidence from inspection of cut pieces, and any required action is taken.

***Spreading:*** it is the process of rolling out layer after layer of cloth, smoothly without any wrinkles, in such a manner that the selvedge on one side of the cloth is straight, and parallel to that edge of the cutting table.

* **What is cutting?**

It is the first stage in the garment manufacturing process; and it involve of cutting fabric in to necessary pattern shapes.

* **Necessity of cutting**

A garment is made of several pattern shapes, whereas the cloth is supplied with a single width and length. Cutting is necessary to introduce shape in the garment. And in order to achieve this certain requirements must be fulfilled, such as:

* Precision of cut
* Clean edges
* Infused edges

**Production process in the cutting room**

Cutting room has a great effect on excessive manufacturing cost than any other department concerned with the actual production of the garment.

Cutting production starts with the receipt of inspected raw materials, production orders and graded patterns and finishes when bundles of cut work are issued for sewing.

**Planning** **Spreading** **Cutting** **Preparation for sewing**

**LO7:- Complete work**

* Cut work is directed to next operation and work area is cleaned and prepared for next job.
* Master copy of lay marker is stored in filing drawer or computer