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

**Part 3:
Principles for testing metal-cutting
machine tools with respect to energy
efficiency**

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

*Partie 3: Principes des essais des machines travaillant par enlèvement
de métal à l'égard de l'efficacité énergétique*

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Foreword

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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).

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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*.

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.

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Introduction

Machine tools are complex products for industrial use to manufacture parts ready for use or semi-finished products. 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. Therefore, the same machine tool can show quite different energy supplied to the machine depending on the part which is manufactured and the conditions under which the machine is operated. Therefore, the environmental evaluation of a machine tool cannot be considered in isolation from these considerations.

ISO 14955-1 defines an analysis and evaluation procedure for machine tools based on functional units with the intention of a unified approach. ISO 14955-1 enables simplified and general evaluation methods in order to define and assess the energetic behaviour and the individual energetic and/or efficiency weaknesses of a machine tool.

ISO 14955-2 defines the required parameters and procedures for machine tool and machine tool component measurement, including required parameters which are relevant for the assessment of the energetic machine tool behaviour.

The reference scenario introduced in this part reflects the actual machine process in the field under best knowledge. The definition of the reference scenario and its measurement helps to indicate application-dependent improvement potential and the application of the methodology as defined in ISO 14955-1 and related improvement measures for given industrially driven applications.

The ISO 14955 series takes care of relevant environmental impacts during the use stage. Aside from the design and engineering of machine tools, the intended utilization of machine tools is addressed by this document.

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