

59th (Tokyo), 60th (Osaka)  
**SUGA International Weathering Symposium**

TIME	<b>Tokyo (59th)</b> Date: October 22, 2014 (Wed) Location: Arcadia Ichigaya	<b>Osaka (60th)</b> Date: October 29, 2014 (Wed) Location: Osaka International Convention Center
10:00 – 10:10	Introduction by <b>Shirou Haruyama</b> , board chairman	Introduction by <b>Shigeo Suga</b> , managing director
[1] 10:10 – 11:00	<b>Degradation behavior of low-density polyethylene in outdoor exposure tests and accelerated weathering tests.</b>  <b>Takashi Miwa</b> , NTT Energy and Environment Systems Laboratories	
[2] 11:10 – 12:10	<b>Image permanence in various use cases of digital printing</b>  <b>Jürgen Jung</b> , ISO / TC42 (Photography) / WG-5 Convener / TG-3 Chairperson Agfa Gevaert NV	
12:10 – 13:10	Lunch	
[3] 13:10 – 14:00	<b>Correlation between outdoor exposure tests and accelerated weathering tests of paint for metallic building materials.</b>  <b>Hideki Matsuda</b> , Kansai Paint Co.,Ltd.	
[4] 14:10 – 15:10	<b>The apotheosis of quantitative Gloss measurement for weathering testing.</b>  <b>Nico Frankhuizen</b> , ISO/TC35 (Paints and varnishes) /SC9 · SC10 · SC12 · SC14 Expert NEN NC342.035 Chairman TQC B.V.	
[5] 15:25 – 16:15	<b>Third report of the research of correlation between outdoor exposure tests and accelerated weathering tests: Early prediction of outdoor exposure test results.</b>  <b>Takeyuki Tanaka / Shin Watanabe</b> , Suga Weathering Technology Foundation, Weathering Light Study Group	
[6] 16:25 – 17:15	<b>Corrosion behavior of magnesium materials in automotive components.</b>  <b>Hideaki Yaegashi</b> , Nissan Motor Co.,Ltd.	

17:30 – 19:30	<b>Social gathering</b>
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## **Takashi Miwa**

Many of NTT's outdoor telecommunication equipments use polymer materials such as plastic materials and paint, and thus it is crucial to confirm the long-term service life of these polymer materials through accelerated weathering tests. This presentation details the result of the analysis of the degradation behavior of low-density polyethylene—giving special attention to changes in molecular weight distribution and IR spectra after UV degradation—as a basic investigation towards the development of an accelerated weathering test with shorter test duration and greater correlation with outdoor exposure.

## **Jürgen Jung**

Perceived image quality of digital prints has many dimensions; therefore there is still no simple merit function for assessing the degradation of image quality under various environmental factors. Another difficulty is the diversity of imaging applications, aiming at different purposes of retained image quality: medical imaging (diagnostic value), consumer imaging (memory keeping) or commercial display (advertising). Examples from last 10 years of work in ISO TC42 WG5 are presented, addressing development of test method standards and the current (complex) discussions leading to a framework for specification standards.

## **Hideki Matsuda**

The purpose of paint on metals is to provide long-term protection (corrosion resistance) and aesthetics (weatherability) to its subject. Thus there needs to be an accelerated testing technology that can accurately predict the long-term performance of these products, and we have conducted many researches to do so. This presentation describes some of concern of accelerated tests standardized in JIS and other standards, using long-term corrosion resistance of pre-coated steel plates for building as an example. Theory is also discussed.

## **Nico Frankhuizen**

Gloss measurement is a key QC parameter for aesthetic demanding & weathering subjected coatings, such as yachting and automotive. Deterioration of the surface can be recognized at an early stage by loss in Gloss. Gloss is an international accepted unit, however with many definitions. Recent research unveiled structural errors and proposes a new definition of Gloss. The present definition of Gloss only includes the Fresnel formula. Future definitions could include the Beckman-Kirchhoff scatter theory as a solution to generate a general applicable ISO 2813. New developments allow for multi-point calibration of the National Metrological Institute's goniometers compared to the presently used single point calibration. Multi point calibration will allow for the creation of more accurate gloss meters and calibration procedures. This will require us to re-evaluate industry measurements results. Correlation and evaluation of weathering results are subject to these changes, and many improper conclusion could have been drawn based on these incorrect results. This technical presentation deals with the deviations in this method and its applications on weathering reporting.

## **Takeyuki Tanaka / Shin Watanabe**

The Weathering Light Study Group of the Suga Weathering Technology Foundation has tested coated steel plates and plastic at outdoor exposure sites in Shinjuku-ku/Tokyo, Okinawa and Arizona, along with performing various accelerated weathering tests, in order to study the correlation between accelerated weathering tests and outdoor exposure tests. In continuation from last year, this year the method for early prediction of outdoor exposure test results are introduced.

## **Hideaki Yaegashi**

Our current Skyline model uses magnesium transmission case in order to reduce the vehicle weight. Because magnesium has a smaller ionization tendency than conventional automotive materials such as steel, zinc and aluminum, galvanic corrosion becomes a serious issue when using it as a material for automotive parts. In this presentation, the resolution of this issue is introduced.