

NEW WORK ITEM

**Reference Fuel Specification: Deleting Wobbe Index Reference
INFORMAL GROUP ON GASEOUS FUEL VEHICLES
Within the UN GRPE (WP29)**

**Reference Fuel Specification: Deleting Wobbe Index Reference
CLEPA**

Name of Organisation submitting Amendment/Work Item
CLEPA

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Regulation name and reference number
Addendum to the 1958 Agreement (Reg. 83).

Annex 10a 1. SPECIFICATIONS OF GASEOUS REFERENCE FUELS

Annex 12 GRANTING OF AN ECE TYPE APPROVAL FOR A VEHICLE
FUELLED BY LPG OR NATURAL GAS (NG)

Any other related UN ECE regulation in which is referred to CNG fuel
measurement and display units.

Name of Amendment/Work Item
Update reference fuel specification to harmonize with market fuel standardization.
Delete Wobbe Index from specification for CNG reference fuels.

Specific language for Amendment/Work Item
Annex 10a
1.2. TECHNICAL DATA OF THE NG REFERENCE FUELS
Delete in table the lines

“Wobbe Index (net) MJ/m³ 3/ 48.2 47.2 49.2”

“Wobbe Index (net) MJ/m³ 3/ 39.4 38.2 40.6”

Annex 12

3.1. Exhaust emissions approval of a parent vehicle

The parent vehicle should demonstrate its capability to adapt to any fuel composition that may occur across the market. In the case of LPG there are variations in C3/C4 composition. In the case of natural gas there are generally two

types of fuel, high calorific fuel (H-gas) and low calorific fuel (L-gas), but with a significant spread within both ranges; ~~they differ significantly in Wobbe index.~~

~~These~~ This variations ~~are is~~ reflected in the reference fuels.

4.1. Tests for conformity of production may be performed with a commercial fuel of

which the C3/C4 ratio lies between those of the reference fuels in the case of LPG,

~~or of which the Wobbe index lies between those of the extreme reference fuels in the case of NG. In that case a fuel analysis needs to be present.~~

Rationale: (Why is it important/required?)

The Wobbe Index is no significant fuel characteristic for engine operation. Methane content is the most important characteristic for e.g. controlling the engine, power output, consumption, drivability. The Wobbe Index is used by the gas suppliers to fulfill the requirement to indicate the energy content of the market fuel in the public distribution system. Possibly use heating value as new specification parameter

The Wobbe Index has also been deleted from the (German) draft DIN 51624 (February 2007) for CNG fuel.

Analysis/testing or data requirements to support the Amendment/Work item

(could be anticipated or existing supporting documentation)