International

ISO 17104

Rotary tools for threaded fasteners — Impulse and impulsing tools — Performance test method

Outils rotatifs pour fixations filetées — Outils à impulsion — Méthode d'essai des caractéristiques de fonctionnement

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This document was prepared by Technical Committee ISO/TC 118, *Compressors and pneumatic tools, machines and equipment*, Subcommittee SC 3, *Pneumatic tools and machines*.

This first edition of ISO 17104 cancels and replaces the first edition of ISO/TS 17104:2006, which has been technically revised and upgraded to an International Standard.

The main changes are as follows:

— Title and Scope have been modified to reflect changes in the tool types that have become available since 2006.

— Starting point of the joint rate measurement is taken from 50 % of the target rather than 10 %.

— Several requirements are explained more in detail to increase user understanding and tool test consistency.

— The opportunity for users to test performance at a preferred test torque level is added as an informative annex.

— New annexes have been added to educate users in the background to the requirements.

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.

This document is intended to

— enable the manufacturers of power tools to offer their products under standardized technical specifications, and

— give users of threaded fasteners a method for evaluating and specifying the performance of power assembly tools.

This document is a fundamental test procedure, with no attempt to set acceptance criteria. Any minimum performance requirements are the responsibility of the user to meet the demands of the particular application for which the tool is intended for use.

Unlike the previous Technical Specification, this document is applicable to tightening tools of any power source within its scope. However, the test does require that the tool under test is capable of being set to a specific shut-off point.

Additional statements have been introduced to point out the differences between correlated torque derived from clamp force and inbuilt indication or control systems that now exist in a number of tools.

Annex A explains the basis for the use of clamp force rather than torque for testing the performance of fastener assembly tools that apply torque in a discontinuous method.

Annex B explains the principle of electric impulsing tools which operate in a different way to hydraulic impulse tools.

Annex C includes preferred torque values that may be used for testing.

Annex D gives an example format for the test report.

Annex E provides background to the testing performed during the creation of this document.

This document includes some changes to the specifications for the test joints and for the test method. These changes reflect the practical experience gained through the use of the previous version of the document and are intended to improve the reproducibility of the test method.

Testing of the tools within the scope of this document present a number of challenges. New equipment and methods are being developed and the subcommittee members responsible for its publication believe that this document is a step closer to understanding the true performance of impulse and impulsing tools. Further development will continue, and the experiences of users are welcomed by the subcommittee.

Results obtained using this document may differ from results obtained using the previous technical specification.

Some of the changes in this document have been guided by the work of the VDI/VDE Committee Gesellschaft Mess- und Automatisierungstechnik and are used with their permission.