

Knowledge of Textile Goods

Teacher: Ing. Marie Havlová, Ph.D.

Lesson No. 6: [Typology of silk-type woven fabrics](#)

Silk fabric – characteristics

Silk fabric is made of silk fibres.

The silk fibre is a product of silkworms and ranks among animal fibres.

The silk fabric has some characteristics:

- Fabric has **excellent thermal-insulation** properties.
- Fabric is smooth, very fine and very pleasant to the touch.
- Fabric has a **typical rustling handle**.

Silk fabrics are generally expensive.

Therefore they are often use the fabrics that only imitated the silk, but they are made of 100% chemical fibres in the form of multifilament threads.



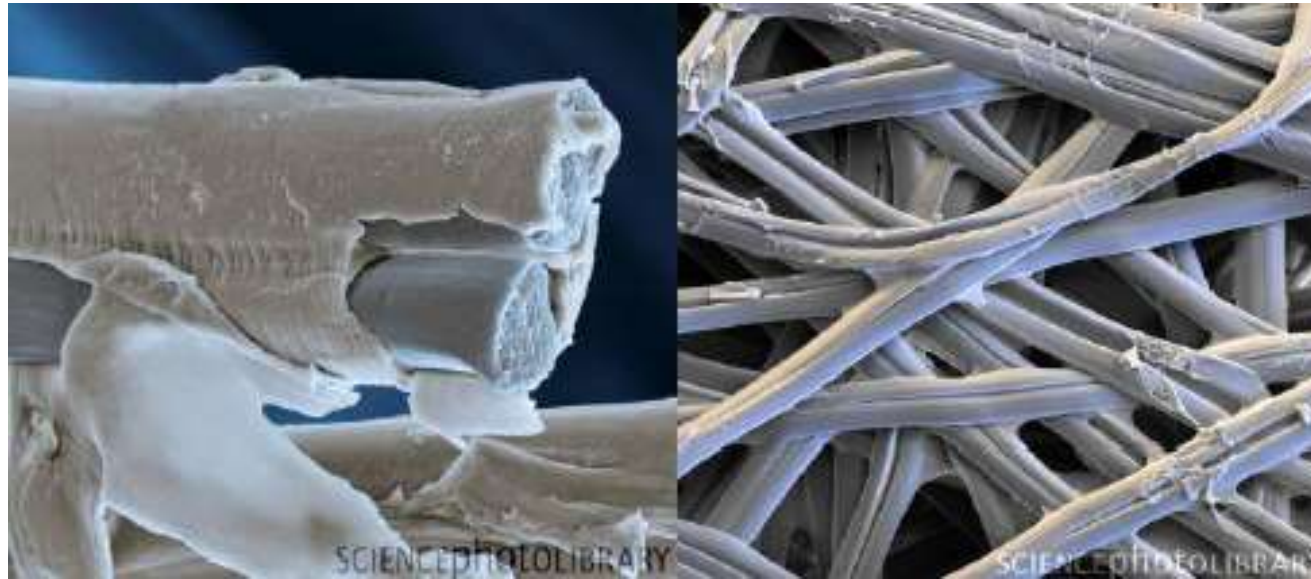
silk cocoons



silkworm



Silk fiber – microscopic view



The silkworm extrudes a **two fibroin filaments** from two silk glands in its head.

The thickness of the filaments $\sim 10 \mu\text{m}$.

The length of the filaments in cocoon $\sim 1600 \text{ m}$ (spinnable fibre is only 400 – 900 m).

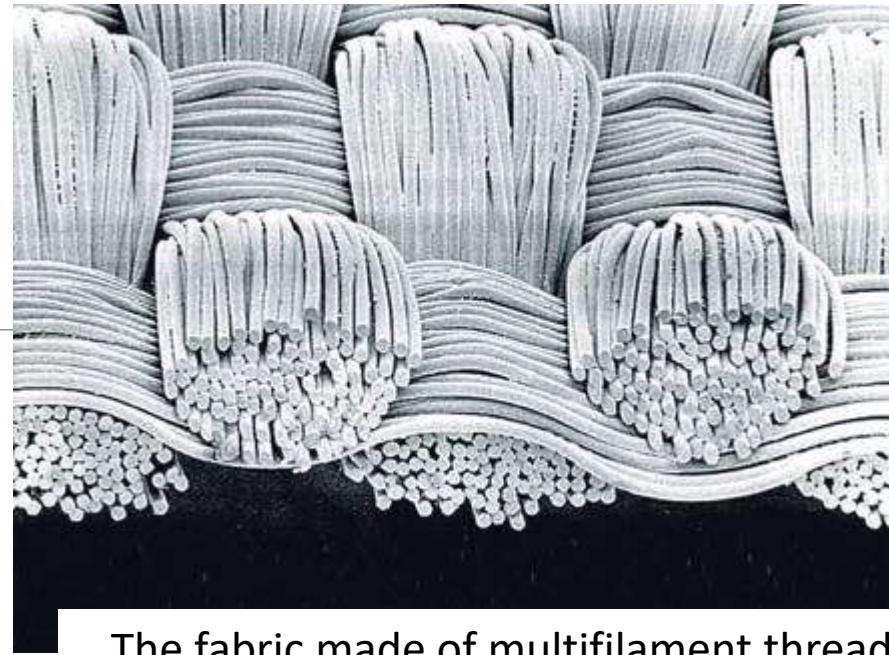
Fabric of silk-type

It is often made of 100% viscose or synthetic fibres in the form of multifilament thread.

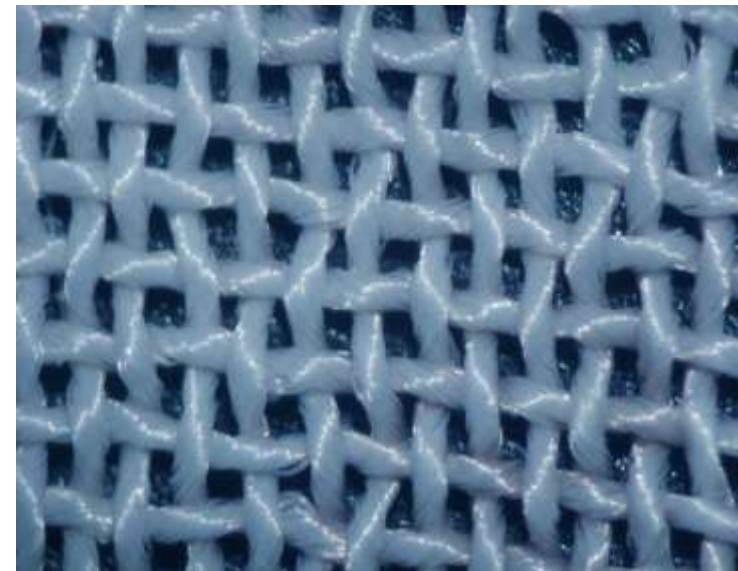
The multifilament is a bundle of man-made filaments.

The synthetic fabric has some characteristics:

- Fabric has a **smooth surface** and is often cold to the touch.
- Fabric has often a **shiny appearance**.
- Fabric has a **small creasing** in the case of synthetic fibres.



The fabric made of multifilament threads.



Typical use of woven silk-type fabrics

FABRIC FOR WOMEN'S FORMAL WEAR

- Fabric for shirts, blouses
 - Fabric for costumes
 - Fabric for dresses
 - Fabric for evening and wading dresses
 - Fabric for scarves
-
- Fabric for pyjamas

FABRIC FOR OUTDOOR WEAR AND EQUIPMENT

- Fabric for jackets
- Fabric for ski clothing
- Fabric for tents
- Fabric for sleeping bags
- Fabric for scarves

FABRIC FOR HOME TEXTILES

- Fabric for curtains





Selected types of silk-type fabrics

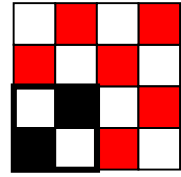
FABRICS FOR FORMAL WEAR

- Pongee
- Shantung
- Organza
- Chiffon
- Georgette
- Georgette crepe
- Crepe
- Taffeta
- Serge
- Sateen
- Poplin
- Crashed fabric

OTHER FABRICS

- Burret silk fabric
- Douppioni silk fabric
- Broche fabric
- Jacquard sateen
- Jacquard fabric
- Brocade
- Cloqué
- Rip-stop fabric

Pongee



Pongee is very fine silk fabric that is light weight.

The fabric is tightly woven – always in a plain weave and it is not transparent.

Usually it is one-coloured and has a dull lustre appearance.

It is often used as a basis for a painting on the silk.



How to use:

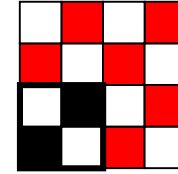
- ✓ Lingerie
- ✓ Dresses
- ✓ Blouses
- ✓ Scarves



The panting on silk fabric



Pongee fabrics



Bourette silk fabric

The bourette silk fabric is made of bourette silk yarns.

This fabric is with a dull appearance.

The fabric is woven in a plain weave and has a characteristic rustic look.

The fabric is often in a natural gray colour.

How to use:
✓ Blouses
✓ Dresses
✓ Costumes

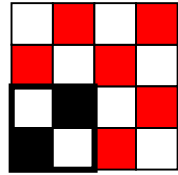


Burret silk fabric



Burret silk thread – is made of short fibres of silk waste. This waste arises at a spinning other silk threads or at a garment processing of silk fabrics.

Shantung



Shantung is light weight fabric that is characterised by its irregular surface.

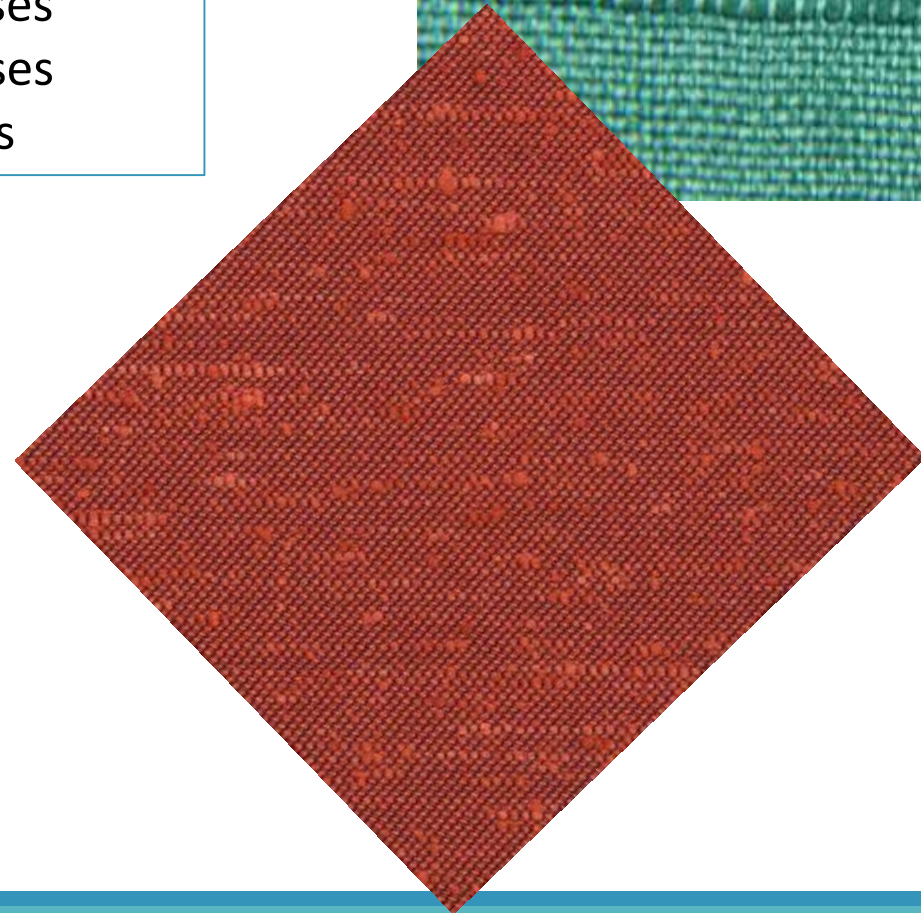
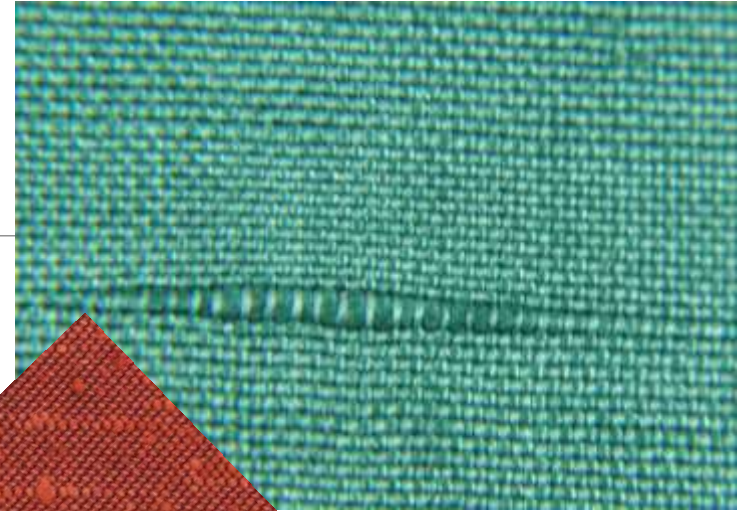
The surface irregularities are given using of irregular yarn with thick places.

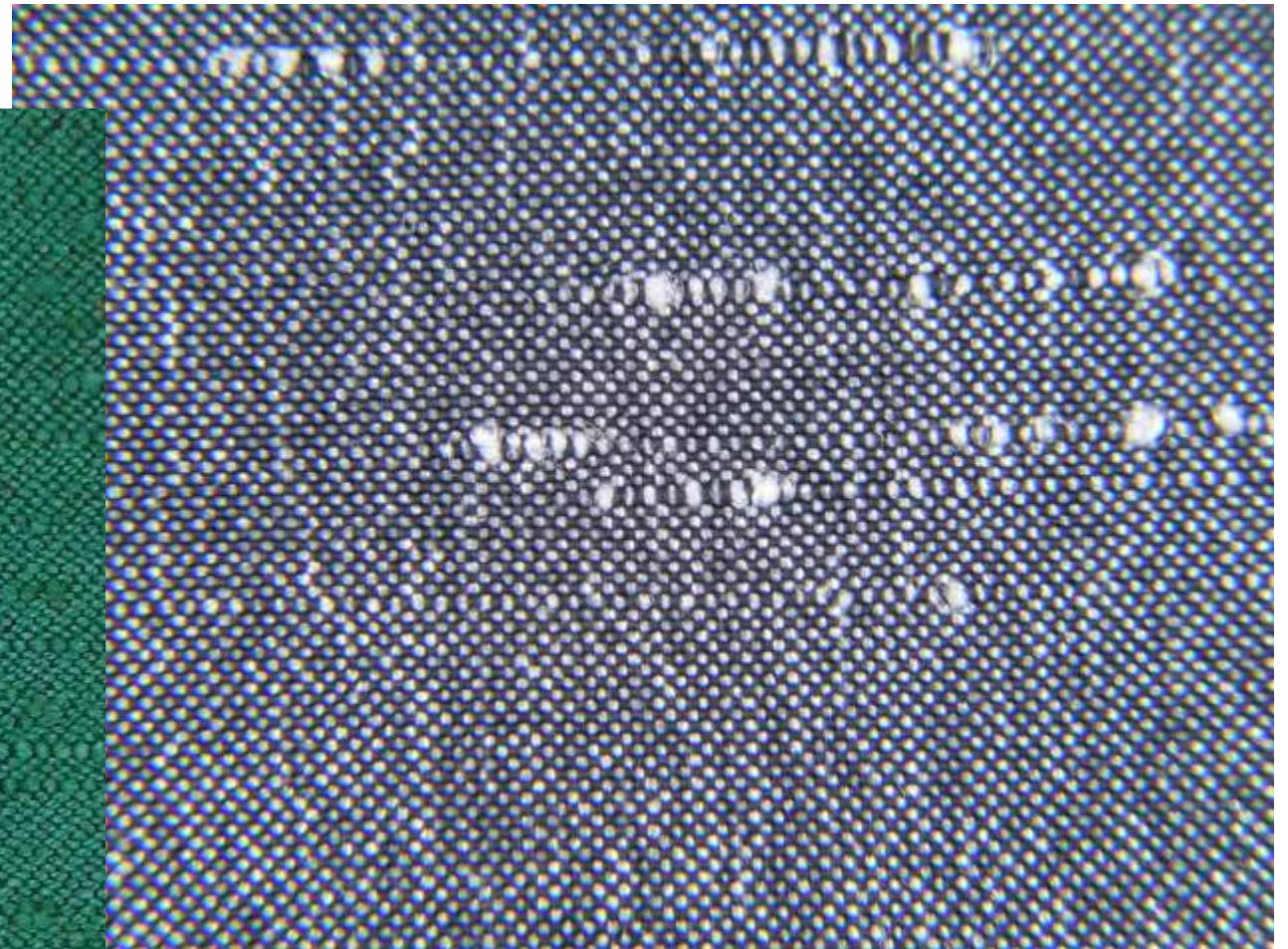
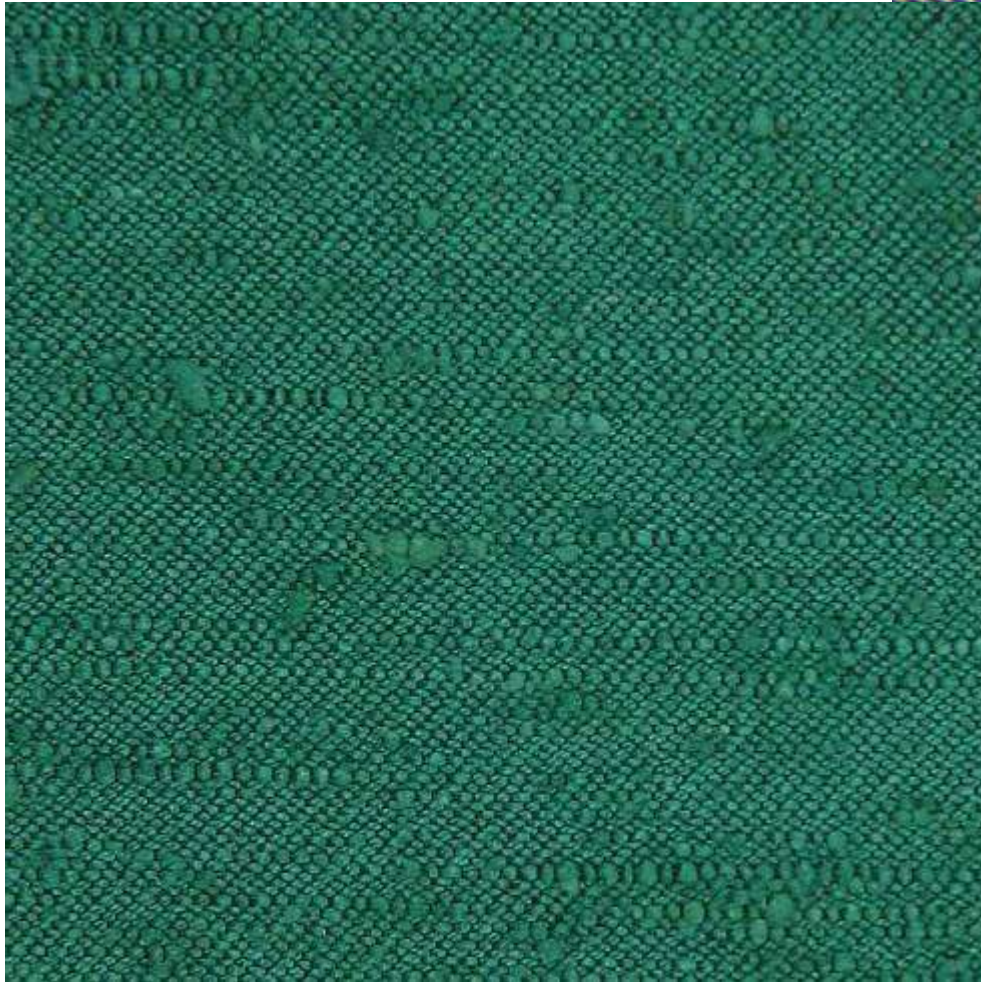
It is tightly woven in plain weave.

The original shantung fabrics were made of silk, but today they are also made of synthetic materials.

How to use:

- ✓ Blouses
- ✓ Dresses
- ✓ Scarfs

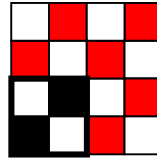




Shantung fabrics

Dupion fabric

Douppioni



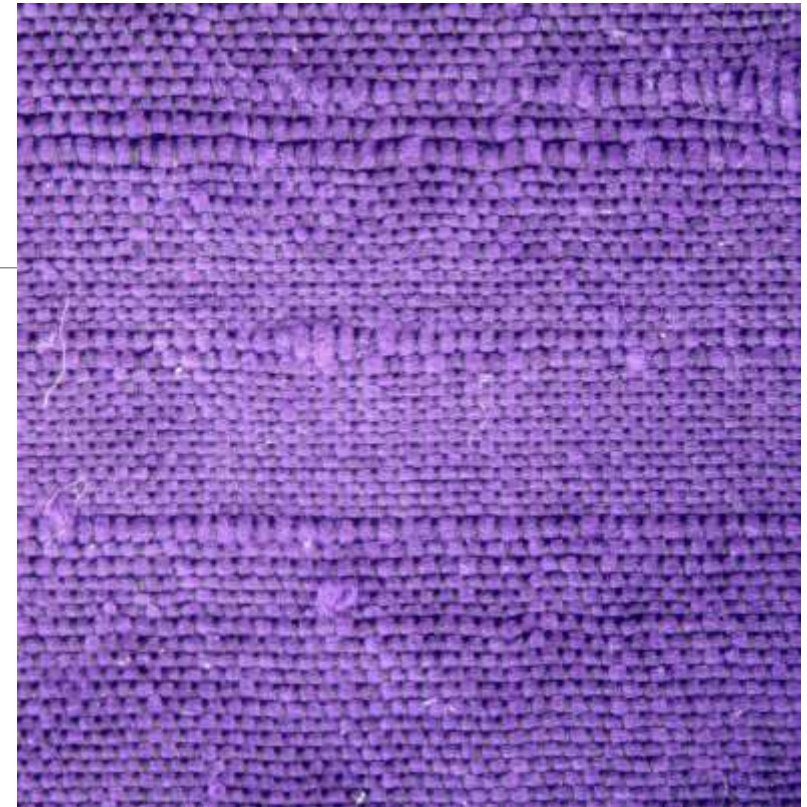
The fabric is woven from irregular threads of dupion silk in the weft.

Is made in a tightly woven plain weave, from fine warp yarns and heavier irregular weft yarns that form irregular crosswise ribs on the surface of the fabric.

It is usually dyed brilliant colours and has often iridescent effect. Other variations may be natural in colour or bleached white.

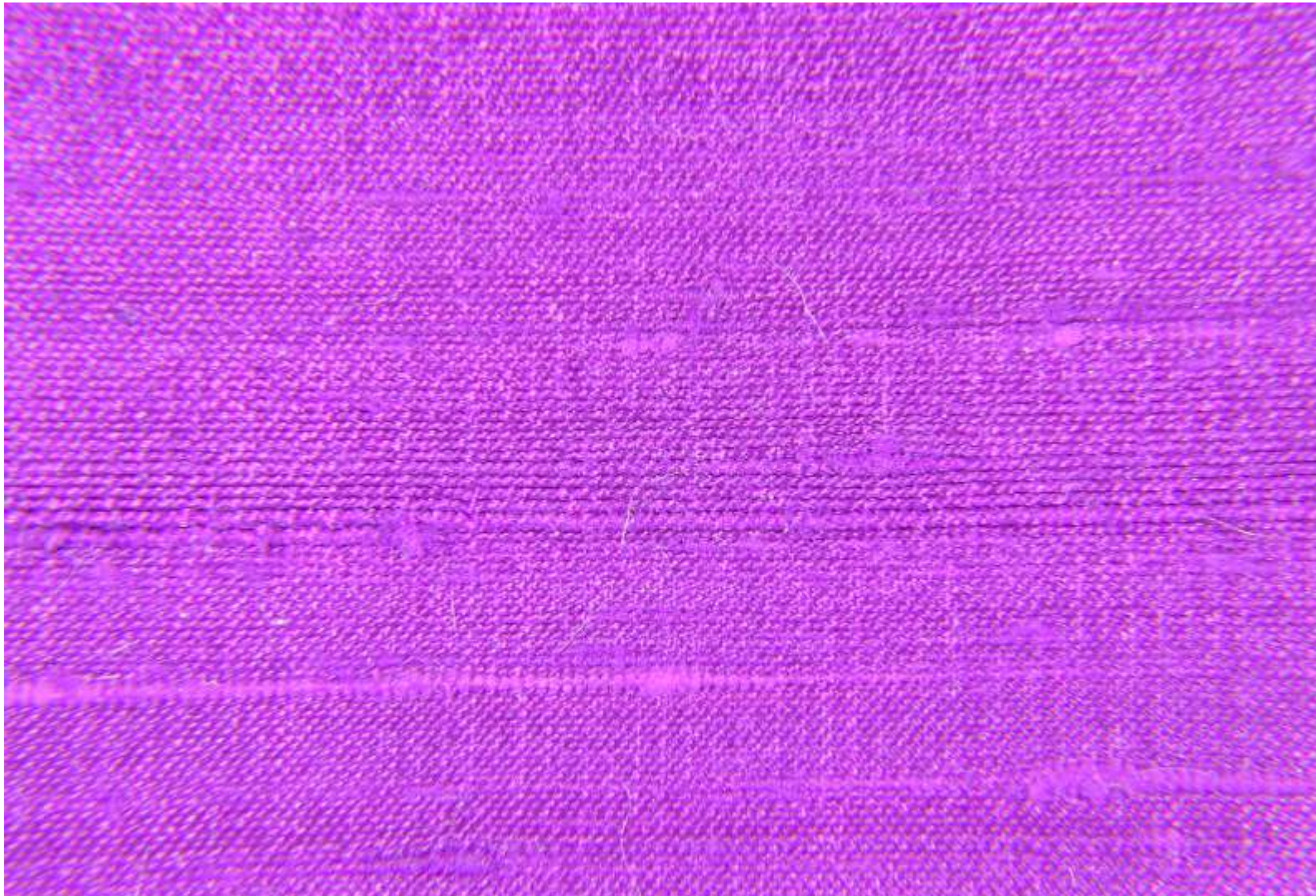
It has uneven texture and dull shine.

It is usually medium in weight and has stiff handle and rough surface.



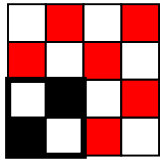
How to use:

- ✓ Dresses
- ✓ Blouses
- ✓ Skirts
- ✓ Suits



Dupion silk thread – is produced from uneven silk that is formed when two silkworms spin one cocoon or spin their cocoons too close to each other.

Organza



Organza is transparent fabric, which is loose woven in a plain weave.

The chemical monofilaments are used in the warp and in the weft.

It has a light weight and a stiff handle.



How to use:

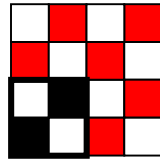
- ✓ Dresses
- ✓ Wedding dresses
- ✓ Ribbons
- ✓ Veils
- ✓ Decoration





Organza fabric

Chiffon

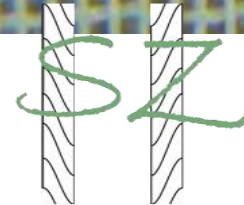
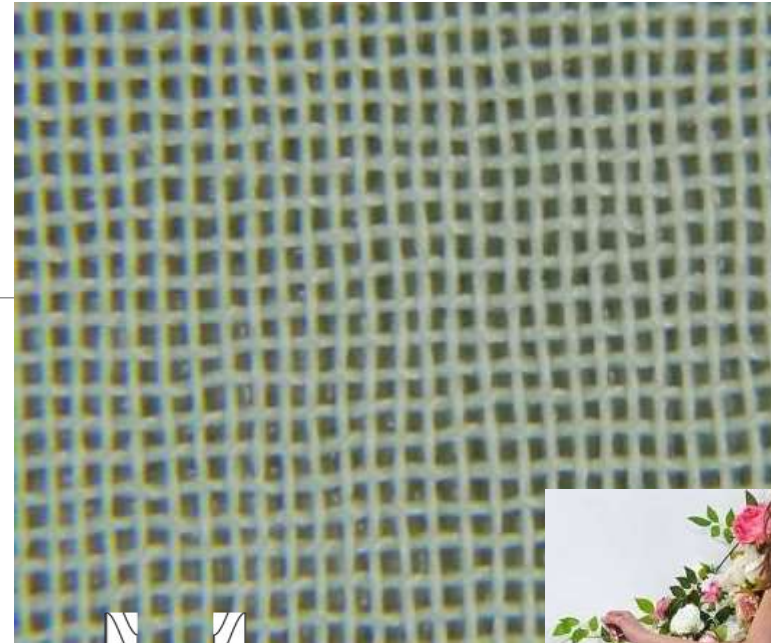


Chiffon is translucent fabric, that is made in a loose plain weave from tightly twisted single yarns.

Fabric has a slightly grainy surface, which is formed by alternating of yarns with the twist **S** and **Z** in the warp or in the weft.

It is very fine, a soft drape and light weight.

Chiffon is softer, thinner and has a less grained surface than georgette.

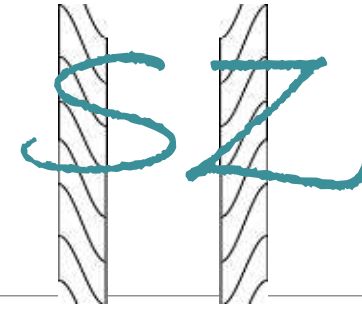
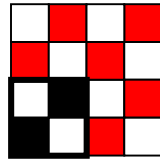


How to use:

- ✓ Dresses
- ✓ Blouses
- ✓ Scarves



Georgette

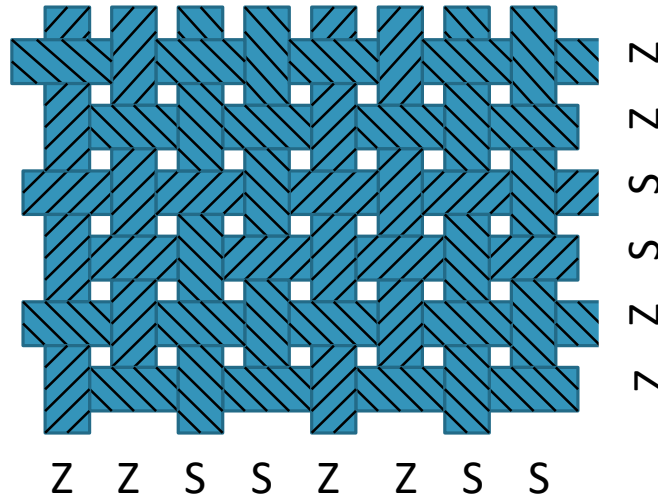


Georgette is light to medium weight fabric with a fine grainy texture.

It is woven in a plain weave from tightly twisted yarns (**but not crepe yarns!**). The yarns alternate the 2 with **Z** and the 2 with **S** twist in both directions – warp and weft.

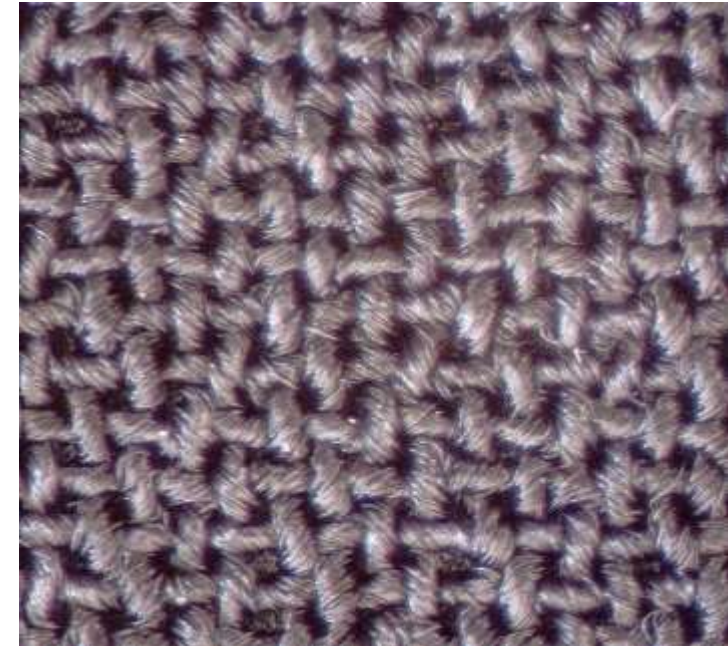
Fabric may be dyed or printed.

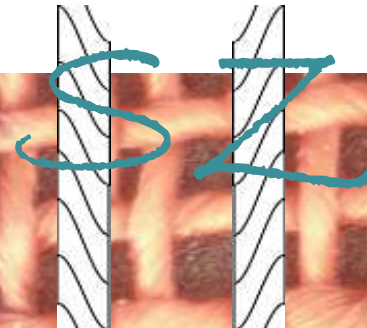
Georgette is not as soft as chiffon and has more pronounced grainy surface.



How to use:

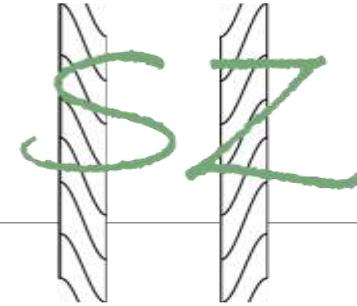
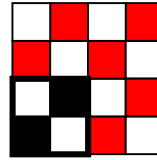
- ✓ Dresses
- ✓ Blouses
- ✓ Scarves
- ✓ Skirts





Georgette fabric

Georgette crepe



Georgette crepe is light to medium weight fabric with a grainy surface.

It is woven in a plain weave from the crepe yarns or in a crepe weave from the plain yarns.

The yarns always alternate the 2 with **Z** and the 2 with **S** twist in both directions – warp and weft.

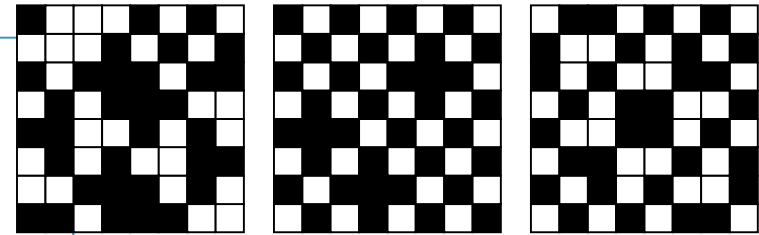
Fabric may be dyed or printed.

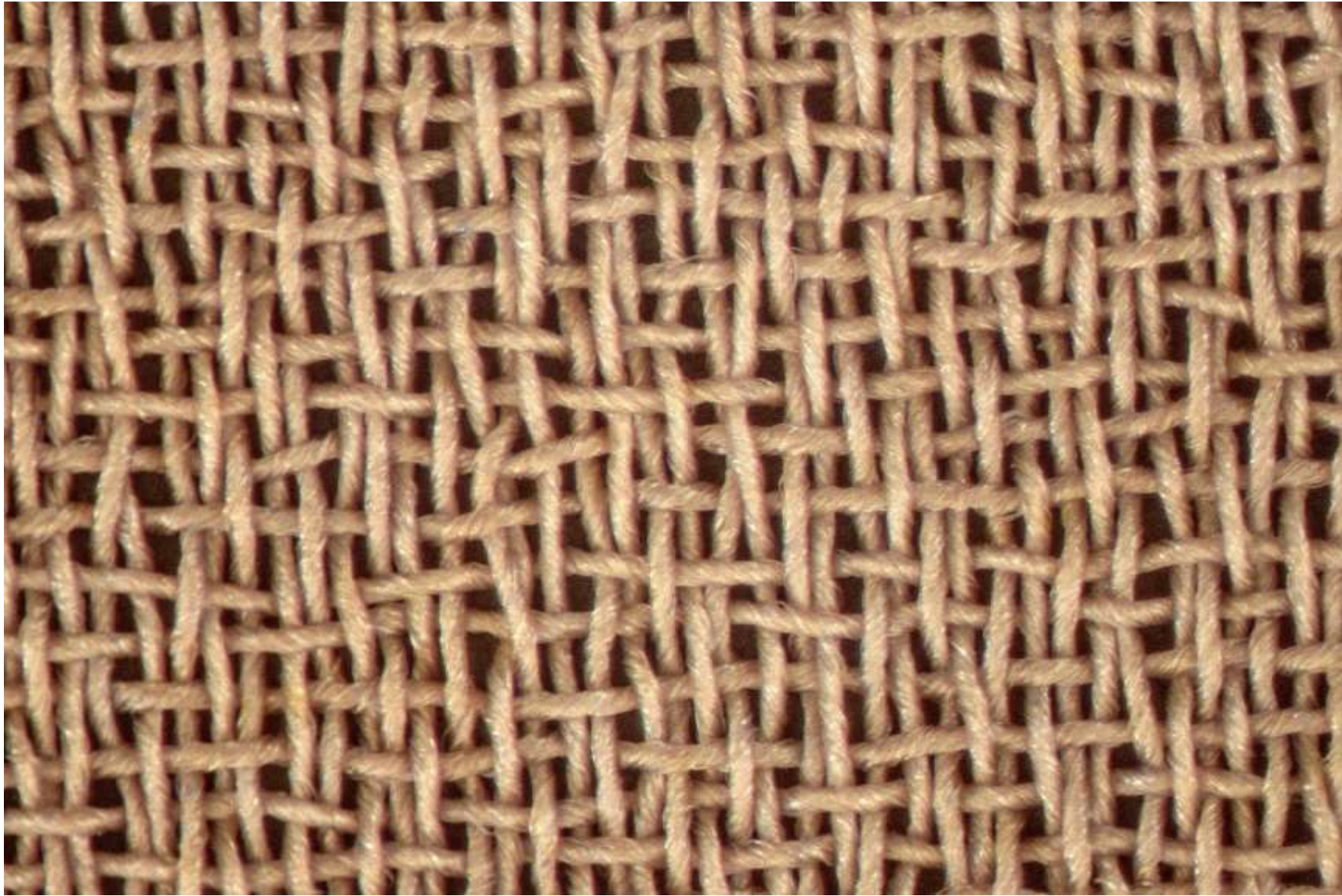
May be made of silk, but there are many synthetic versions.

Georgette crepe has more pronounced grainy surface than georgette.

How to use:

- ✓ Dresses
- ✓ Blouses
- ✓ Dammen suits
- ✓ Skirts





Georgette crepe fabric

Crepe

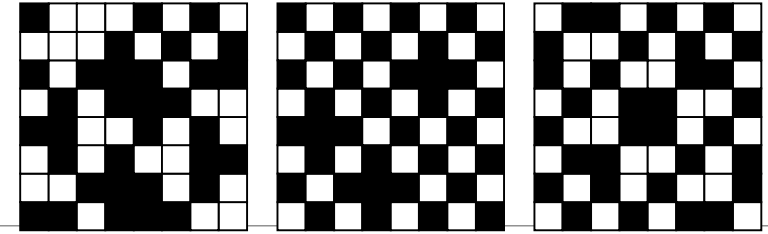
Crepe is the generic term for a fabric that is characterised by its grainy surface.

In the case of silk-type fabrics the grainy surface is usually created:

- Using a crepe weave
- Using crepe yarns.

Combination of
both

The fabric is usually medium in weight



Examples of crepe weaves



Crepe yarn



Crepe fabric

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Broche fabric

The silk-type fabric is usually made of synthetic multifilament threads.

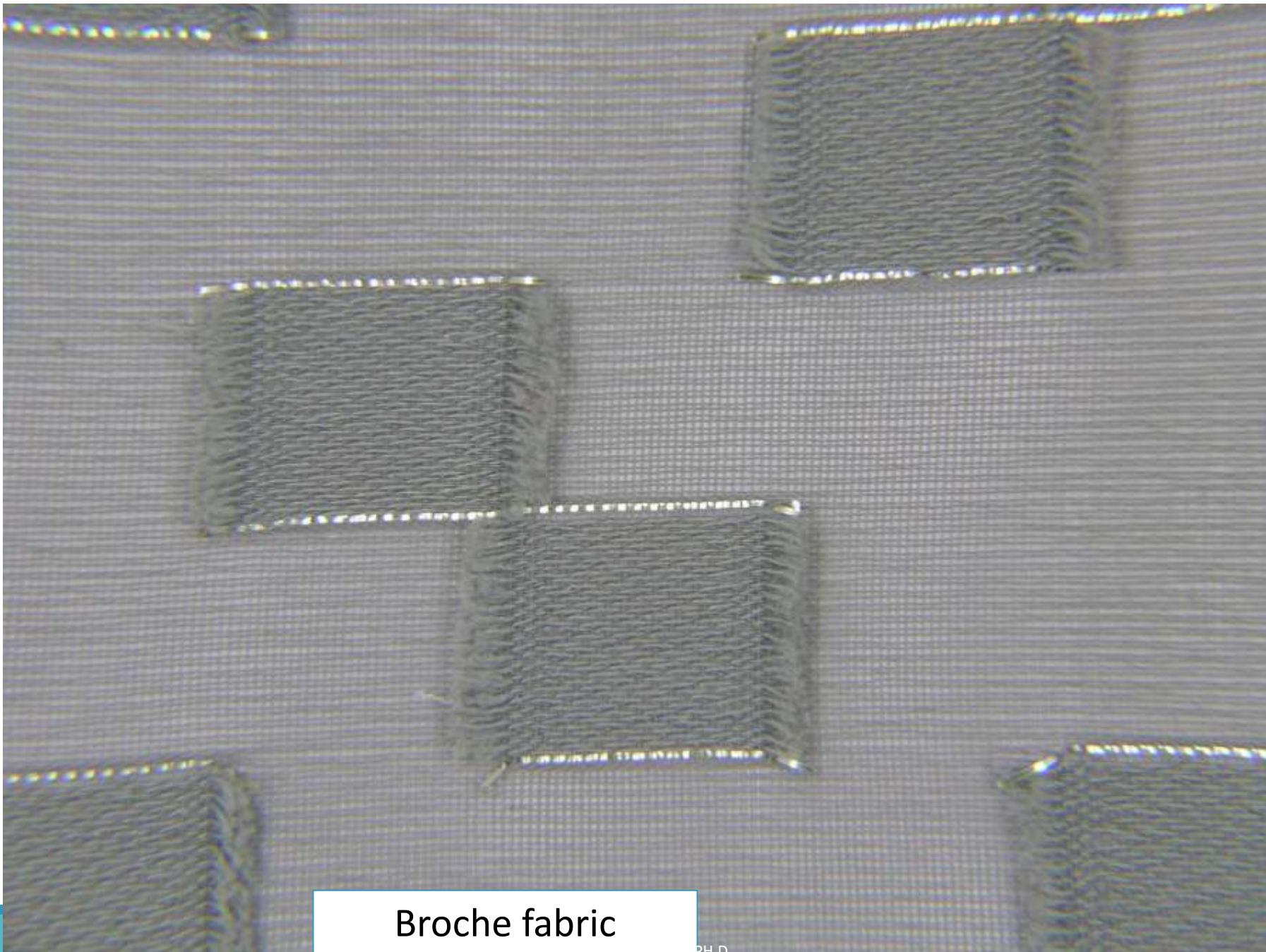
It is patterned by broche technique, which imitates an embroidery.

The motifs of the pattern are created by the special weft yarns that are only in the places of these motifs and at the edges of these motifs are cut off.

The fabric is characterised by cut off yarns, which protrudes at the edges of the pattern motifs.

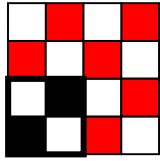
The ground of the fabric is usually translucent.





Broche fabric

Taffeta



Taffeta is **tightly woven fabric in a plain weave**, with **stiffer handle**.

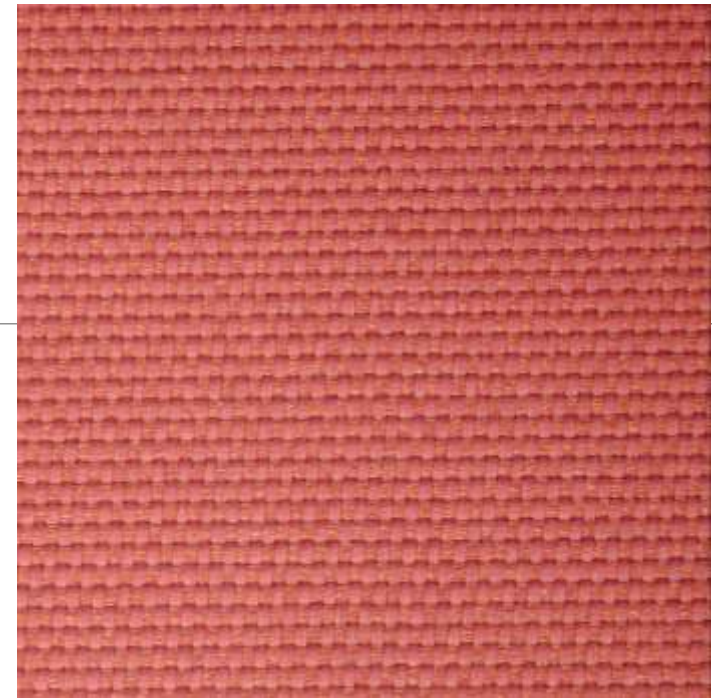
Usually the warp yarns are slightly finer than the weft, which gives the fabric very fine crosswise ribs.

The fabric is with a smooth surface and with a **dull shine**.

Taffeta **looks the same on both sides**.

Acetate, viscose, polyester and silk variations are common.

It may be made with iridescent effect (TAFFETA – CHANGEANT).



How to use:

- ✓ Evening wear
- ✓ Wedding dresses

Silk

- ✓ Petticoats
- ✓ Linings

Polyester
Viscose



TAFFETA fabric

Taffeta with iridescent effect.



TAFFETA – CHANGEANT fabric

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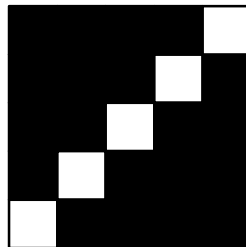
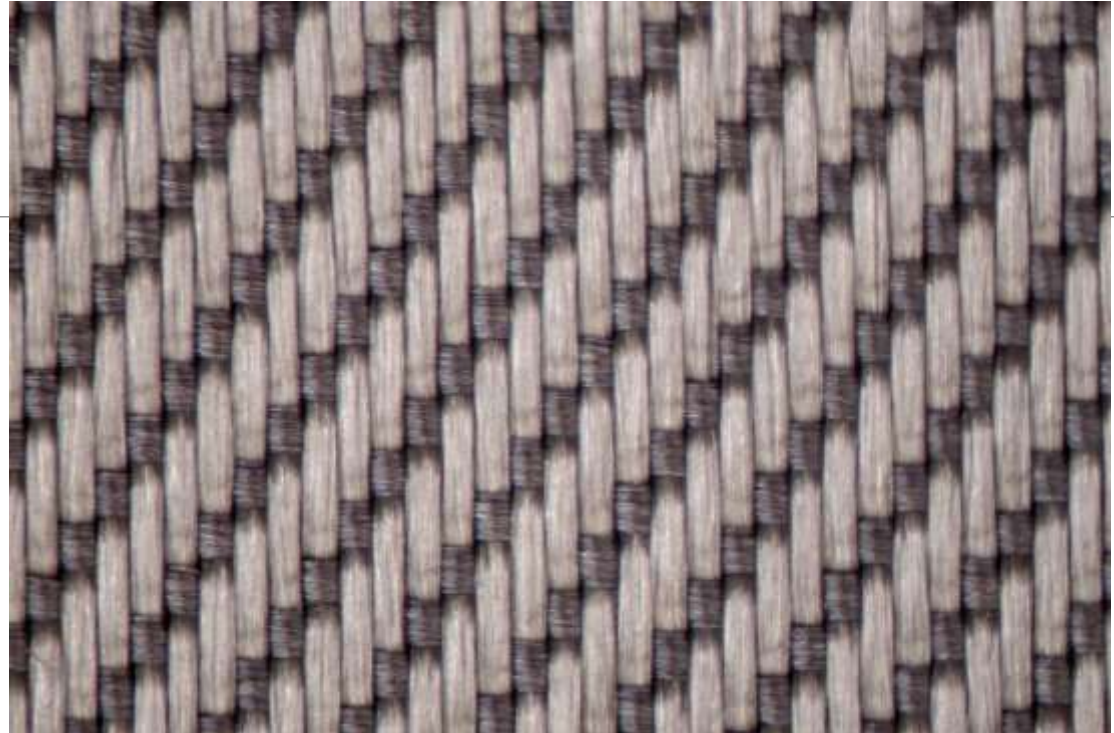
Serge

Serge is tightly woven fabric in a twill weave.

It has a shiny appearance and distinctive fine diagonal line.

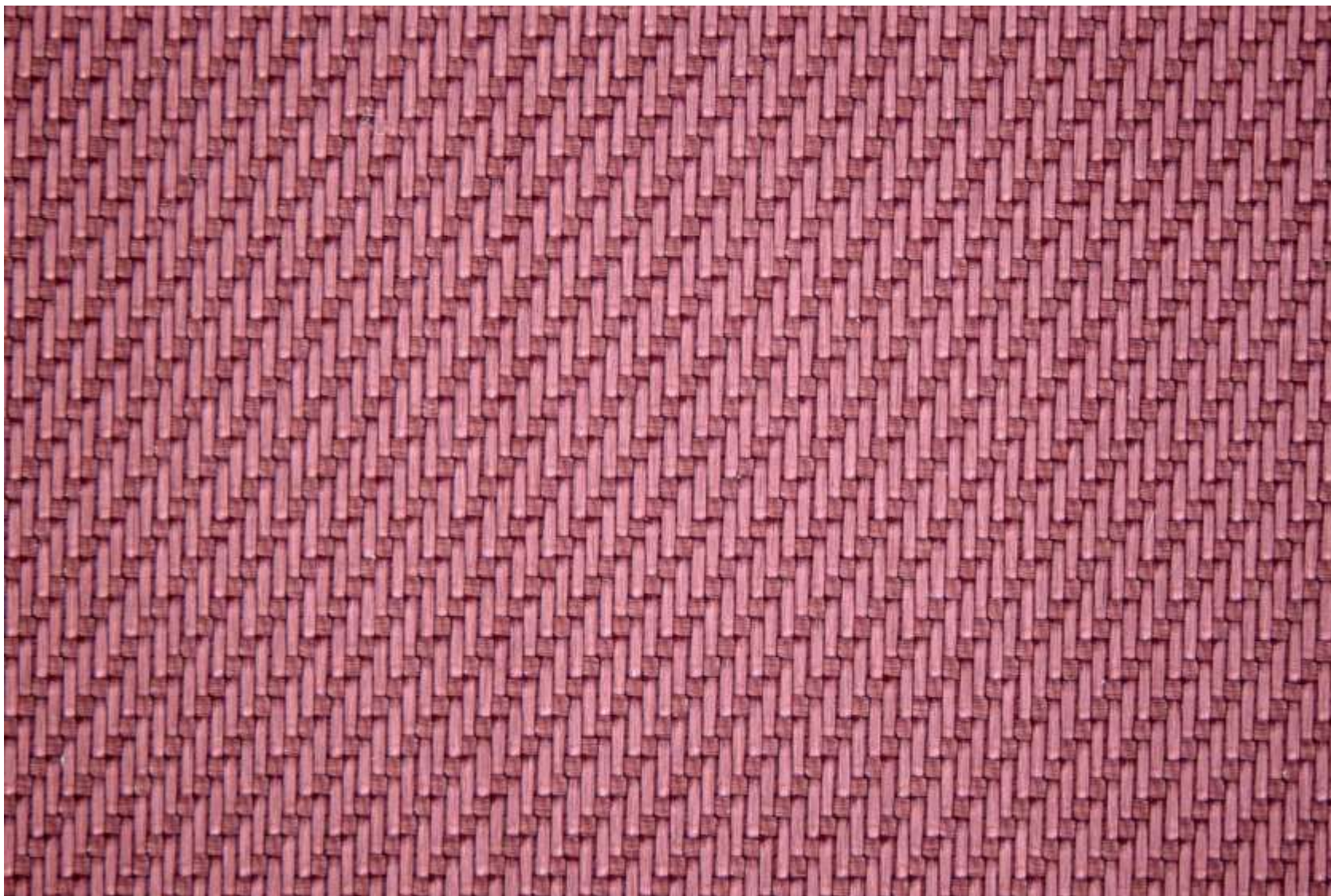
It is light weight to middle weight.

Usually it is one-coloured fabric.



How to use:

✓ Linings



Sateen

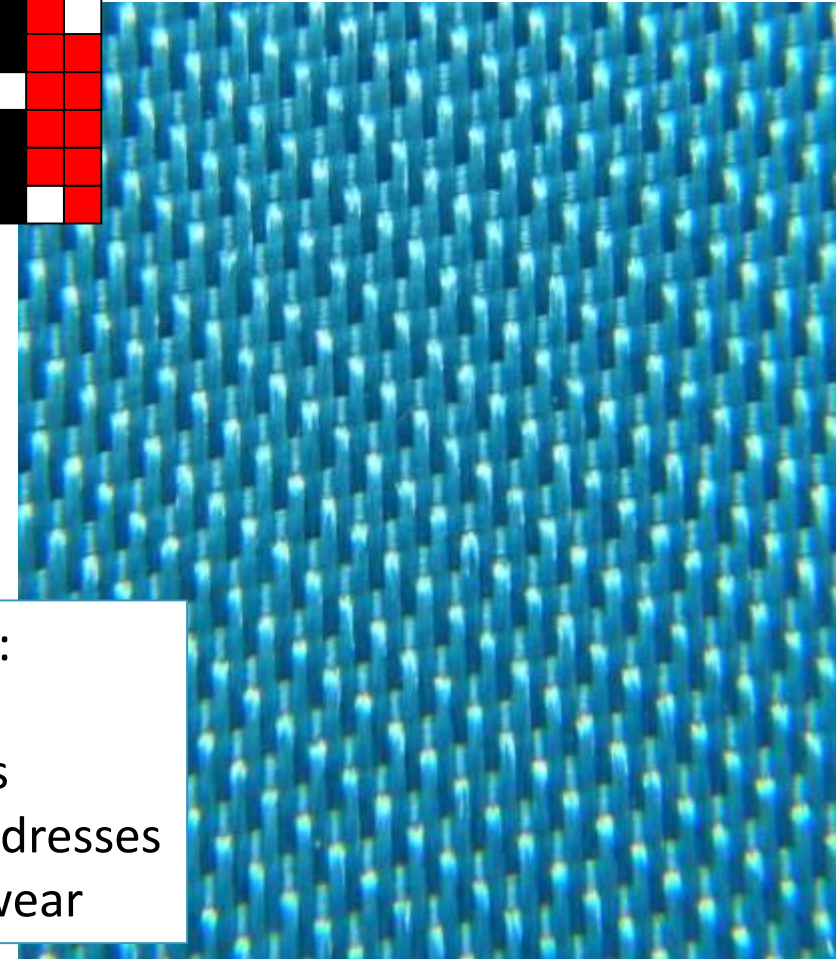
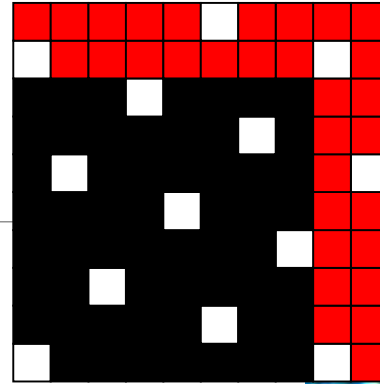
Sateen is **tightly woven fabric in a satin weave.**

It is very shiny and is with a smooth surface.

It is light weight to middle weight.

It may be with woven Jacquard pattern – then the term **JACQUARD SATEEN** is used.

Usually it is made of fine man-made multifilament threads.



How to use:

- ✓ Linings
- ✓ Petticoats
- ✓ Wedding dresses
- ✓ Evening wear



Sateen fabric



Brocade

Brocade is a rich fabric with a complicated patterns that are woven on a jacquard loom.

Brocade has a stiff handle and is medium to heavy in weight.

Original brocade was made of silk. Today synthetic fibres are more common.

Usually the gold and silver threads are used in the patterns.



How to use:

- ✓ Evening wear
- ✓ Draperies
- ✓ Historic clothing



Brocade fabric

Cloqué

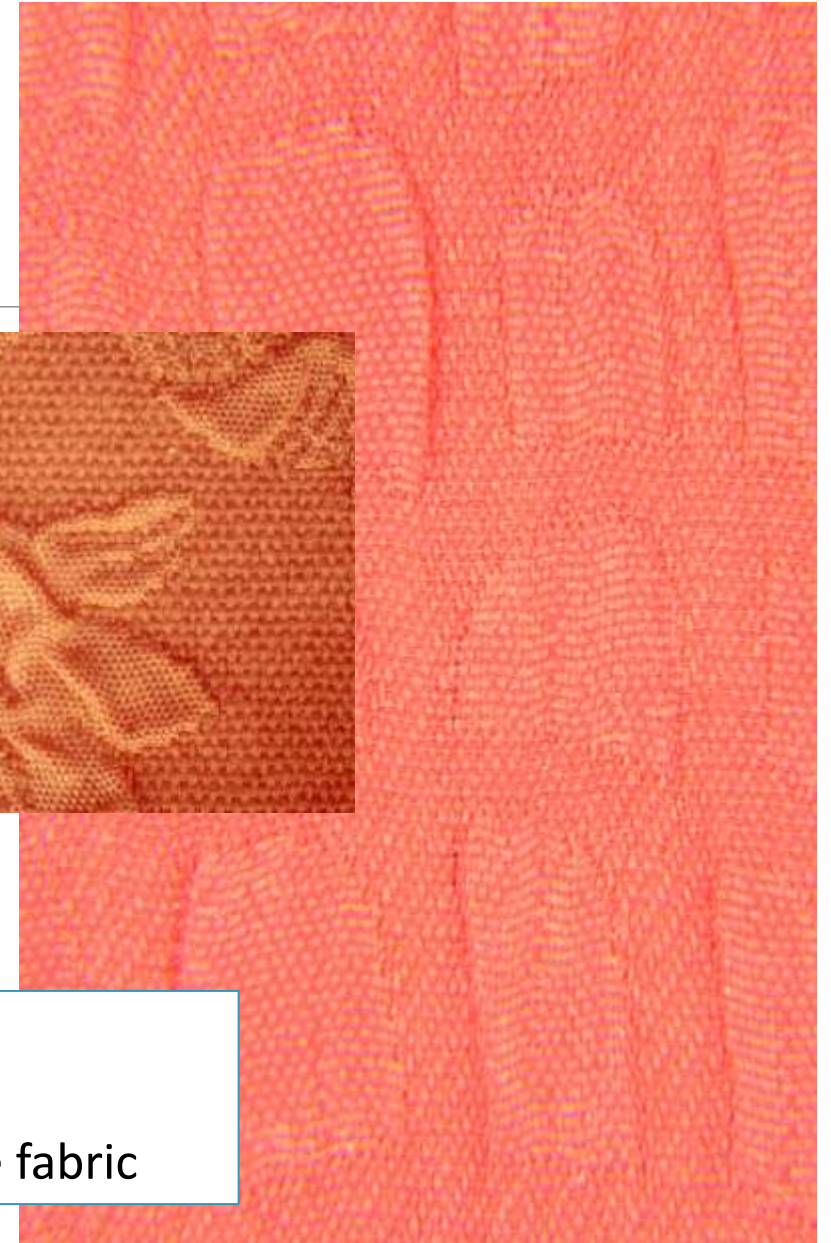
Cloqué is characterized by its surface with the **puckers or blisters**.

It is middle weight to high weight and may be silk or silk-like fabric.

Some versions cloqué are made with a modified double-fabric construction, while others are treated with a chemical finish to produce the relief effect.

May be used a suitable combination of crepe yarns in warp and in weft direction, which are subsequently shrunk.

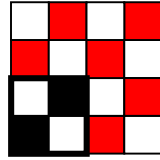
Cloqué is usually a solid colour fabric.



How to use:
✓ Dresses
✓ Decorative fabric



Poplin



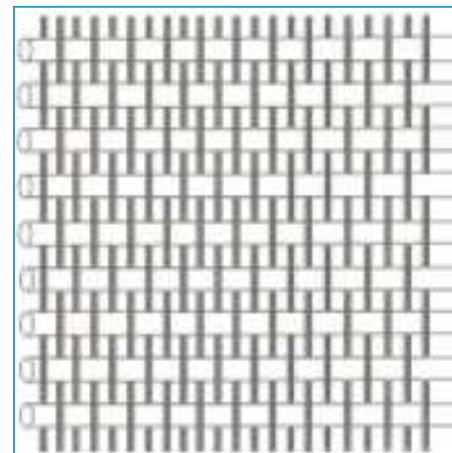
Poplin is tightly woven fabric which is characterized by its very fine cross ribbing.

The fabric is woven in plain weave.

Multifilament threads are used in the warp (viscose or synthetic) and thicker staple yarns are used in the weft (viscose, synthetic or cotton).

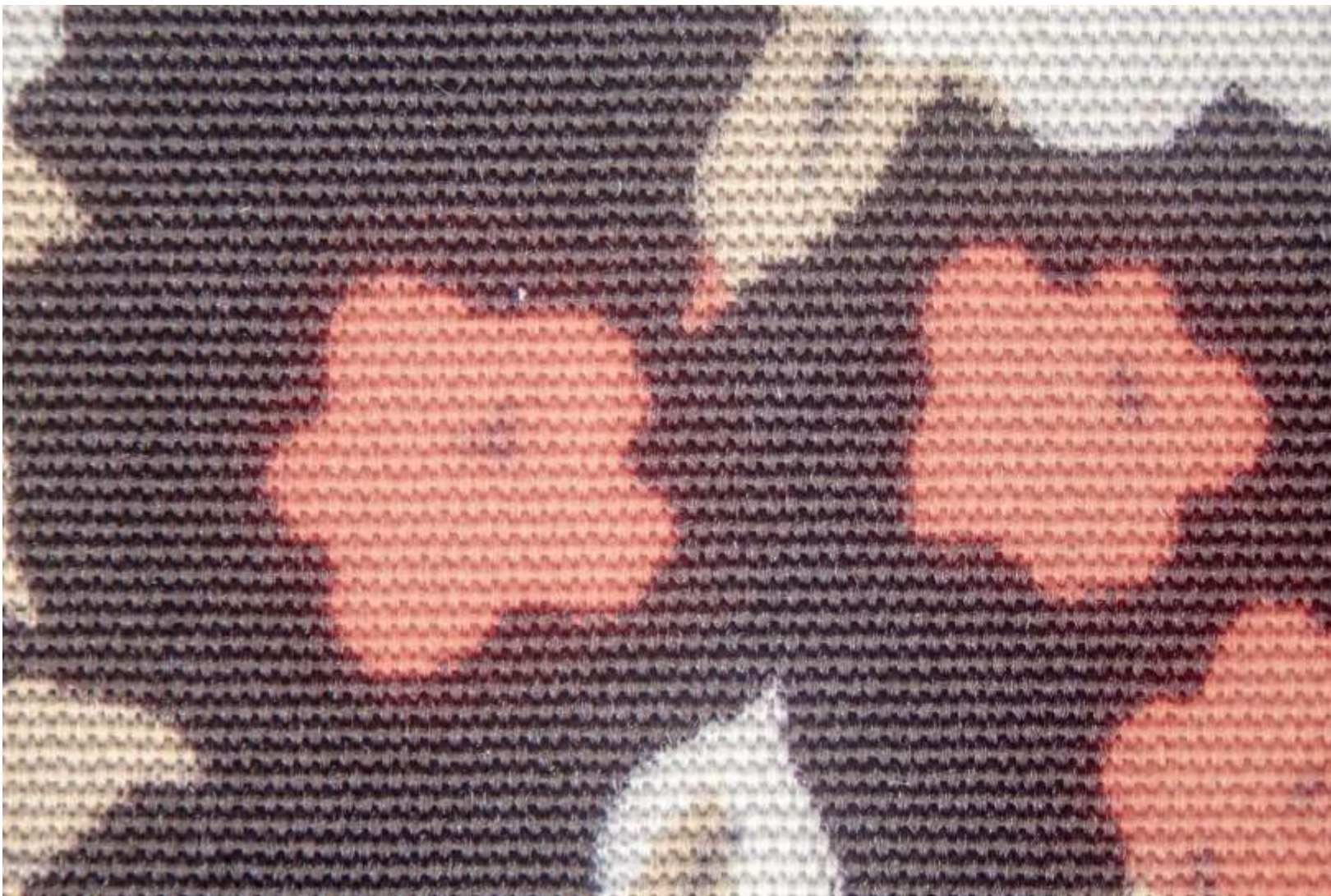
The fabric is low to middle weight and good drape.

It may be dyed or printed.



How to use:

- ✓ Blouses
- ✓ Dresses
- ✓ Skirts



Poplin fabric

Creased finish

The fabric obtains the **permanently creased look** by applying heat and pressure.

The fabric must be made of synthetic (thermoplastic) fibres.



Rip stop

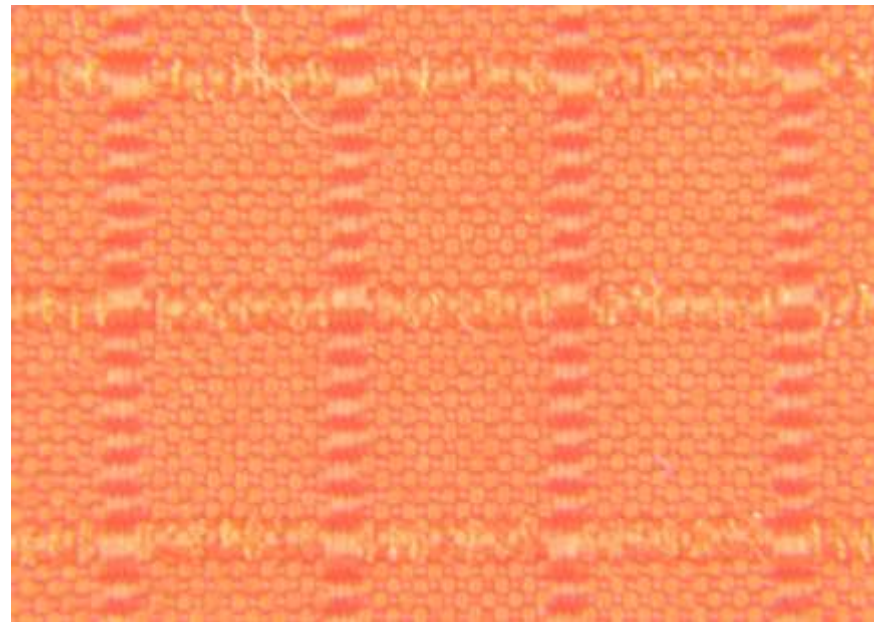
Rip stop is usually made of synthetic multifilament threads.

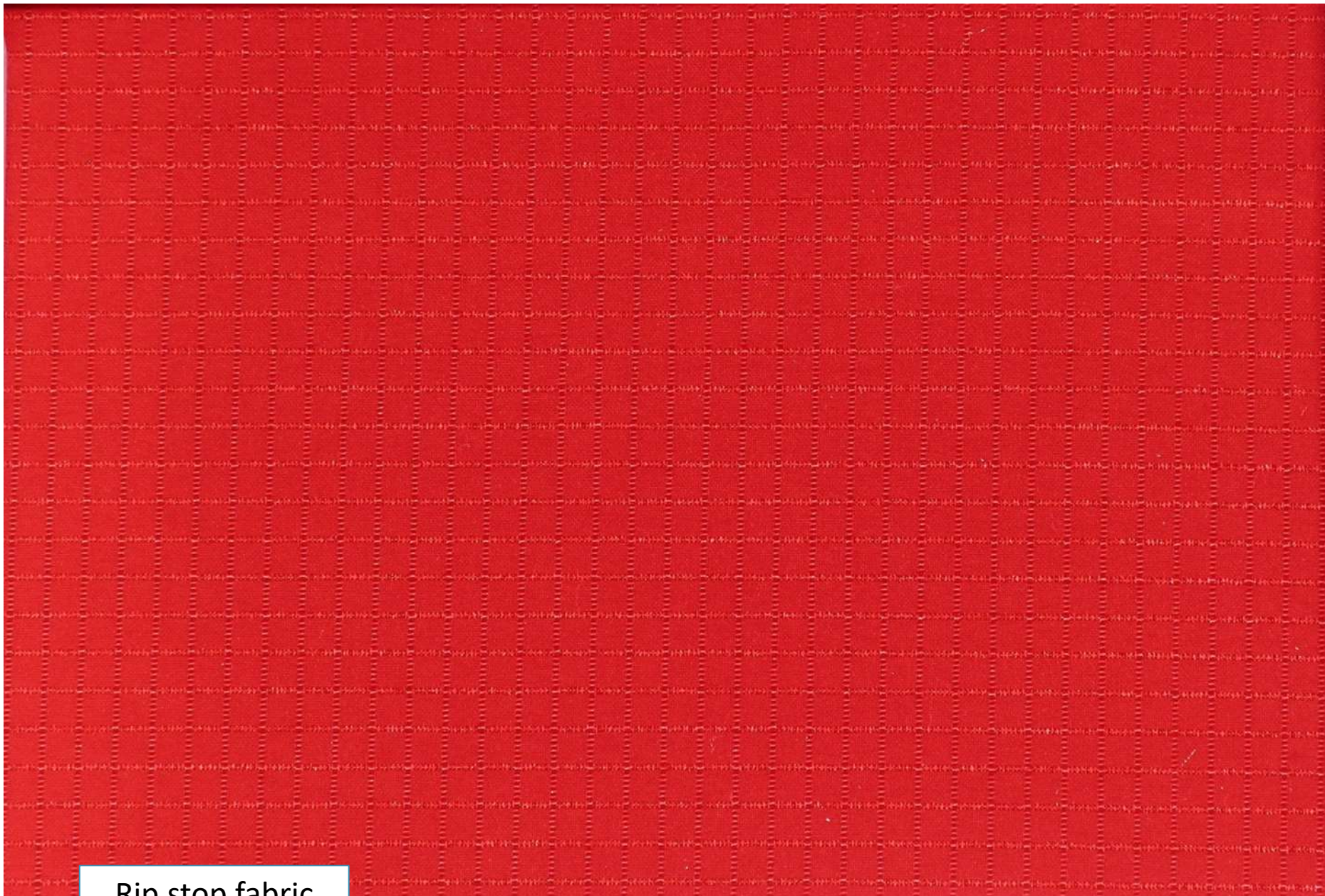
It is tightly woven fabric in plain weave.

It is characterised by its construction in the form of squares. The squares are usually formed by thicker threads, which are used in the contours of squares. In contours of squares may be high set of yarns.

How to use:

- ✓ Jackets
- ✓ Outdoor wears
- ✓ Ski wears





Rip stop fabric