
**Machine tools — Environmental
evaluation of machine tools —**

**Part 5:
Principles for testing woodworking
machine tools with respect to energy
supplied**

*Machines-outils — Évaluation environnementale des machines-
outils —*

*Partie 5: Principes d'essai des machines-outils pour le travail du bois
concernant l'énergie fournie*

ISO 14955-5:2020

<https://standards.iteh.ai/catalog/standards/iso/819ab7cd-f2ff-4130-a7cd-d9c53e4367c2/iso-14955-5-2020>



iTeh Standards
(<https://standards.iteh.ai>)
Document Preview

ISO 14955-5:2020

<https://standards.iteh.ai/catalog/standards/iso/819ab7cd-f2ff-4130-a7cd-d9c53e4367c2/iso-14955-5-2020>



COPYRIGHT PROTECTED DOCUMENT

© ISO 2020

All rights reserved. Unless otherwise specified, or required in the context of its implementation, no part of this publication may be reproduced or utilized otherwise in any form or by any means, electronic or mechanical, including photocopying, or posting on the internet or an intranet, without prior written permission. Permission can be requested from either ISO at the address below or ISO's member body in the country of the requester.

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
Website: www.iso.org

Published in Switzerland

Contents

Page

Foreword	iv
Introduction	v
1 Scope	1
2 Normative references	2
3 Terms and definitions	2
4 Basics for measurement and calculation of energy supplied	4
4.1 General.....	4
4.2 Operating state OFF.....	5
4.3 Operating state ON.....	5
4.4 Operating state STANDBY.....	5
4.5 Operating state WARM UP.....	5
4.6 Operating state PROCESSING.....	6
5 Evaluation of energy supplied to different types of woodworking machine tools	6
5.1 General.....	6
5.2 Test scenarios.....	8
6 Reporting	8
6.1 Machine tool description.....	8
6.2 Measurement setup description.....	9
6.3 Results.....	9
Annex A (informative) List of energy efficiency improvements for woodworking machine tools	10
Bibliography	27

Document Preview

[ISO 14955-5:2020](https://standards.iteh.ai/catalog/standards/iso/819ab7cd-f2ff-4130-a7cd-d9c53e4367c2/iso-14955-5-2020)

<https://standards.iteh.ai/catalog/standards/iso/819ab7cd-f2ff-4130-a7cd-d9c53e4367c2/iso-14955-5-2020>

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).

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).

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.

This document was prepared by Technical Committee ISO/TC 39, *Machine tools*.

This document is intended to be used in conjunction with ISO 14955-1 and ISO 14955-2.

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.

A list of all parts in the ISO 14955 series can be found on the ISO website.

Introduction

As environmental impact is a common challenge for all products and natural resources become scarce, environmental performance criteria for machine tools need to be defined and the use of these criteria need to be specified.

Woodworking machine tools are complex products for industrial use to manufacture workpieces ready for use or semi-finished products. Their environmental impact includes waste raw material, use of auxiliary substances such as lubricants and other material flows as well as conversion of electrical energy into heat, dissipation of heat to the ambient or heat exchange by fluids and eventually the use of other resources such as compressed air.

Based on relevance considerations, the ISO 14955 series is focussed on environmental impacts during the use phase.

The performance of a machine tool as key data for investment is multi-dimensional regarding its economic value, its technical specification and its operating requirements which are influenced by the specific application. The energy supplied to the same machine tool can vary depending on the workpiece being manufactured and the conditions under which the machine tool is operated. Therefore, the environmental evaluation of a machine tool cannot be done without considering these aspects.

iTeh Standards (<https://standards.iteh.ai>) Document Preview

[ISO 14955-5:2020](https://standards.iteh.ai/catalog/standards/iso/819ab7cd-f2ff-4130-a7cd-d9c53e4367c2/iso-14955-5-2020)

<https://standards.iteh.ai/catalog/standards/iso/819ab7cd-f2ff-4130-a7cd-d9c53e4367c2/iso-14955-5-2020>