

## The modern use of an “old” product

*When we talk about felt, we often only think about under-chair felts, which are just one, very poor use of this product. There are over 200 applications in a wide range of sectors – fashion, wood and marble manufacturing, air and liquid filtration, and glass manufacturing being just a few. Glass-Technology International met with Mr. Luigi Ferrando of FIR (Feltrifici Internazionali Riuniti), one of the world leaders in wool felt, who gave us some interesting information about the important aspects of this sector.*

*Valerie Anne Scott*

One of FIR's factories near Turin



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## M AIN OPERATOR

*Glass-Technology International* met with Luigi Ferrando of FIR (Feltrifici Internazionali Riuniti) Spa, one of the world leaders in the field of wool felt, and also producer of needled felt for specific applications. Based in the area around Turin in northern Italy, the company has been manufacturing felts for 50 years and produces both wool and synthetic felt for the glass industry.

Ferrando started by explaining which position FIR has as one of the main operators in the field of felt today, making a clear distinction between wool felt and needled felt. "Wool felt is, as the name suggests, a traditional product based on felted wool with all the characteristics of wool and its very particular productive process," said Ferrando. "On the other hand, needled felt is generally a poor derivative of wool felt and only carries the name. It actually consists of synthetic or artificial chemical fibres bound together by means of a mechanical needling process. Both the fibres and the process give this product different characteristics, generally inferior with respect to its noble cousin."

Ferrando also added that FIR is certainly one of the biggest experts in the world in the field of wool felt, for at least two main reasons. Firstly, due to its knowledge of wool, and therefore of the raw material, guaranteeing the quality and the main characteristics of the product; secondly, because of its knowledge of the various applications in the most varied sectors. Last but not least, FIR's 50 years in the business have allowed the company to supply an even more unique product and service to each of its customers.

Ferrando believes that real market leaders do not exist in the sector of needled felt. "This field is really vast, and each manufacturer, big or small, generally concentrates on a more or less small area of application. FIR is certainly a small player in synthetic felt



Special felts used in filtration

in terms of volumes, but very important in specific areas where we have specialized, such as polishing, special filtration and industrial gaskets," he said. Here as well, FIR's attention to the application of its customers, combined with its first-rate knowledge of the products, gives the company a high level of specialization that is much appreciated. FIR has developed its knowledge for both types of felt all over the world, exporting almost 50 per cent of its production for many years.

### ENDLESS AND SOPHISTICATED SOLUTIONS

When we hear about felt, we immediately think of the felt used for under chair legs, which is one of its uses, but certainly not the most important one, and unquestionably one of the poorest. Felt is much more than this and, because of its characteristics, has endless and sophisticated uses.

The first thing that comes to mind is the "hundred verbs of felt" which in reality are a little more. "More than a hundred operations can be carried out using

Different types of polishing discs and plates







Different types of felt used in the manufacturing and fashion industries



The wide range of diversified applications from gaskets to lubrication devices

FIR's felts," said Ferrando. "Moreover, there are already over 200 application areas in which our products are present. In other words, I would say that wool felt and the special needled felts of our production have characteristics which are able to resolve technical problems as well as decorative ones in an endless number of sectors," he added.

The extreme modularity of FIR's felts makes them very useful to sophisticated solutions, for example, in fashion, wood and marble finishing, car manufacturing, air and liquid filtration and many more. Due to the fibres used and the production process involved, wool felt has all the characteristics of elasticity, dimensional memory, liquid conduction and insulation, which have still not been replaced by other products of more recent production. Moreover, wool felts and chemical felts can be made in an endless number of fibres, giving the end product the characteristic of the fibre itself. "I am thinking of cashmere felt used in fashion, or Kevlar felts used in the field of special technical applications," said Ferrando. "In addition, the finishing and treatments are unlimited, and they are valid proposals to the numerous requests of our customers." These two points are certainly

advantages that felt products have over other available substitutes.

### THE APPLICATIONS OF FELT

As it would take too long to describe the applications of felt, we would prefer to talk about how many these are: they are endless. Today, the applications known to FIR are more than 200, in completely different fields. These include more frequent applications such as decoration, clothing, air and liquid filtration, wood, marble and glass manufacturing, polishing in general, shoes, gaskets, and so on.

Ferrando says that the characteristics of felt make this material useful in an endless number of applications. FIR's products, made of wool and chemical fibres, cover a wide range of applications with both high- and low-density felts and special needled felts. Ferrando adds that FIR is specialized in a number of areas with the highest quality standards. In the field of wool felt, the company mainly supplies the decorative, clothing, metal, and stone polishing and tanning sectors. In the field of synthetic and artificial felts, FIR's main markets are air and water filtration, glass polishing and felts for steelworks sectors.

### THE MAIN OBSTACLE

"The main obstacle for the use of felt is not the material itself, in that its unique characteristics make it extremely versatile. It is the problem of being forgotten, which typically affects "old" products to the detriment of those who could use it for their own applications. Very few students write their theses on felt, and very few articles and newspapers discuss it; this is its biggest obstacle. On the other hand, the large amount of applications and sectors in which felt is used make it very difficult for manufacturers to give complete information about felt capabilities for all uses.

Felt is not an old material; its potential continues to be very high. It often still has no valid replacements and yet risks being forgotten.