

## Editorial

*Innovation and differentiation have always been part of our market approach. The recent developments of Rubberfuse is in line with that strategy.*

*Innovation: after the launch of TPO/FPA Sheet Laminated Metal in coil form for gutters and other uses in the construction, we are now introducing a TPO/FPA thin cell solar panel.*

*Differentiation: Rubberfuse is the only TPO manufacturer having a non reinforced membrane as the main item of its supply program. Such option is now proven to be clever, as a study conducted by an independent Authority on roofs completed over 12 years ago demonstrates that ST Sintofol still shows outstanding characteristics.*

*Our approach is not about to change, simply because our Partners are in a position to see it is paying back. Let's face it: let alone Rubberfuse, who can show over 10 mi<sup>2</sup> TPO roofs installed in more than 30 countries with some dating back 1994, and using the same PP based formula for the membrane? Who holds certifications and test results based on new European Guidelines for TPO systems? Who has a global marketing approach including quality oriented concepts such as "engineered system" and "Authorised Applicator"?*

*Innovation and differentiation, with also a major concern with regard to ecology. For us, "green matters" is not just a slogan. Our primary commitment remains. More than ever, Rubberfuse is your partner for environmentally friendly solutions*

M. Aughuet.



## Zeebrugge Terminal - a showcase

Fluxys, the operator of the LNG (Liquefied Natural Gas) Terminal in Zeebrugge, Belgium, has invested 165 million in a fourth reservoir. The 35m high, double wall structure (1m thick concrete outside wall and steel inside wall) has a 140.000m<sup>3</sup> volume, which doubles the storage capacity. The previous tanks (87.000m<sup>3</sup> each) are covered with a white coated rubber membrane. For the addition, Fluxys was looking for a product offering similar weathering performance, however without the maintenance requirement (coating). D. Molenberghs, Manager of Mawipex Belgium, Rubberfuse distributor, explains: "it took us two years to finalise this prestigious deal. Not a surprise actually, knowing the numerous demanding requirements of the deciding parties: no flame, high wind resistance (the tank is almost at sea), white colour for reflectiveness, certification and approval of SECO, the QC Authority, etc. An interesting comment was made by the Director of MBG, the General Contractor, "in fact, the visit of a roof using a similar system and completed years ago in France by SNEI (Rubberfuse applicator), was the final decision factor, as the high quality level of that job was meeting our expectations".

EETEC, an applicator specialised in liquid waterproofing systems since 1960 and recently appointed Rubberfuse Authorised Applicator, secured the roofing contract. The system uses a 1.2mm thick Sintofol FB 300 mechanically fixed (with polymeric plates and HD 6.1mm fastener) to the 6.000m<sup>2</sup> concrete dome. Bart Moonen, EETEC's project Manager is quite proud of this job: "this was definitively no piece of cake installing the FPA sheeting on a sloped dome in this high wind area; and details were both complicated and numerous". Bart also smiles when asked about the wind uplift resistance of the system: with 25.000 ea Rubberfuse fixings (700N Wad), 400 steel support plates for sprinklers and over 1.000ea lightning rod pads, the system is there to stay!

The job makes the cover page of the "Roof Belgium" magazine and a copy of the relating article is available upon request.



## Rubberfuse PV panel

The first Rubberfuse "solar roof" has recently been installed in Germany. The panel, made of a Unisolar® thin film module laminated to a TPO/FPA membrane, combines the reliability of a TPO roof with the newest generation of PV technology. This new product has been developed together with Biohaus, a company with 20 years of experience in the integration of amorphous modules. Biohaus is now part of the Centrosolar Group of Companies and is the recognised specialist for demanding integration concepts using thin-film cells.



## Tesco goes Superdeck

After several years of efforts to promote the concept of TPO/FPA as the ecological alternate to PVC on the pre-fabricated roofing panels market, the Corus/IPS Team achieved a great success. Tesco, the largest supermarket chain in the UK, decided to "go green" and consequently selected the Superdeck roofing system for their 2007 program of stores to be built in the country. Such decision is in line with Tesco's pledge to revolutionise its business and become a "leader in helping to create a low-carbon" economy".

Superdeck is a composite panel made of 0.7mm thick 1000/32 steel profile, 80 or 100mm thick CFC - HCFC free rigid PIR foam core and 1.2mm TPO/FPA FB Sintofol membrane. The bottom of the panel is protected by enamel/polyester/HPS200. The thermal value is 0,25/0,20 W/m<sup>2</sup>. The panel weighs only 11.0kg/m<sup>2</sup>, which makes it easy to handle. The roofing membrane has a 75mm selvedge on one side, which allows for hot air welding once the panel is in place.

It is after noticing the growing demand for systems capable to meet the requirements of fast track projects that IPS and Corus initiated the development of Superdeck. The first panel was produced in 2003 at the Ammanford site of Corus Panels and Profiles, and about 50.000m<sup>2</sup> of systems were installed in the following 3 years. The Tesco contract will for sure have a significant impact on the development of this innovative product.



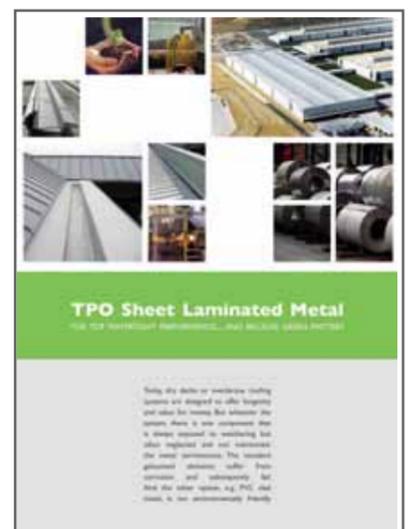
## News from Italy

Our colleagues from Rubberfuse / Domestic Operations are making quite a good score this year! We just received a picture of one of their most striking references: the Vulcano Commercial Centre. The 70.000m<sup>2</sup> roof of this impressive complex, located in Nola, near Naples, has just been completed. The peculiar shape of the building was designed to mimic the Vesuvio, the neighbouring volcano. The system uses 1.8mm thick Sintofol ST Grey, mechanically fixed.



## Sheet Laminated Metal leaflet

A 4-page leaflet dedicated to TPO Sheet Laminated Metal has been published. The document covers the various use of TPO clad metal which is now available in both sheet and coil form: roofing profiles, gutters and walkways. It also provides technical information of the 2 components, steel and TPO/FPA film.



## Ravago Slovenia new premises

The development of operations led Ravago Slovenija to move into newly built premises in Store. Both warehouse and offices are now under the same roof. The building has a great "high-tech" look and reflects Ravago's leading image in the local construction business.



The 1.800m<sup>2</sup> roof obviously is Rubberfuse; the Sintofoil membrane is mechanically secured on tapered Modulrock Rockwool boards. With a thickness up to 345mm and minimum 200mm thick for the office part, the insulation offers a thermal value which exceeds by far the usual standards. The attachment of the boards was not a problem, since Rubberfuse "thermal shut" fixings can accommodate thicknesses up to 440mm.

Nada Urataric, Managing Director, adds "easy access allows to use the roof as a showcase. And we use to insist on the quality of the various details. Stanko Gobec (owner of Kleparstvo-Krovska s.p., the applicator) did a great job.

Since the start of Rubberfuse operations, 5 years ago, Ravago sold over 200.000m<sup>2</sup> of TPO/FPA roofing systems in the reduced (less than 2 million inhabitants) but highly competitive Slovenian market place.

## Certification program

### - CE marking

The Sintofoil membrane range has been certified to comply with the European requirements as applicable to the Factory Production Control by Bureau Veritas Quality International. The reference is I370-CPD-0100 (TPO production Unit 1) and I370-CPD-0101 (TPO production Unit 2). The packaging label now shows the information.



### - ETA

The European Technical Approval for Rubberfuse mechanically attached systems has been finalised with ITC, the Italian membre of EOTA. It relates to Sintofoil ST and RG membranes and Rubberfuse standard and thermal shut fixings. As required by the procedure, the document is currently under review by the EOTA members prior to being formally issued.



### - Russia

The certificates of compliance to GOST norms in terms of performance, hygiene and fire resistance have been issued. An interesting point is the requirement for membrane flexibility at low temperature. Sintofoil ST, FB and RG passed -55°C.



A key principle of Imper Italia's strategy is to offer a product line that meets the local industry standards and technical requirements. To date, Approval an/or Testing Certification has been obtained from the Authorities in the following countries (listed in alphabetical order): Belgium (UBAtc), Bulgaria (HNCN), Croatia (IGH), Czech Republic (TZUS), Europe (UEAtc wind testing), Germany (SKZ), France (CSTB and Qualiconsult), Holland (BDA-Intron), Hungary (EMI), Italy (ITC), Russia (GOST), Slovenia (ZAG), United Kingdom (BBA) and USA (FM).

**Publisher information**  
 Rubberfuse News is published by  
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 International Operations  
**mast sa** • 7 Rue du Bois  
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## Mawipex Belgium grows

2007 will be a milestone for the Belgian Division of Mawipex. The move into new premises is a nice way to celebrate 10 years of presence in the country. This year also marks the re-launch of Rubberfuse, with the successful completion of nice projects such as the 7.000m<sup>2</sup> Vebor warehouses and the prestigious Zeebrugge Gas Terminal (see article).

Danny Molenberghs, the Manager, found a nice way to celebrate the event: Mawipex did sponsor the "Scheldeprijs", a well-known local bicycle race. Danny was also celebrating another anniversary since he joined Mawipex 5 years ago. Proficiat!



## Durability now proven

While the concept of using PP based polymers for materials exposed to weathering is not recent (TPO car bumpers are in use since 1980), yet questions are often raised about the durability of TPO/FPA roofing membranes. Since the launch of Rubberfuse, numerous test programs confirm a good ageing resistance, but so far little information was available from the field. To properly respond to this concern, Rubberfuse did appoint the Milan Politecnico Institute to carry out a comprehensive survey on the 1.2mm non reinforced Sintofoil membrane installed on 3 roofs over 12, 10 and 7 years ago: a 25.000m<sup>2</sup> Pryca supermarket in Cordoba (Spain), a 9.000m<sup>2</sup> Michelin plant in Bourges (France) and a 10.000m<sup>2</sup> warehouse in Wattreloos (France). All roofs use a mechanically attached system, which implies permanent exposure of the membrane to weathering.



Sampling was taken in order to evaluate the properties of the membrane (tensile strength, elongation, tear resistance, flexibility and dimensional stability) and the behaviour of the welded seams (shear and peel resistance).

All results clearly show that weathering has a limited impact and consequently support the claim for a long life expectancy. The study also explains why the renewed BBA certificate confirms a durability of over 30 years for Sintofoil membranes.

To date, Acieroid (Spain), and SNEI (France), the applicators of the 3 jobs subject of the study, successfully installed over 2 million m<sup>2</sup> of Rubberfuse systems.

A copy of the report is available upon request.

## Green Roof in the UK

Mineral Star, Rubberfuse Authorised Applicator since 8 years recently added green roofing to their portfolio of services and have been awarded a 5.000m<sup>2</sup> green roof for Laing O'Rourke at the Royal Holloway University in Egham, Surrey. Royal Holloway is part of the University of London and enjoys an international reputation for the highest quality teaching and research across the sciences, arts and humanities.



The new extension of students accommodations is covered by a Rubberfuse green roof. The build up is concrete deck, vapour barrier, 90mm PIR insulation, Sintofoil membrane, drainage mat, filter layer and sedum greening layer. The sedum is composed of many varieties of seeds, chosen by an expert horticulturist to best suit the environment and conditions.

Peter Bowers, Managing Director of IPS explained that Rubberfuse was selected owing to the green credentials of the client and the growing requirement in the UK to add green roof areas as a trade off for removing the green footprint from the land. The TPO/FPA Sintofoil membrane is perfectly adequate for green roofs: it is totally inert and non toxic. The material also carries a FLL (root resistance) certificate.

## Littlepace Church

Moy Materials, Rubberfuse distributor in Ireland, secured an interesting job. The mission of the architects, Fitzgerald Kavanagh, was to design a building providing temporary accommodation to the roman catholic community in the rapidly expanding village of Cleonee.



The building is intended to be used for not more than 5 years, however the designer stipulated that all components should last 15 years or more. The Sintofoil membrane was selected as a non PVC environmentally sensitive material which could be recycled post use. It had to be aesthetically pleasing and be able to mimic the more expansive standing seam metal roof. The FB Sintofoil membrane was fully adhered system to eliminate any possible wrinkles.

## Tech corner

### Geberit TPO/FPA roofdrain

Further to the introduction of the Pluvia drain using a Sintofoil ST flange, several applicators did call to ask the reference of this item. This article is listed in Geberit's Pluvia production program under the n° 359.623.00.1.

