THE NETHERLANDS
(N E D E R L A N D)

ANNUAL IN-SERVICE CONFORMITY REPORT

According to Commission Regulation (EU) 2018/1832, Annex 2, Appendix 4

Report number: RDW-ISC-2020-02

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Type-approval Department

A. Quick overview and main conclusions

The selection of the ISC families was in line with section 5 of this report.

Figure 1 presents the selected and tested ISC family.

OEM	WVTA	Type approval number	Make	Commercial name	ISC family
Volvo Car Corporation	e9*2007/46*3146*06/e9*2007/46*3146*07	e4*715/2007*2018/1832DG*0906*01	VOLVO	XC40	4-YV1-007-y

Figure 1. Selected and tested ISC families.

Main conclusions

The three vehicles produced by Volvo Car Company submitted to In-Service Conformity tests (Type 1 and Type 1a) comply with the requirements. The elaborated test results can be found in section D, point 6.

RDW is committed to continue testing the ISC test scopes. In compliance with the section 8 of European regulation 2018/1832, Annex 2, the ISC test results will be submitted via the electronic platform as soon as possible.

B. ISC activities performed by the manufacturer in the previous year

(1) Information gathering by manufacturer

N/A responsibility for manufacturer

(2) ISC testing (including planning and selection of families tested, and final results of tests)

N/A

C. ISC activities performed by accredited laboratories or technical services in the previous year

(3) Information gathering and risk assessment

N/A responsibility for accredited laboratories or technical services

(4) ISC testing (including planning and selection of families tested, and final results of tests)

N/A

D. ISC activities performed by the granting type approval authority in the previous year

(5) Information gathering and risk assessment

The leading principles we apply to gather information and carry out a comprehensive risk assessment are:
- Gathering relevant information on possible emission non-compliances relevant for deciding which ISC families to check in a particular year.
- Conducting initial risk assessment based on gathered information to choose the ISC to be tested.

The steps we undertook to gather the relevant information and select the ISC families for testing.

1. Identifying relevant parameters to start collecting the information;
2. Gathering the information from e4 type approvals;
3. Collecting relevant data from e4 certificate holders (sales, ISC families, motor type, available ISC and CoP (WLTP) test results from OEM, eligible vehicles' availability);
4. Creating a database to collect and organize the relevant vehicle data.
5. Selecting the ISC families for testing.

(6) ISC testing (including planning and selection of families tested, and final results of tests)

Based on gathered information as explained in section 5 we have selected ISC families and produced a ISC test plan.

Our annual test scope and test plan was based on the 3 subjects:

1. Minimum amount of vehicles to be tested.
2. Minimum amount of ISC tests to be carried out.
3. Selected ISC families for testing.

The overview of ISC families tested is presented in figure 2.

OEM		ISC family	Vehicle	Tests	Test status
1	Volvo Car Corporation	4-YV1-007-y	V1	type1	done
				type 1a	done
			V2	type 1	done
				type 1a	done
			V3	type 1	done
				type 1a	done

Figure 2. Overview of ISC families tested (part of test scope 2019).

The test results are presented in Figure 3 and Figure 4.

TYPE 1 (WLTC)	**Polluants** *Pollutants*	CO	THC	NMHC	NO_x	THC+NOx	Masse de particules *Particulate Matter*	Nombre de particules *Particle Number*
		(mg/km)	(mg/km)	(mg/km)	(mg/km)	(mg/km)	(mg/km)	(#.10^{11}/km)
	Valeurs limites *Limit values*	**500**	**-**	**-**	**80**	**170**	**4,5**	**6,0**
Véhicule *Vehicle* N°1	**Valeurs finales** *Final values*	**44,7**	**31,9**	**-**	**57,7**	**89,6**	**0,43**	**0,06**
	Résultat final *Final result*	**Accepté** - *Pass*						
Véhicule *Vehicle* N°2	**Valeurs finales** *Final values*	**54,4**	**34,7**	**-**	**43,9**	**78,6**	**0,45**	**0,04**
	Résultat final *Final result*	**Accepté** - *Pass*						
Véhicule *Vehicle* N°3	**Valeurs finales** *Final values*	**26,0**	**21,1**	**-**	**32,0**	**53,0**	**0,48**	**0,03**
	Résultat final *Final result*	**Accepté** - *Pass*						

RDE		Véhicule N°1 *Vehicle*			Véhicule N°2 *Vehicle*			Véhicule N°3 *Vehicle*		
Emissions de polluants *Pollutants emissions*		NOx [mg/km]	CO [mg/km]	PN [#.10^{11}/km]	NOx [mg/km]	CO [mg/km]	PN [#.10^{11}/km]	NOx [mg/km]	CO [mg/km]	PN [#.10^{11}/km]
Parcours urbain *Urban trip*	**Facteurs de conformité** *Conformity factors*	**1,05**	**s.o. / *n.a.***	**0,01**	**0,67**	**s.o. / *n.a.***	**0,02**	**0,55**	**s.o. / *n.a.***	**0,01**
Parcours total *Total trip*	**Facteurs de conformité** *Conformity factors*	**0,65**	**s.o. / *n.a.***	**0,01**	**0,38**	**s.o. / *n.a.***	**0,04**	**0,32**	**s.o. / *n.a.***	**0,01**
Valeurs limites *Limit values*	Facteurs de conformité *Conformity factors*	2,1	s.o. / *n.a.*	1+ 0,50	2,1	s.o. / *n.a.*	1+ 0,50	2,1	s.o. / *n.a.*	1+ 0,50
Résultat final *Final result*		**Accepté** - *Pass*			**Accepté** - *Pass*			**Accepté** - *Pass*		

Figure 3.Test results Volvo Car Company, ISC family 4-YV1-007-y.

(7) Detailed investigations

Based on the obtained test results, the 3 tested Volvo Car Company vehicles from ISC family 4-YV1-007-y did not require any further detailed investigations.

(8) Remedial measures

Based on the obtained test results the tested vehicles of Volvo Car Company from ISC family 4-YV1-007-y did pass the ISC rules and did not require any further remedial measures.
As per the established ISC rules RDW closed the statistical folder for this ISC family.

E. Assessment of the yearly expected emissions decrease due to any ISC remedial measures

N/A assessment will not be performed due to the answers provided in chapter 8 "Remedial measures"

F. Lessons Learned (including for performance of instruments used)

When collecting the relevant vehicle documents for testing purposes, we learned about the necessity of having information such as vehicle CoC and transparency lists, independently from the manufacturer prior to testing. In practice we had to reach out to the manufactures to obtain these data.

Finding the right vehicle was also a challenge for us and especially with the CODIV situation.

G. Report of other invalid tests

N/A There are no reports with invalid test results

Place : Zoetermeer

Date : 31-03-2021