

BRAIDING

Braiding, in textiles, machine or hand method of interlacing three or more yarns or bias-cut cloth strips in such a way that they cross one another and are laid together in diagonal formation, forming a narrow strip of flat or tubular fabric. The word plaiting is generally applied when such materials as [rope](#) or straw are employed.



Braids are frequently used as trimming or binding. Flat braid may be used to produce a decorative border effect on garments or home furnishings or may be folded over raw fabric edges as a finishing method. Soutache is a decorative braid with a herringbone pattern, sometimes used to outline designs. Braids may be sewn together to make braided rugs. Hats, handbags, and belts can also be made from various braids, including plastic and straw types.

Braiding Or Plaiting

Braid is made by interlacing three or more yarns or fabric strips, forming a flat or tubular narrow fabric. It is used as trimming and for belts and is also sewn together to make hats and braided rugs. Plaiting, usually used synonymously with braiding, may be used in a more limited sense, applying only to a braid made from such materials as [rope](#) and [straw](#).

Non interlaced fabrics

With the exception of [felt](#), nonwoven materials are in the early stages of development. There is controversy about the precise meaning of the term *nonwoven*, but one authority defines nonwoven fabrics as textile fabrics made of a fibrous layer having randomly laid or oriented fibres or threads.

Felt

Felts are a class of fabrics or fibrous structures obtained through the interlocking of [wool](#), [fur](#), or some hair fibres under conditions of heat, moisture, and pressure. Other fibres will not felt alone but can be mixed with wool, which acts as a carrier. Three separate industries manufacture goods through the use of these properties. The goods produced are wool felt, in rolls and sheets; hats, both fur and wool; and woven felts, ranging from thin billiard tablecloths to heavy industrial fabrics used for dewatering in the manufacture of [paper](#). Felts of the nonwoven class are considered to be the first textile goods produced, and many references may be found to felts and their uses in the histories of ancient civilizations. The nomadic tribes of north central [Asia](#) still produce felts for [clothing](#) and shelter, utilizing the primitive methods handed down from antiquity.

Bonding

Several methods for making nonwoven materials are now firmly established, and others are being developed. In [adhesive](#) bonding, fabrics are made by forming a web of fibres, applying an adhesive, then drying and curing the adhesive. The web can be produced by a garnett machine or a conventional card, several layers being piled up to obtain the required thickness. Such webs are weak across the width, but this does not limit their use for certain end products. A more uniform product results from cross laying the web. Other machines, such as the Rando-Webber, lay down the fibres by an airstream.

The fibres in the web may be stuck together in various ways. The web may be sprayed with an emulsion of an adhesive—e.g., a latex based on [synthetic](#) rubber, acrylic derivatives, or natural rubber—or, alternatively, may be carried on a mesh screen through a bath of latex, the excess being squeezed out by a pair of rollers. Adhesives may also be applied as a foam or a fine powder. Thermoplastic fibres can be incorporated in the blend and on heating will bond together, giving strength to the mass of fibres.

Mechanically bonded nonwoven products (or fibre-bonded nonwovens) are webs strengthened by mechanical means. The web, sometimes reinforced by a thin [cotton](#) scrim in the middle or by texturized yarns distributed lengthwise through it, is punched by barbed needles mounted in a [needle](#) board. The fibres in the web are caught up by the needle barbs, and the resulting increased entanglement yields a compact product sufficiently strong for many purposes. Modern needle-felting or punching machines perform 900 punches per minute, and selection of appropriate needles is based on the [fibre](#) being processed and the desired product.

Webs made of yarns having a core of one [polymer](#) and an outer sheath of another material having a lower softening point may be lightly pressed and then heated to an appropriate temperature. The core yarn will “spot weld” together at the junction points, binding the mass of fibres together. Products made in this way find uses as industrial fabrics, coatings, and interlinings.

Laminating

The joining of one fabric to another by an adhesive such as natural rubber has long been practiced in rainwear manufacture. Composite materials were later joined by bonding a layer of [polyurethane](#) or other foam to a conventional textile fabric. The two components were stuck together by flame bonding or by an adhesive in the form of a continuous coating, in spots, or as a powder. This laminating process has been extended to the joining of two layers of fabric. Each fabric layer can be quite thin, and the amount and type of adhesive are chosen to add only minimum stiffening. Such materials offer a variety of applications. A coating fabric, for example, may be joined to a lining; dimensionally stable composites can be made from cloth layers that are in themselves dimensionally unstable. Acetate knitted fabrics are frequently used as backing material in laminates.

Textile Finishing Processes

Basic methods and processes

The term [finishing](#) includes all the mechanical and chemical processes employed commercially to improve the acceptability of the product, except those procedures directly concerned with colouring. The objective of the various finishing processes is to make fabric from the [loom](#) or [knitting](#) frame more acceptable to the consumer. Finishing processes include preparatory treatments used before additional treatment, such as bleaching prior to dyeing; treatments, such as glazing, to [enhance](#) appearance; sizing, affecting touch and treatments adding properties to enhance performance, such as preshrinking. Newly formed cloth is generally dirty, harsh, and unattractive, requiring considerable skill for conversion into a desirable product. Before treatment, the unfinished fabrics are referred to as gray goods, or sometimes, in the case of silks, as greige goods.

Finishing formerly involved a limited number of comparatively simple operations evolved over the years from hand methods. The skill of English and Scottish finishers was widely recognized, and much British cloth owed its high reputation to the expertise of the finisher. More sophisticated modern finishing methods have been achieved through intense and imaginative research