

ANNEX V

(A) Environmental tests and requirements

L-category vehicles may be type-approved only if they comply with the following environmental requirements:

Test type	Description	Requirements: limit values	Subclassification criteria in addition to Article 2 and Annex I	Requirements: test procedures
I	Tailpipe emissions after cold start	Annex VI (A)	UNECE global technical regulation No 2, Chapter 6.3. L-category vehicles equipped with a combustion engine having a displacement < 50 cm ³ and travelling with v _{max} < 50 km/h shall be attributed to class I vehicles.	
II	— PI or Hybrid (5) equipped with PI: emissions at idling and increased idling speed — CI or Hybrid with CI engine: free acceleration test	Directive 2009/40/EC (6)		
III	Emissions of crankcase gases	Zero emission, closed crankcase. Crankcase		

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		emissions shall not be discharged directly into the ambient atmosphere from any vehicle throughout its useful life.		
IV	Evaporative emissions	Annex VI (C)		
V	Durability of pollution control devices	Annexes VI and VII		
VI	A test-type VI has not been attributed	Not applicable		Not applicable
VII	CO ₂ emissions, fuel and/or electric energy consumption and electric range	Measurement and reporting, no limit value for type-approval purposes	UNECE global technical regulation No 2, Chapter 6.3. L-category vehicles equipped with a combustion engine having a displacement < 50 cm ³ and travelling with v _{max} < 50 km/h shall be attributed to class I vehicles.	
VIII	OBD environmental tests	Annex VI (B)	UNECE global technical regulation No 2, Chapter 6.3. L-category vehicles equipped with a combustion engine having a displacement < 50 cm ³ and travelling with v _{max} < 50 km/h shall be attributed to class I vehicles.	

IX	Sound level	Annex VI (D)	When UNECE regulations Nos 9, 41, 63 or 92 replace the EU proprietary requirements set out in the delegated act on environmental and propulsion performance requirements, the (sub-)classification criteria laid down in those UNECE regulations (Annex 6) shall be selected with reference to test type IX sound level tests.
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(B) Application of environmental performance test requirements for approval and extensions

	Vehicle with PI engines including hybrids									Vehicles with CI engines including hybrids	Pure electric vehicle	Hydrogen Fuel cell vehicle	
	Mono-fuel ⁽²⁰⁾				Bi-fuel			Flex-fuel		Flex-fuel	Mono-fuel	no-propelled with compressed air (CA)	
	Petrol (E5)	LPG ⁽²¹⁾	NG/ Biomethane	H ₂	Petrol (E5)	Petrol (E5)	Petrol (E5)	Petrol (E5)	NG/ Biomethane (E85)	Diesel (B5)	Diesel (B5)		
Type I test ⁽¹⁹⁾	Yes	Yes	Yes	Yes	Yes (both fuels)	Yes (both fuels)	Yes (both fuels)	Yes (both fuels)	Yes (both fuels)	Yes (B5 only)	Yes	No	No
Type I test ⁽¹⁹⁾ mass (Euro 5 only) ⁽⁶⁾	Yes	No	No	No	Yes (petrol only)	Yes (petrol only)	Yes (petrol only)	Yes (petrol only)	No	Yes (B5 only)	Yes	No/ Yes for CA	No
Type II test ⁽¹⁹⁾ ,	Yes	Yes	Yes	Yes	Yes (both fuels)	Yes (both fuels)	Yes (petrol only)	Yes (both fuels)	Yes	Yes (B5 only)	Yes	No	No

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including smoke opacity for CI only									(NG/ biomethane only)				
Type III test ⁽¹⁹⁾	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	No
Type IV test ⁽¹⁹⁾	Yes	No	No	No	Yes (petrol only)	Yes (petrol only)	Yes (petrol only)	Yes (petrol only)	No	No	No	No	No
Type V test ⁽¹⁹⁾	Yes	Yes	Yes	Yes	Yes (petrol only)	Yes (petrol only)	Yes (petrol only)	Yes (petrol only)	Yes (NG/ biomethane only)	Yes (B5 methane)	Yes	No	No
Type VII test ⁽¹⁹⁾	Yes	Yes	Yes	Yes	Yes (both fuels)	Yes (both fuels)	Yes (both fuels)	Yes (both fuels)	Yes (both fuels)	Yes (both fuels)	Yes	Yes (only energy consumption)	Yes (only fuel consumption)
Type VIII test ⁽¹⁹⁾	Yes	Yes	Yes	Yes	Yes (petrol only)	Yes (petrol only)	Yes (petrol only)	Yes (petrol only)	Yes (NG/ biomethane only)	Yes (B5 methane)	Yes	No	No
Type IX test ⁽¹⁹⁾	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No Yes for CA	No

NB: refer to the end of Annex VIII for an overview of the notes to the annexes.