

71st SUGA ACADEMIC SEMINAR : WEATHERING

1st SWTF WEB SEMINAR : WEATHERING PROGRAM 2021

	<p style="text-align: center;">Date: From February 1, 2021 (Mon) to February 5, 2021 (Fri) for Video on demand</p>
	<p>Opening of the web seminar</p>
	<p>Introduction by Shigeo Suga, Director-General, Suga Weathering Technology Foundation</p>
[1]	<p>【Weathering】 (30minutes) Publication of CIE 241:2020 (Recommended Reference Solar Spectra for Industrial Applications) Revision of CIE 85:1989</p> <p>Hideo Kita Weathering Light Research Committee, Suga Weathering Technology Foundation</p>
[2]	<p>【Weathering】 (20minutes) Considering the diversity of the global environment from the deterioration of plastics exposed to the peculiar global environment</p> <p>Shin Watanabe Weathering Light Research Committee, Suga Weathering Technology Foundation</p>
[3]	<p>【Weathering】 (20minutes) Importance of Spectrally dispersed radiation test, and introduction of the examples of international standardization and tests</p> <p>Takako Yoshimoto Optical Product Department, Suga Test Instruments Co.,Ltd.</p>
[4]	<p>【Corrosion】 (30minutes) Explanation of Accelerated corrosion test standards ISO 9227, ISO 14993, and IEC 60068-2-52, and mass loss of steel plate SPEC in each test method</p> <p>Kazuya Hasegawa Technology Division Project D, Suga Test Instruments Co.,Ltd.</p>
[5]	<p>【Colour】 (20minutes) Measurement principle of Image clarity and a comparison between the measured values of gross, haze and image clarity</p> <p>Satoshi Tanaka Optical Product Department, Suga Test Instruments Co.,Ltd.</p>
	<p>Closing of the web seminar</p>

[1] Hideo Kita

CIE 85, published in 1989, is a report on the spectral irradiance of solar radiation. In particular, Table 4, which shows the spectral irradiance of solar radiation reaching the earth's surface, is cited as a benchmark for solar radiation in many accelerated weathering test standards around the world such as ISO, IEC, ASTM, and SAE for a long time. Although there had been discussions on revisions before, a new TC was established 4 years ago and international deliberations progressed, then CIE 241:2020 was published and accordingly, CIE 85:1989 was withdrawn. The main revisions include changing the measurement wavelength interval, specifying the ultraviolet short wavelength range (305 nm or less), adopting the latest calculation formula, and clarifying input parameters. In this lecture, I will explain the process leading up to the publication of CIE 241 and the revisions from CIE 85.

[2] Shin Watanabe

The degradation of polymers exposed outdoors is often compared with accelerated degradation, but even for polymer degradation exposed to various outdoor exposure test sites, the relation between mutual degradation properties is still not clear. In this lecture, I will give a presentation on recent trends in the environmental dependence of natural polymer degradation, mainly photooxidation reactions. Also, I will introduce the efforts made to predict degradation using statistical methods based on the results of outdoor exposure tests and accelerated weathering tests.

[3] Takako Yoshimoto

Substances around us have different degradation sensitivity (spectral degradation sensitivity) depending on the wavelength of sunlight. Therefore, it is so important to evaluate the degradation characteristics of materials at each wavelength, and I will introduce ISO 21475:2019 for the purpose and test methods of the spectrally dispersed radiation test, which was standardised in ISO/TC61(Plastics)/SC6(Ageing, chemical and environmental resistance) based on a Japanese proposal, using test results of plastics and image output, etc.

[4] Kazuya Hasegawa

Various test methods for accelerated corrosion tests have been standardised and implemented for each material to be tested, depending on the operating environment and purpose of use. Among the tests, ISO 9227, ISO 14993 and IEC 60068-2-52 are representative accelerated corrosion test standards that are widely used worldwide. In this lecture, I will introduce the test results of mass loss performed in each test standard using the reference specimens (steel plates) specified in ISO 9227, and the features and severity of the tests in each test standard.

[5] Satoshi Tanaka

Image clarity describes the degree of clarity and distortion appearance of the image of an object on a metal or painted surface, or transmitted through a film or other material. I will explain the effectiveness of image clarity by comparing visual and instrumental evaluations of the clarity of images appearing on several different finishes of painted steel. Also, I will introduce the example of the appearance evaluation by image clarity of a coated plate after accelerated weathering tests, which is conventionally evaluated by color difference and residual gloss.