



SLOVENSKI STANDARD
SIST-TP CEN ISO/TR 17801:2017
01-maj-2017

Polimerni materiali - Standardna razpredelnica referenčne globalne sončne spektralne obsevanosti na morski gladini - Vodoravna, relativna zračna masa 1 (ISO/TR 17801:2014)

Plastics - Standard table for reference global solar spectral irradiance at sea level - Horizontal, relative air mass 1 (ISO/TR 17801:2014)

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Plastiques - Table de référence pour l'irradiance solaire spectrale totale au niveau de la mer - Horizontale, masse d'air relative 1 (ISO/TR 17801:2014)

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Ta slovenski standard je istoveten z: CEN ISO/TR 17801:2017

ICS:

83.080.01	Polimerni materiali na splošno	Plastics in general
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TECHNICAL REPORT

CEN ISO/TR 17801

RAPPORT TECHNIQUE

TECHNISCHER BERICHT

March 2017

ICS 83.080.01

English Version

Plastics - Standard table for reference global solar spectral
irradiance at sea level - Horizontal, relative air mass 1
(ISO/TR 17801:2014)

Plastiques - Table de référence pour l'irradiance
solaire spectrale totale au niveau de la mer -
Horizontale, masse d'air relative 1 (ISO/TR
17801:2014)

This Technical Report was approved by CEN on 3 March 2017. It has been drawn up by the Technical Committee CEN/TC 249.

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EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
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European foreword

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TECHNICAL
REPORT

ISO/TR
17801

First edition
2014-06-15

**Plastics — Standard table for
reference global solar spectral
irradiance at sea level — Horizontal,
relative air mass 1**

*Plastiques — Table de référence pour l'irradiance solaire spectrale
totale au niveau de la mer — Horizontale, masse d'air relative 1*

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Reference number
ISO/TR 17801:2014(E)

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Published in Switzerland

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ISO/TR 17801:2014(E)

Foreword

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For an explanation on the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the WTO principles in the Technical Barriers to Trade (TBT) see the following URL: Foreword - Supplementary information

The committee responsible for this document is ISO/TC 61, *Plastics*, Subcommittee SC 6, *Ageing, chemical and environmental resistance*.

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Introduction

The effect of solar radiation on surface of the earth (global radiation) is the most important primary weathering factor. The photons absorbed by the molecules during radiation exposure are often sufficient to split chemical bonds, start photochemical reactions and cause an electron transfer^[1]. The spectral irradiance of the solar radiation is variable locally and in time. A reference spectrum is therefore required as a basis for the simulation of the spectral irradiance of solar radiation with artificial radiation sources/radiation systems. Data of the CIE (Commission Internationale de L'Éclairage) Publication (No. 85, 1989) have been used as a basis for years. Table 4 specifies the spectral irradiance of global radiation (direct and diffuse radiation) for a cloudless sky, zenith position of the sun by day and night comparisons at the equator at sea level. But in CIE 85, the data of the global solar irradiance only begins at 305 nm, the step width is very rough and the calculation code got unexplainably lost. Therefore, there have been efforts to revise CIE No. 85 for many years. The new [Table 1](#) gives modelled data (using the SMARTS model version 2.9.2) generated using an air mass zero (AM0) spectrum based on extraterrestrial spectrum of Gueymard^{[2][3]}.

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