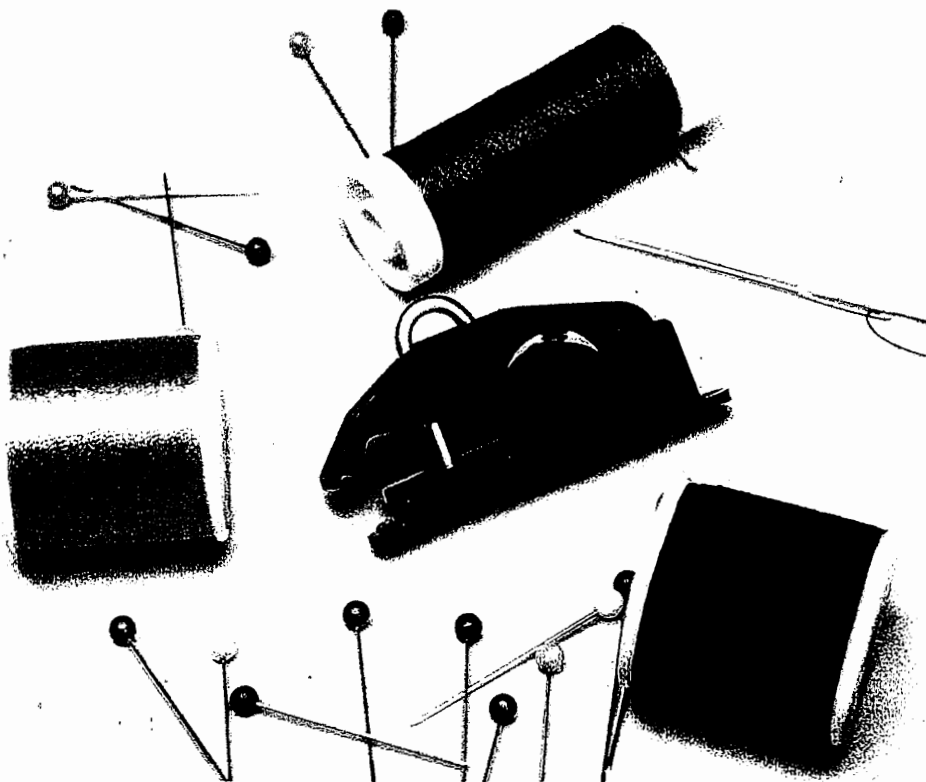




Shell Chemicals

## CARILON POLYMERS CASE HISTORY

### Samm Snc. Industrial Knitting Machine Component



SAMM Snc., an Italian company specializing in the manufacture of industrial knitting machinery, is taking advantage of CARILON™ Polymers' strong chemical resistance for use in its threading hook supports. In this application, CARILON Polymers resist yarn parafin and demonstrate good mechanical properties such as stiffness and impact strength. For more information about CARILON Polymers, call 1-888-CARILON (888-227-4566).



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## **PRESS INFORMATION**

### **CARILON Polymers' Chemical Resistance Hooks Industrial Knitting Machine Manufacturer**

#### **SAMM Snc. Case History**

SAMM Snc., an Italian company specializing in the manufacture of industrial knitting machinery, is taking advantage of CARILON<sup>1</sup> Polymers' strong chemical resistance for use in its threading hook supports.

SAMM, which exports about one third of its products to Germany, Spain and Japan, had been using a polycarbonate resin to manufacture its threading hook supports. The polycarbonate resin provided the mechanical properties needed for the threading hook but had one serious drawback: as yarn ran through the thread guide, yarn residue collected on the guide. These deposits caused the guide to fail through a process known as environmental stress cracking.

SAMM researchers embarked on a search for a material with similar mechanical properties to the polycarbonate but combined with a good resistance to products, such as paraffin, found in yarn. Shell Chemicals<sup>2</sup> CARILON Polymers proved up to the task.

CARILON Polymers provide the mechanical properties and chemical resistance needed by SAMM, while also giving the manufacturer a longer-lasting component. By switching from polycarbonate to CARILON Polymers, SAMM experienced an improved cost-performance balance.

CARILON Polymers feature a unique balance of properties such as stiffness, impact strength, hydrolytic stability, high resilience, low friction and good processability. The polymers are resistant not only to paraffin, as required by SAMM, but also to many other hydrocarbons and harsh chemicals.

SAMM's successful experience with polyketones led it to adopt CARILON Polymers for a second component in its knitting machines. The additional component, which is about  
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<sup>1</sup> CARILON is a Shell trademark.

<sup>2</sup> The expression 'Shell Chemicals' refers to the companies of the Royal Dutch/Shell Group which are engaged in the chemicals business. Each of the companies which make up the Royal Dutch/Shell Group of companies is an independent entity and has its own separate identity.

to enter the production stage, is an adjustment knob with an internal pawl trigger mechanism. The knob incorporates two wheels: an external, stationary toothed wheel and an internal gear wheel made of CARILON Polymers, which rotates and facilitates a sliding motion. CARILON Polymers' good wear properties and natural lubricity make it ideal for this type of mechanism.

"CARILON Polymers guarantee optimum molding definition, which is necessary when manufacturing a trigger mechanism," explains Riccardo Rota, technical manager at SAMM. "In addition, the polymer has the right degree of hardness, allowing the knob to be held firmly in position and adjusted easily by the machine operator."

Both applications were developed with the technical support of Vamp Tech, the Italian distributor of CARILON Polymers.

"We are intensively promoting this new material in a vast range of sectors in which it offers the ideal performance profile," said Roberto Alberti, Vamp Tech marketing manager. "These include the electro-mechanical, cosmetic-perfume and medical sectors. We are investigating more than 40 new applications. The interest we are generating in the market is very high and we are constantly discovering new, unexpected application possibilities."

CARILON Polymers are engineering thermoplastics with a unique combination of physical properties compared to traditional materials such as polyamides and polyacetals. These properties include strength, stiffness, performance over a broad temperature range, toughness, superior wear and friction characteristics, low hydrocarbon permeability and resistance to a variety of aggressive chemicals.

CARILON Polymers are available in extrusion grades and a variety of injection molding grades, including glass reinforced, flame retardant, mineral filled and lubricated compounds. The polymers can be easily processed on conventional molding and extrusion equipment, and their fast set-up can lead to significantly reduced cycle times in injection molding applications.

For more information on CARILON Polymers, visit the Shell Chemicals Web site at [www.shellchemicals.com](http://www.shellchemicals.com). In the United States, customers can write to Shell Chemical Company, P. O. Box 2463, Houston, Texas 77252-2463 or call toll free at 1-888-CARILON (1-888-227-4566).

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