
**Road vehicles — Engine EGR cooler —
Heat dissipation test methods**

*Véhicules routiers — Refroidisseur de la vanne EGR — Méthodes
d'essais de dissipation de chaleur*



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Foreword

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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.

Introduction

Internal combustion engines used in regulated environments are fitted with cooled exhaust gas recirculation (EGR) to reduce NO_x and improve fuel consumption. The EGR cooler receives gas from the exhaust system and gas is cooled by cooling liquid. This document provides manufacturers with a standardized method of measuring heat dissipation performance of the EGR cooler.

Road vehicles — Engine EGR cooler — Heat dissipation test methods

1 Scope

This document defines the methodology for the measurement of heat dissipation and pressure loss of liquid cooled engine EGR coolers in internal combustion engines for road vehicles. The principles of this document are valid for clean and fouled EGR coolers.

2 Normative references

There are no normative references in this document.

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- ISO Online browsing platform: available at <https://www.iso.org/obp>
- IEC Electropedia: available at <http://www.electropedia.org/>

3.1 EGR

technology that recirculates a portion of an engine's exhaust gas back into the intake to control the concentration of oxygen taken into the engine

3.2 EGR gas

gas that has been extracted from the exhaust gas and is passed through the *EGR cooler* (3.5) *core* (3.14)

3.3 test gas

pressurized air or exhaust gas made by burners used in place of real *EGR gas* (3.2) during the heat dissipation performance test and when measuring *EGR gas pressure loss* (3.10)

3.4 cooling liquid

water or coolant mixture during the heat dissipation performance test and when measuring *cooling liquid pressure loss* (3.11)

3.5 EGR cooler

liquid cooled heat exchanger for cooling the *EGR gas* (3.2)

3.6 EGR gas heat dissipation amount

amount of heat lost by the *test gas* (3.3) during the heat dissipation performance test

Note 1 to entry: The EGR gas heat dissipation amount is expressed in kilowatts (kW).