AS ISO/ASTM 52910:2020 ISO/ASTM 52910:2018





Additive manufacturing — Design — Requirements, guidelines and recommendations



AS ISO/ASTM 52910:2020

This Australian Standard® was prepared by MB-028, Additive Manufacturing. It was approved on behalf of the Council of Standards Australia on 23 July 2020.

This Standard was published on 31 July 2020.

The following are represented on Committee MB-028:

Australian Automotive Aftermarket Association
Australian Manufacturing Technology Institute
Austroads
Charles Darwin University
Engineers Australia
Materials Australia
NSW Government
RMIT University
Weld Australia

This Standard was issued in draft form for comment as DR AS ISO/ASTM 52910:2020.

Keeping Standards up-to-date

Ensure you have the latest versions of our publications and keep up-to-date about Amendments, Rulings, Withdrawals, and new projects by visiting: www.standards.org.au

Additive manufacturing — Design — Requirements, guidelines and recommendations

First published as AS ISO/ASTM 52910:2020.

COPYRIGHT

- © ISO 2020 All rights reserved
- © Standards Australia Limited 2020

All rights are reserved. No part of this work may be reproduced or copied in any form or by any means, electronic or mechanical, including photocopying, without the written permission of the publisher, unless otherwise permitted under the Copyright Act 1968 (Cth).

Preface

This Standard was prepared by the Standards Australia Committee MB-028, Additive Manufacturing.

The objective of this document is to give requirements, guidelines and recommendations for using additive manufacturing (AM) in product design.

It is applicable during the design of all types of products, devices, systems, components or parts that are fabricated by any type of AM system. This document helps determine which design considerations can be utilized in a design project or to take advantage of the capabilities of an AM process.

General guidance and identification of issues are supported, but specific design solutions and process-specific or material-specific data are not supported.

The intended audience comprises three types of users as follows:

- (a) Designers who are designing products to be fabricated in an AM system and their managers.
- (b) Students who are learning mechanical design and computer-aided design.
- (c) Developers of AM design guidelines and design guidance systems.

This document is identical with, and has been reproduced from, ISO/ASTM 52910:2018, *Additive manufacturing — Design — Requirements, guidelines and recommendations*.

As this document has been reproduced from an International Standard, a full point substitutes for a comma when referring to a decimal marker.

Australian or Australian/New Zealand Standards that are identical adoptions of international normative references may be used interchangeably. Refer to the online catalogue for information on specific Standards.

The terms "normative" and "informative" are used in Standards to define the application of the appendices or annexes to which they apply. A "normative" appendix or annex is an integral part of a Standard, whereas an "informative" appendix or annex is only for information and guidance.

Contents

Pr	eface		ii			
Fo	reword.		iv			
1	Scope		1			
2	Norma	1				
3	Terms	and definitions	1			
4	Purpos	e	3			
5	-	opportunities and limitations				
	5.1	General				
	5.2	Design opportunities				
	5.3	Design limitations				
6	Design	considerations	9			
	6.1	General	9			
	6.2	Product considerations	9			
	6.3	Product usage considerations	10			
		6.3.1 General	10			
		6.3.2 Thermal environment	10			
		6.3.3 Chemical exposure				
		6.3.4 Radiation exposure				
		6.3.5 Other exposure				
	6.4	Sustainability considerations				
	6.5	Business considerations				
	6.6	Geometry considerations				
	6.7	Material property considerations				
		6.7.1 General				
		6.7.2 Mechanical properties				
		6.7.3 Thermal properties				
		6.7.4 Electrical properties				
	(0	6.7.5 Other Considerations related to different process categories				
	6.8	6.8.1 General				
		6.8.2 Specific considerations for different process categories				
		6.8.3 Other considerations				
	6.9	Communication considerations				
7		ngs to designers				
DI	Bibliography					



	This is a free preview.	Purchase the e	entire publication	at the link below:
--	-------------------------	----------------	--------------------	--------------------

Product Page

- Dooking for additional Standards? Visit Intertek Inform Infostore
- Dearn about LexConnect, All Jurisdictions, Standards referenced in Australian legislation