

Correct fusing for fine shirts

Basics:

Because of different types of yarn and special characteristics of materials, modern technologies are required for fusing. Times have gone, where only bonding was required for shirts. Today, the consumer is asking for more, a shirt should be:

- Casual or formal
- In all cases comfortable to wear
- Resistant against wrinkles
- A soft or more formal collar

Because of the above mentioned desires the manufacturer of shirts is facing a lot more problems as in the past:

- Hard handle
- Shining effects
- Strike through or strike back
- Discolouration
- Delaminating
- Shrinkage

First of all, the interlining should match the fabric. In case of light fabrics, the glue dot chosen should be very small to avoid strike through. In case of micro fibre fabrics the basic material is not very fusing friendly, as the glue dot cannot penetrate into fabric, therefore special glue is required which only sticks on the surface of the fabric.

Important is also the Mesh Number. By Mesh Number we understand the number of glue dots per square inch or per cm². The smaller the glue dot the more can be placed on the interlining fabric. The glue dot design and measurement has an important influence on the handle and bonding too.



Scissor Type machines

Old scissor type of machines should be not used any more today, as they do not full fill the requirements of modern interlining and fabric.

If we draw our attention to the fact only, that on a flat bed press heat and pressure is applied at the same time, when heat is needed first only. For a very long time pressure is given at a time where the glue is not fully melted and pressure is not needed at all.

This will lead to a number of damages on the fabric as the surface structure can be harmed irreparable. Today's interlining glue and fabric is very sensitive and reacts immediately to pressure.

The other disadvantage of a scissor type machine is its heater. Usually those machines have only one heat source, either from the bottom or from the top side.



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As the glue can be controlled by temperature only, a heat zone from both the sides is required. Only the possibility of setting a different temperature for the top and bottom heat zone will allow us to react to various interlining and fabric combinations, in order to achieve the best fusing result in all cases. But there are more question marks with scissor type fusing machines

- Pressure and pressure adjustment is very limited
- No overlapping of loading and fusing operation
- One operator workplace only
- Limited loading space only, not recommended for buttonhole plackets
- Risk of distortions by closing the upper buck

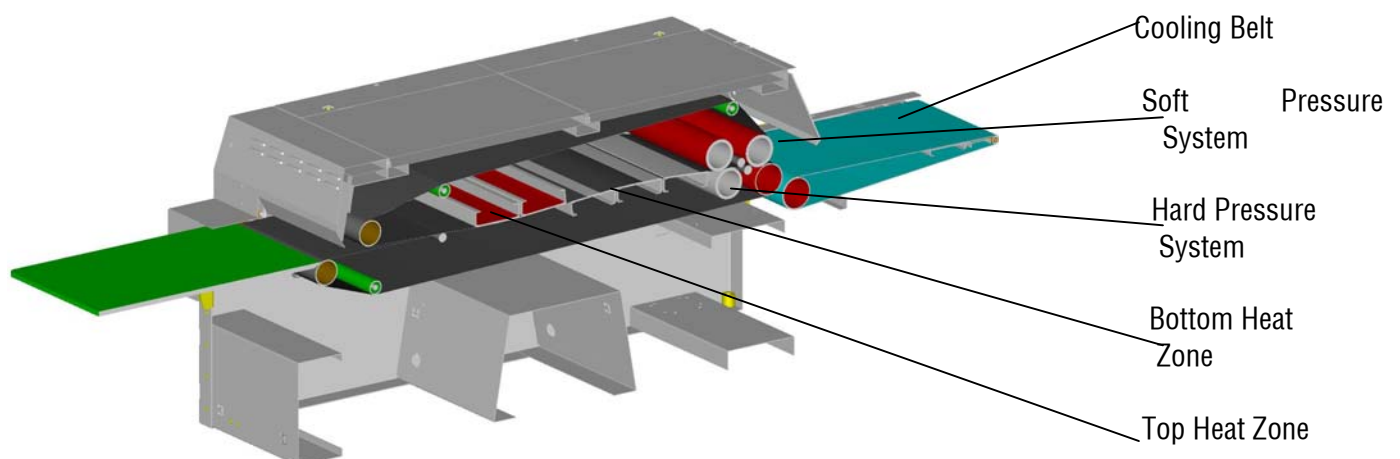
Continues Fusing Machines

Set and actual temperature, should be the same, by all means.

Beside the fusing operation the work flow and workplace organisation is playing a very important roll today too.



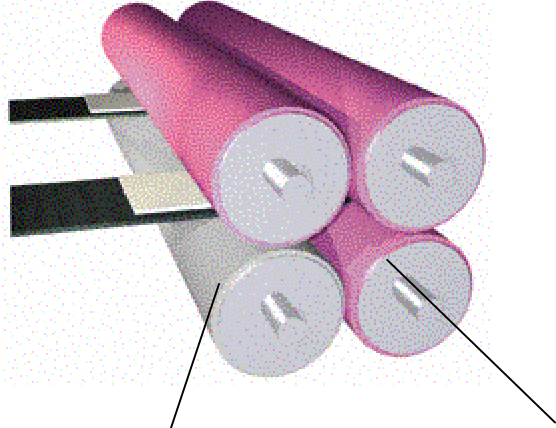
A continues fusing machine has the advantage, that the operator has not to wait for the fusing machine until the fusing has been done. Piece by piece can be loaded on the loading belt and will be served into the machine automatically. For small pieces even a number of operators can do the loading in order to make full use of the machine.



By a unique technology used for the pressure system, KANNEGIESSER Double Pressure System offers a wide range of pressure applied to the fabric.

The Double Pressure System consists of two separate pressure systems, first a system for formal shirts made of popeline and behind that one for silk fabric or casual shirts. The special designed pressure system for formal shirts is a roller with a relatively high “line pressure”, which leads to a higher specific pressure relation between

the two rollers for the interlining and fabric, in case it is needed. The second system can be activated in case of soft fabric (Silk, all casual fabrics). At that time a more soft line pressure will lead to a softer handle. In some cases it is recommended to use both systems at the same time to avoid a rebound effect. By this system the glue dot is not squeezed and does not lose its dimension for an optimal fusing operation. The glue dot is not enlarged and remains small and compact. As a result, there is no strike trough or strike back and a good bonding. Because of no pressure pikes, discolouration or shining effects are nearly unknown.



Hard Pressure System

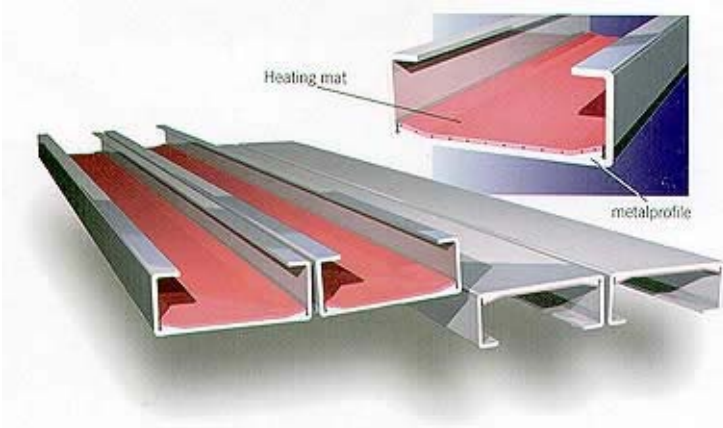
Soft Pressure System

As both pressure systems are independent from each other, they can be used single or in combination in order to apply a double pressure. This system can be adapted to a wide range of different combinations of interlining and fabrics. A double pass process is not necessary any more, as therefore the entire fusing good has to be warmed up again. According to all major interlining suppliers this has to be avoided by all circumstances.

The temperature is important as well. Only if the temperature control is absolutely reliable and precise a good fusing result can be achieved.

Specially for thin and delicate fabric the temperature control is even more important as strike back and strike trough can spoil all the fusing goods. Hence, a separate upper and lower heat zone with an intensive heat transfer can be of help to improve the fusing process regarding a better bonding.

On the KANNEGIESSER fusing machines a very long heat zone helps to run the machine at a relatively high speed to increase the productivity of the machine. At the same time the glue can be warmed up by a moderate temperature which is important for the glue to melt.

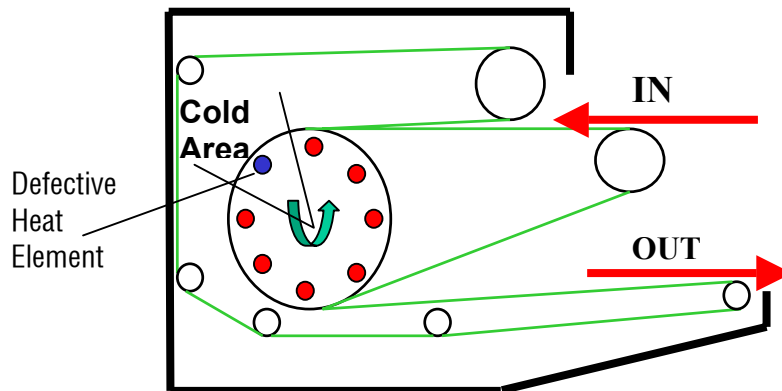


Heating elements

The Drum Heater Technology

This heater technology is quite old already and is having a number of disadvantages.

- Pressure and heat at the same time (similar to the scissor type)
- No even temperature because of the distance between the heat elements
- In case of a defective heating element, risk of delamination
- Heat from one side only (similar to scissor type)



As you can see from the above sketch, there is a risk of continuous delamination of parts, as the defective element will lead to a cold area, where no proper fusing cannot be maintained any more. A large number of miss fused collars and cuffs will be the result.