RENOLIT AG

PRESSEINFORMATION
PRESS RELEASE

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Innovative film design resistant to adverse climatic conditions

First experience with the new heavy-duty film RENOLIT FAST

Worms, 24 October 2005 – With its new film generation **RENOLIT** FAST, the **RENOLIT AG,** based in Worms, Germany, is setting new standards for films used outdoors: The high-performance film is unaffected by climatic fluctuations and conditions, no matter how extreme, so plastic products coated with this film surface can be used worldwide. **RENOLIT** FAST ensures color-fastness and high gloss stability over the entire life cycle of the profile. Furthermore, the film is chemical-resistant – even aggressive special cleaning agents cannot harm it.

This innovation is based upon many years of research and development with extensive test and trial runs. With the so-called Xenotest, one of the crucial long-term weathering tests, the weathering resistance of the film can be determined by means of time-lapse photography. Over thousands of hours, film specimens with various decors were exposed to artificial, time-accelerated weathering, thus simulating many years of exposure to high sun intensity and fluctuating weathering conditions.

Intense exposure to xenon light has no negative effects

"Every two hours, we sprinkle the test specimens with ultrapure water to simulate natural irrigation and to determine the effects of moisture. That way, we can reproduce the subsequent application conditions and ultimately derive very reliable results on the performance of our films in different climatic zones“, says Markus Porn, Head of the **RENOLIT AG** Research & Development Department, in describing the elaborate and cost-intensive durability test. The testing facility is equipped with xenon

floodlights, as used in automobile headlamps. Their light, produced by an arc, is as bright as daylight and its composition corresponds to natural sunlight. However, this test ordeal had very little impact on the **RENOLIT** FAST film: Discolorations were hardly visible to the naked eye.

The ruggedness and resistance to dirt and chemicals is due to the three-layer design of **RENOLIT** FAST. The top layer is composed of a polyvinylidenefluoride film (PVDF), a material related to PTFE, a fluoroplastic better known under its brand name Teflon®. The second layer consists of a clear-transparent polymethylmethacrylate (PMMA), which protects the base layer, a dye-penetrated acrylate film.

Color pigments reduce heating-up

The design's low surface tension makes **RENOLIT** FAST dirt-repellent and easy to clean - the infrared-reflecting color pigments in the dye-penetrated base layer reduce heating-up of the profile or panel. Therefore, the film cannot only withstand adverse climatic conditions with extreme temperature fluctuations but is also protected against environmental impact as well as vandalism, such as graffiti.

In addition to the design, the processing quality of the film is a key factor for the longevity of a plastic coated profile. "Basically, the film does not differ much from the proven **RENOLIT** MBAS film," says Markus Porn, resolving all doubts, that using the film could require high investments. Special attention is paid on uniform preheating of the film to 80°C (175°F) both up- and downstream of the adhesive application. "Best results were achieved using short-wave infrared heating elements with automatic temperature control," says the head of the research and development department.

Accurate preheating for solid bonding

In **RENOLIT**'s in-house profile coating facility, the film layers are bonded at two positions – upstream the adhesive application and in between the adhesive application and the lamination gap – a configuration Porn is recommending to all profile manufacturers and lamination companies.

Another important pre-condition for trouble-free processing is an adhesive well adapted to the **RENOLIT** FAST acrylate base film. The amount of adhesive applied should range between 50 and 55 grams per square meter. The ideal preheating temperature of the profile lies between 50 and 60°C (120° - 140°F). That way, neither intense insolation nor high air humidity can harm a profile coated with **RENOLIT** FAST.

Since summer 2005, **RENOLIT** FAST has been mass-produced and the first businesses already have experience with the processing of the new film. So has Willi Gäns, managing director of the WIES Fensterbau GmbH, a window manufacturer based in Spabrücken, Germany, who does not process the film itself but comments on experience processing profiles coated with the film: "Processing profiles coated with **RENOLIT** FAST, we did not encounter any significant differences compared to other commercially available solutions. Yet, the surface quality is higher and the stronger IR-reflection of the base film is useful also in those latitudes of central Europe, which are subject to highly fluctuating weather conditions." For a renovation project in the Eifel Mountains, the WIES Fensterbau Company could already benefit from these superior product features.

First experience in the field

During the past three years, the **RENOLIT AG** has also assigned the WIES Fensterbau GmbH the renovation of their company buildings. Roundabout 2,000 square meters of windows coated with the new film have been manufactured. "In some buildings, we have installed rows of windows of up to 30 meters (100 feet), which are subject to very high strain. Until today, they show no signs of distortion," says Willi Gäns.

And the next project using **RENOLIT** FAST is coming up soon: The WIES Fensterbau GmbH will deliver 500 square meters of sliding glass elements to an exclusive home in Cape town – the new film will be put to good use!

The companies

The **RENOLIT AG** ranks among the internationally leading manufacturers of high-quality films for surface finishing and technical applications. Independent and family-owned, the company has been setting the standards in terms of quality and innovation for 60 years. Currently, the **RENOLIT AG** employs roundabout 2,300 employees at 15 sites. The brand name **RENOLIT** stands for technology competence, sophisticated product design and application-oriented service partnership worldwide.

The WIES Fensterbau GmbH is a medium-size company, whose structural corporate changes have safeguarded their success despite the slow business activity in the construction industry. At their headquarters in Spabrücken and at a joint venture in the Czech Republic, WIES Fensterbau employs a total of 140 employees. Apart from building renovation and conversion, the company focuses on delivering to selected dealers, and has boosted their productivity through a significantly increased degree of automation in the past three years. In the future, Willi Gäns, managing director, is expecting growth potential in the renovation business and in the conversion of commercial buildings into apartment housing.

<u>Captions:</u>

Photo of the Production Hall
On the window profiles of this production hall with an office section built on top, the **RENOLIT** film has proved its worth for more than three years now.

Photo of the Production Process
Profiles coated with **RENOLIT** FAST (here in the decor Golden Oak) are processed with conventional machinery.

Photo of the Test
In addition to the intensive Xenotest, **RENOLIT** tests the durability of its films for outdoor use in the open air, too.

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