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First edition  
2019-12

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# Graphic technology — Prepress digital data exchange —

## Part 2: Advanced colour targets for input scanner calibration



Reference number  
ISO 12641-2:2019(E)

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ISO copyright office  
CP 401 • Ch. de Blandonnet 8  
CH-1214 Vernier, Geneva  
Phone: +41 22 749 01 11  
Fax: +41 22 749 09 47  
Email: [copyright@iso.org](mailto:copyright@iso.org)  
Website: [www.iso.org](http://www.iso.org)

Published in Switzerland

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## Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular, the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see [www.iso.org/directives](http://www.iso.org/directives)).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see [www.iso.org/patents](http://www.iso.org/patents)).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation of the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT) see [www.iso.org/iso/foreword.html](http://www.iso.org/iso/foreword.html).

This document was prepared by Technical Committee ISO/TC 130, *Graphic technology*.

This first edition, together with ISO 12641-1:2016, cancels and replaces ISO 12641:1997, which has been technically revised.

A list of all parts in the ISO 12641 series can be found on the ISO website.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at [www.iso.org/members.html](http://www.iso.org/members.html).

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## Introduction

More than 1 000 000 targets, both transmissive and reflective, have been produced based on ISO 12641 and used in the past decades for calibrating scanners.

Based on the demands for higher quality from scientific institutions, museums, art and cultural heritage archives, and special public administration applications for ID-documents, a need was recognized to achieve a better scanner colour characterization. Very dark patches (chromatic and achromatic) are nearly unrepresented by the target layout of ISO 12641-1. Advanced target designs require more patches for an enhanced sampling of saturated and pastel colours (especially for archiving applications). They offer chances for improving the analysis of non-linear scanner performance. Such modern or advanced targets however could not be based on any ISO standard, which results in a lack of standardization.

In order to keep consistency and compatibility with the existing legacy targets, ISO 12641 was made as a multipart standard where ISO 12641-1 remains unchanged from the 1997 edition and the new ISO 12641- 2 specifies the requirements for advanced targets.

The discussion revealed that a new standard should also provide a flexible framework for new targets to come. Combining this with the need to reflect modern available targets, this document provides general requirements in the main part and provides exemplary transmissive and reflective targets in the informative [Annexes A](#) and [B](#), respectively. Self-emissive targets are covered by this document if they are designed to simulate the targets using transmission of light through an optical filter.

Traditionally, data has been provided in ACSII format using a keyword file. This document however requires the usage of the modern exchange format CxF/X-2.

Traditionally, ISO 12641-1 has been aimed at the colour characterization of input scanning devices. This document continues that tradition but also provides the framework for targets for other input processes such as digital cameras or for quality assurance applications.