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# Information technology — 3D Manufacturing Format (3MF) specification suite

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# Foreword

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# Introduction

The 3D Manufacturing Format (3MF) is a file format designed by the 3MF Consortium[1] to allow design applications to send full-fidelity 3D models for additive manufacturing to other applications, platforms, services, and additive manufacturing hardware. The primary goal behind the creation of this format is to establish a new standard for additive manufacturing, which addresses the shortcomings and complexities of existing file formats, thereby making the various processes reliable, repeatable, and scalable from prototyping through to production.

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# Information technology — 3D Manufacturing Format (3MF) specification suite

## 1 Scope

This specification defines the 3MF file format Core Specification and extensions. It defines all the necessary components that are needed to implement this Suite. This Suite does not change if one or more components are updated by a new edition. The Suite changes only when new components are added to it and/or existing components are removed from it.

## 2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

3MF, *Core Specification*, https://3mf.io/spec/core-v1-3-0

3MF, *Materials and Properties Extension*, https://3mf.io/spec/materials-v1-2-1

3MF, *Production Extension*, https://3mf.io/spec/production-v1-1-2

3MF, *Beam Lattice Extension*, https://3mf.io/spec/beam-v1-2-0

3MF, *Slice Extension*, https://3mf.io/spec/slice-v1-0-2

3MF, *Secure Content Extension*, https://3mf.io/spec/secure-v1-0-2

3MF, *Boolean Operations Extension*, https://3mf.io/spec/boolean-v1-1-0

ISO/IEC 29500-2, *Information technology — Document description and processing languages — Office Open XML File Formats – Part 2: Open Packaging Conventions*

## 3 Overview

An implementation of 3MF consists of components, each specified by their corresponding Normative reference entry. The following components are part of the current 3ML Specification Suite:

— 3MF Core Specification (required)

— 3MF Materials and Properties Extension (optional)

— 3MF Production Extension (optional)

— 3MF Beam Lattice Extension (optional)

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