

PRESENTATIONS and CASE STUDIES

Polyurea Spray Coatings: Technologies and advances in raw materials and applications

Dr. Katty Darragas, Huntsman Performance Products

Huntsman Performance Products will present new raw material technologies for the formulators to modify their current systems.

These new amines are designed for use in both aromatic and aliphatic elastomeric coating systems.

The JEFFLINK® diamine chain extender series offer the formulator opportunities to use a wider range of aliphatic isocyanate prepolymers.

JEFFAMINE® SD-amines allow the efficient formation of low viscosity aliphatic prepolymers. Secondary amines allow the formation of high hardness aliphatic and aromatic coatings.

These newly developed secondary JEFFAMINE® SD-amines and JEFFLINK® diamine chain extenders will be illustrated by a wide range of applications.

Polyurea and Geotextiles - Application profiles

Murph Mahaffey, WIWA Wilhelm Wagner GmbH

Polyurea has been used with geotextile fabrics to solve a variety of difficult containment problems that often have complex geometry requiring a unique solution. The drapability and versatility of geotextile fabrics combined with a seamless polyurea membrane offers strength, containment and a longer life than other options. We will review polyurea used with geotextiles used in a variety of applications including a reservoir, tank linings and water features.

Polyaspartic-Coatings - Latest developments for extending performance

Michael Casimir / Karl H. Wührer, Bayer MaterialScience

About 10 years ago a new class of polyurea entered the coating market : Polyaspartic-Coatings.

First developed as a reactive diluent for automotive repair paints the short history of the Polyaspartic-Coatings is a success story. Nowadays they are used as light stable topcoats for conventional polyurea, as decorative flooring systems or fast setting corrosion protection paints. However the main border for spreading into other application fields is limited flexibility.

This presentation gives an update on the latest developments for tough to flexible Polyaspartic-Coatings raw materials. It includes the developments on both raw material sides, on the amine and also on the isocyanate-prepolymer side. Also other possibilities for getting flexible films, eg use of plasticizers, will be discussed.

Slower polyurea for a simplified application

*Romuald Bartczak, Flexguard
Alain Descampe, Imexfa*

The expertise and the highly specialized machinery required to spray fast setting polyurea are certainly a bottleneck to its development.

This paper will present another generation of pure polyurea with gel times over 30 seconds and setting times about 1 minute.

Next to being more user friendly and less demanding on machinery it also opens the door for in-mold spray applications (gelcoating) with a high quality finish.

Intel - sewage pools

Eliezer Nisensvieg, MMSL

Coating 5500sqm concrete sewage pools after a special treatment the sewage will go from there to agriculture.



European Technical Approvals for construction products based on polyurea

Jürgen Magner, Polymer Institut

Since 2000 an European Technical Approval Guideline - ETAG 005 for 'Liquid Applied Roof Waterproofing Kits' exists. Since 2008 a new European Technical Approval Guideline ETAG 033 exists for 'Liquid Applied Bridgedeck waterproofing systems' which will be introduced officially until the annual conference.

The speech will point out test procedures, tests results and experiences at Polymer Institut according to both guidelines with products based on polyurea. Also a comparison with other materials will line out the outstanding character of the products in test. The speech will make clearer the market and technical chance of polyurea for the Common Market in Europe.

PRESENTATIONS and CASE STUDIES

Polyaspartics - Innovative binders for cost-effective coating concepts

Thomas Bäker, Bayer MaterialScience

Aspartics as secondary amines are binders for a high performance two-component top coat technology for high productivity applications.

Polyaspartic are formed by the reaction of aspartics with aliphatic polyisocyanates. The reaction speed of both components can be controlled by the variation of the sterical hinderence of the amino-group in the chemical structure of the aspartic, leading to a wide range of pot live and curing conditions.

The polyaspartics technology allows the application of film builds up to 400 micrometer in one step. In particular in corrosion protection, industrial coatings and construction applications where high film builds are required, polyaspartics open possibilities to reduce the number of coats in a painting operation. In addition through the high speed of curing the productivity in painting operations is enhanced furthermore by running this technology.

Polyaspartics are characterized by a relatively low viscosity that allows the formulation of ultra high solids up to almost zero-VOC coatings. They are based on aliphatic components and lead to coatings of high weatherability, chemical and mechanical resistance.

The polyaspartic technology has been growing significantly in many applications, where high performance coatings and cost effective concepts are required.

The paper gives the current status and demonstrates the success of polyaspartics by illustration of selected case studies.

And more...

10 years and more : 2 examples of color stable polyurea coating systems—Highway tunnel, North Carolina + San Mateo bridge, California

Steven Reinstadtler (Bayer MaterialScience LLS, Pittsburgh)

Mama Mia ! Here we go again - bridges, pools and garage decks

Elisabet Michelson (Elmico)

Intelligent surfaces via nanoparticles

Dr.-Ing. Wolfgang Beck (Panadur)

That Was Polyurea Loves Sports Then, This Is Polyurea Loves Olympic Games Now!

Weibo Huang, Qingdao Technological University

The brief history review of Spray Polyurea Elastomer Technology in China and especially its application in the infrastructures of Beijing 2008 Olympic Games are described in this presentation. Under the leadership and instruction of Prof. Huang since 1995, Chinese polyurea industry has been growing up quickly and remarkably.

Polyurea waterproof membrane

Nazli Gharavisky, Dr. Gh.Gharavisky, Pouria Azar Bakht Pedram Group

Objective: Confirmed landscape and flower bed floor coating

Location: Milad Telecommunication Tower.

Surface area : 1200 m²

Milad Tower is the world's fourth highest Telecommunication tower located in north of Tehran.

The challenge was to install a long lasting floor coating systems to act as water barrier to stop water seeping through to other sections.

After considering many options the client decided to use the NP 401 lining system from Navid Rang Pedram.

Concrete was new but was contaminated with oil and grease in many parts in parking area. The floor was firstly sand blasted and cleaned by Biosolve, a hydrocarbon encapsulant to remove residual grease and oil not removed by bleasting process .

Special penetrating epoxy primer was used as first layer. Then a layer of self leveling epoxy based mid coat was applied as bedding layer. Afterwards an epoxy based fiber reinforced layer was applied in some areas.

At the end a layer of polyurea was applied on the top coat.

This coating was installed in 2005 and it has not needed any repairs up to now and is performing admirably still.

EVENT VENUE

Austria Trend Parkhotel Schönbrunn *Vienna, Austria*

Parkhotel Schönbrunn was built in 1907 as the guest house of Emperor Franz Josef I. The imperial atmosphere of bygone days together with modern facilities and friendly service make the hotel unique in the city of Vienna. The hotel is located in immediate vicinity of Schönbrunn Palace in the district 'Hietzing'.



The hotel owns one of the few preserved classic ballrooms in Vienna with a unique ambience in which numerous traditional balls take place.

The second day of the conference, Wednesday 19 November, will entirely take place in the ball room.

DINNER RECEPTION VENUE

Fuhrgassl-Huber Winery *Wednesday 19 November, 19:30*

Located in the heart of Neustift am Walde between vineyards and the Vienna Woods Ernst and Gerti Huber's Winery with its cosy parlours and romantic patio has been a popular wine tavern for almost 30 years.



The architect was Professor Walter von Hoesslin, the stage designer of the Vienna Opera House.

