

**ISC (In-Service Conformity) and IUPR (In-Use Performance Ratio) Period:**  
 After the granting of type-approval for a family the manufacturer shall perform ISC and IUPR testing on this family within 18 months from the date of first registration of a vehicle fitted with an engine from that family or from 1st April 2023 whichever is later. In case of multistage type-approval first registration means first registration of a completed vehicle. The testing shall be repeated at least every two years for each family periodically on vehicles over their useful life.

### ISC

The conformity of in-service vehicles or engines of a family shall be demonstrated by testing vehicles on the road operated over their normal driving patterns, conditions and payloads. The in-service conformity test shall be representative for vehicles operated on their real driving routes, with their normal load and with the usual professional driver of the vehicle.

<b>Pollutant</b>	<b>CF<sub>pollutant</sub></b>
NO <sub>x</sub>	1 + margin <sup>(3)</sup> NO <sub>x</sub> With margin NO <sub>x</sub> = 0.43
PN <sup>(1)</sup>	1 + margin <sup>(3)</sup> PN With margin PN = 0.5
CO <sup>(2)</sup>	-

<b>Parameter</b>	<b>Maximum Allowed Conformity Factor (CF)</b>
CO	1.5
THC <sup>(1)</sup>	1.5
NMHC <sup>(2)</sup>	1.5
CH <sub>4</sub> <sup>(2)</sup>	1.5
NO <sub>x</sub>	1.5

### IUPR

The in-use performance ratio (IUPR) of a specific monitor (m) or group of monitors (g) of the OBD system shall be calculated by the following formula:  
 IUPR = Numerator / Denominator

where

'Numerator' means the numerator of a specific monitor (m) or group of monitors (g) and is a counter indicating the number of times a vehicle has been operated in such a way that all monitoring conditions necessary for that specific monitor (m) or group of monitors (g) to detect a malfunction have been encountered;

and

'Denominator' means the denominator of a specific monitor (m) or group of monitors (g) and is a counter indicating the number of vehicles driving cycles that are of relevance to that specific monitor (m) or group of monitors (g) [or, "in which events occur that are of relevance to that specific monitor."].

The in-use performance ratio (IUPR<sub>g</sub>) of a group g of monitors on board of a vehicle is equivalent to the lowest IUPR value of specific monitors in that group.

The procedure and requirements prescribed in AIS 137 Part 4 is followed for vehicles with GVW exceeding 3500 kg