

PROPOSAL FOR DRAFT AMENDMENTS TO REGULATION No. 110

Note: The text reproduced below was prepared by the expert from ISO/TC22/SC25 in order to amend the text of the Regulation with regard to the harmonization of fuelling connectors. A new connector type described in the Standard ISO 14469-2 will be introduced, with a larger cross section than the connector in accordance with ISO 14469-1 and, therefore, permits refueling of the vehicles within significantly shorter time periods. The text is amended in a way that dimensions of the filling unit will be mandatory for new type approvals heavy duty vehicles. The possibility to use of smaller size connector (ISO 14469-1) will still be permitted for heavy duty vehicles. The use of the ISO standard is optional.

A. PROPOSAL

Insert a new paragraph 17.9.4., to read:

"17.9.4. For vehicles of classes M₂, M₃, N₂ and N₃ the filling unit (receptacle) shall comply with the drawing specifications detailed in Figure 2 of Annex 4F or with the drawing specifications detailed in Figure 1 of Annex 4F. 1/

Annex 4F

Para 2.1., amend to read:

2.1. The filling unit shall comply with the requirements laid down in paragraph 3. and shall have the dimensions of paragraph 4., ~~if applicable.~~

Para 2.2., amend to read (including the insertion of a new footnote 3/):

2.2. Filling units designed in accordance with ISO 14469-1 first edition 2004-11-01 1/ or **ISO 14469-2:2007 3/** and meeting all the requirements therein are deemed to fulfill the requirements of paragraphs 3. and 4. of this annex.

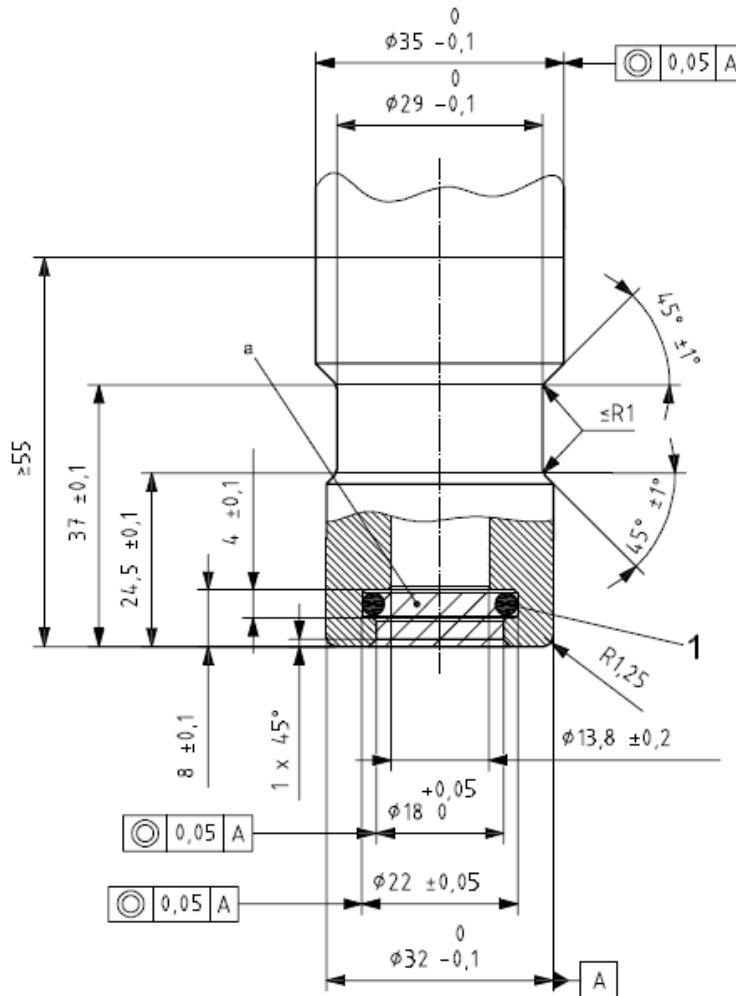
3/ Road vehicles — Compressed natural gas (CNG) refueling connector — Part 2: 20 MPa (200 bar) connector, size 2

Insert a new paragraph 4.2., to read:

4.2. Figure 2 shows the dimensions of the filling unit for vehicles of categories M2, M3, N2 and N3. 2/


Fig. 2: 20 MPa Filling unit Size 2 (receptacle) for M₂, M₃, N₂ and N₃ vehicles

Dimensions in millimetres



Key

1 sealing ID = $\varnothing 15,47 \pm 0,1$ width = $\varnothing 3,53 \pm 0,2$

^a This area shall be kept free of all components 

Surface roughness < Ra 3,2 μm .

Sealing surface finish: 0,8 μm to 0,05 μm .

Material hardness: 75 Rockwell B (HRB 75) minimum.

B. JUSTIFICATION

Today a number of different types of filling units (fuelling connectors) are exported all around the world. Customers who travel with their natural gas vehicles in different countries as well as CNG component suppliers require the harmonization of the fuelling connectors. For drivers, it allows easy fuelling regardless of location and eliminates the need for adaptors to fit different fuelling connectors. For equipment suppliers, it means that only one fuelling connector design can apply to all markets, thus reducing the cost of manufacturing and the cost to the customer.

This amendment proposal is intended to complete the harmonization procedure started with R.110 amendment ECE/TRANS/WP.29/GRPE/2007/6, which was approved in Fifty-third GRPE January 2007, regarding the filling unit for light duty vehicles (N1 and M1), that adopted ISO 14469-1 as the standard fuelling connector for 20 MPa service pressure CNG systems.

Recently, ISO 14469-2 has been approved, regarding a 20 MPa connector – Size 2, specific for heavy-duty vehicles (M₂, M₃, N₂ and M₃). Such connector offers a larger cross section than the connector in accordance with ISO 14469-1 and, therefore, permits refueling of the vehicles within significantly shorter time periods.

This amendment proposes to adopt the ISO 14469-2 as the standard fuelling connector for heavy-duty CNG vehicles, providing an opportunity to adopt a worldwide recognized and approved fuelling connector for heavy duty vehicles.
