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Machine tools — Environmental evaluation of machine tools —

Part 2: Methods for measuring energy supplied to machine tools and machine tool components

Machines-outils — Évaluation environnementale des machines-outils —

Partie 2: Méthode pour mesurer l'énergie apportée aux machines-outils et aux composants de machines-outils



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Foreword

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

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

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Introduction

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

Machine tools are complex systems used by industry to manufacture “ready for use” products or semi-finished workpieces. Their environmental impact includes wasted 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 possibly the use of other resources such as compressed air. Based on relevance considerations, the ISO 14955 series is focussed on environmental impacts related to the energy supplied to the machine tool during the use stage.

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 part which is being manufactured and the conditions under which the machine tool is operated. Therefore, the environmental evaluation of a machine tool cannot be done regardless of these aspects.

ISO 14955-1 describes a methodology for the environmental evaluation of machine tools and gives reasons for measuring energy supplied to the machine tool.

ISO 14955-3 to ISO 14955-5 describe the application of ISO 14955-1 and ISO 14955-2 to specific groups of machine tools.