museo nazionale
della scienza e della tecnologia
leonardo da vinci

Assocomaplast
ASSOCIAZIONE NAZIONALE
COSTRUTTORI DI MACCHINE E STAMPI
PER MATERIE PLASTICHE E GOMMA

PRESSE RELEASE

OPENING OF THE NEW INTERACTIVE AREA DEDICATED TO RUBBER

Where does it come from? How is it transformed?
What do we use it for? Where will it end up?
Historical objects, multimedia, audiovisuals and interactive activities lead to the discovery of a material that has changed our way of making and unmaking things.

Thursday 19 March 2009, 11.30 am – Private preview for the Press
Saturday 21 and Sunday 22 March 2009 – Weekend with special activities for visitors
National Museum of Science and Technology Leonardo da Vinci
Via San Vittore, 21 – Milan

The **National Museum of Science and Technology Leonardo da Vinci**, in partnership with **Assocomaplast** (Associazione Nazionale Costruttori di Macchine e Stampi per Materie Plastiche e Gomma – National Association of Builders of Machines and Moulds for Plastic Materials and Rubber), with the contribution of Regione Lombardia and Camera di Commercio di Milano, opens a new interactive area dedicated to **RUBBER** in the Materials Department - Polymer Materials Section.

When Colombo discovered America, Aztecs and Incas had already been using natural rubber for centuries. But it was in the middle of the 1700s that we Europeans began to import, study and use it. Among the most important steps of the history of rubber are the invention of vulcanisation in 1839, the creation of synthetic rubbers around 1930 and the synthesis of thermoplastic elastomers thirty years later.
Today more than half the rubber is produced for making tyres, but the rest is hidden in different production sectors: transport, machines, building, pharmaceutics, food industry, textiles, paper, electrotechnics and electronics, shoes, adhesives.
To dedicate a monographic area to rubber means recognising the importance of this material that is hidden in many of our objects and in almost all our machines, which without it wouldn't work at all.
The Rubber area consists mainly of sectors dedicated to the production, manufacturing, uses and applications of the material.

THE RUBBER CRADLE

Rubber is a polymeric material, with a natural or synthetic origin. Here we analyse: the production cycle for obtaining natural rubber from latex; the work of the chemist going from monomers to synthetic polymers.

THE PRODUCTS FACTORY

The most common methods for manufacturing and transforming rubber into objects are: calendaring, extrusion and moulding. But rubber is also manufactured through spreading and immersion.
Here we show – also thanks to a video-installation on rubber manufacturing – how the mixing phase is followed by the birth of a tyre (calendaring), a tube (extrusion) and a shoe sole (moulding). The video is a small documentary, synthetic and uncommented. The music is a rhythmic composition of sounds taken from the manufacturing process, broadcasted in the room, enfolding the objects and recalling the atmosphere of a real factory.

A WORLD OF RUBBER

Here we show the variety and quantity of objects and tools that can be made out of rubber. Pointing out - for example - that 50% of rubbers is used to produce tyres and the rest to make "other things" (tubes, seals, soles etc.).

The Rubber area is enriched by a video-installation on chewing gum and tyres. The idea is to recall the famous Italian nursery rhyme "the chief's car has a hole in its wheel", show it with an animation video and transform it in a sort of video clip / karaoke that recalls, through different historical phases, the bizarre origins of chewing gum.

The song, which appears at first sight to have no sense, hides a scientific truth: before 1960 chewing gum was made with natural rubbers. In 1960 it began to be made out of synthetic rubber, the same used in tyres today.

Through a fun, interactive and innovative engagement (visitors are not usually invited to sing in a museum) we hope to make the topic of rubber more accessible also to young children, exploring the history of a well known object: chewing gum.

For the opening of the new area dedicated to rubber, the Museum will renovate some parts of the Plastic Materials area, opened in 2006, again in partnership with **Assocomaplast** and **Federchimica PlasticsEurope Italia.**

In some cases the Rubber area implements the existing area dedicated to Plastics, in other cases it integrates it. In particular: in the Plastic Materials area the **CHRONOLOGICAL LINE** is enriched by the essential phases of the discovery and development of polymeric materials including rubber; the new area dedicated to rubber allows an exploration of the **LIFECYCLE OF POLYMERIC MATERIALS**, a complex issue that also includes aspects of the recycling of plastic and rubber.

Another novelty in the restyling of the Plastic Materials area is the multimedia exhibit, *IN THE LAB WITH GIULIO NATTA*. The exhibit illustrates in detail the technical-scientific concepts at the base of Giulio Natta's experimentation: fiction carries the visitor in Natta's lab, to explore first-hand the main phases of the scientist's discoveries.

SPECIAL WEEKEND, Saturday 21 and Sunday 22 March 2009

On occasion of the opening of the new area the Museum offers guided visits to the areas of **Rubber** and **Plastics** (Polymeric Materials section) and special activities in the materials interactive lab:

Polymers: natural, artificial or synthetic?

Age +7; Saturday 21 March, 3 pm and 5 pm; Sunday 22 March, 11 am, 3 pm and 5 pm.

Let's observe some natural polymers and find out how they are artificially manufactured by man. Let's look at the creation of synthetic polymers to understand their characteristics.

Polymers: birth and rebirth

Age +9; Saturday 21 March, 2 pm and 4 pm; Sunday 22 March, 10 am, 12 am, 2 pm and 4 pm.

How do synthetic polymers *live*? Let's explore some properties that are functional to the creation of objects. How can they be recycled? Let's separate them by type to transform them into new products.

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