



Dr. A. Wehrmeier, 11.06.2015

ISO 12219 INTERIOR AIR OF ROAD VEHICLES AN OVERVIEW



ISO 12219 „INTERIOR AIR OF ROAD VEHICLES” STRUCTURE OF ISO.



ISO/TC 146 - Air quality

Items to be displayed:

- Published standards Standards
 Projects deleted (last 12 months)



Subcommittees

◆ Subcommittee	◆ Subcommittee Title
ISO/TC 146/SC 1	Stationary source emissions
ISO/TC 146/SC 2	Workplace atmospheres
ISO/TC 146/SC 3	Ambient atmospheres
ISO/TC 146/SC 4	General aspects
ISO/TC 146/SC 5	Meteorology
ISO/TC 146/SC 6	Indoor air




- ISO/TC 146/SC 06 "Indoor air" ▾
- ISO/TC 146/SC 06/WG 04 "Asbestos - Mineral fibres" ▾
- ISO/TC 146/SC 06/WG 06 "Ventilation rate measurement" ▾
- ISO/TC 146/SC 06/WG 10 "Fungi" ▾
- ISO/TC 146/SC 06/WG 11 "Performance tests for sorption" ▾
- ISO/TC 146/SC 06/WG 13 "Joint between ISO/TC 146/SC 6 and ISO/TC 22 WG, Determination of volatile organic compounds in car interiors"** ▾
- ISO/TC 146/SC 06/WG 16 "Test methods for VOC detectors" ▾
- ISO/TC 146/SC 06/WG 17 "Sensory testing of indoor air" ▾
- ISO/TC 146/SC 06/WG 18 "Flame retardants" ▾
- ISO/TC 146/SC 06/WG 19 "Investigation of constructions" ▾
- ISO/TC 146/SC 06/WG 20 "Determination of phthalates" ▾
- ISO/TC 146/SC 06/WG 21 "Strategies for the measurement of airborne particles" ▾
- ISO/TC 146/SC 06/WG 22 "Brominated flame retardants" ▾

ISO 12219 „INTERIOR AIR OF ROAD VEHICLES” STRUCTURE OF WG 13.



Enterprise > ISO > ISO/TC 146 "Air quality" > ISO/TC 146/SC 06 "Indoor ... >

 ISO/TC 146/SC 06/WG 13 "Joint between ISO/TC 146/SC 6 and ISO/TC 22 WG, Determination of volatile organic compounds in car interiors"

- Start in 2007 with test procedure for the determination of VOC in cabin interiors
- Activ members in WG 13:
 - Australia
 - Belgium
 - France
 - Germany
 - Great Britain
 - Japan
 - Russia
 - South Korea
 - USA
- 5 standards published, 3 standards in preparation

ISO 12219 „INTERIOR AIR OF ROAD VEHICLES” STANDARDS AND PROJECTS.



Standards and projects under the direct responsibility of ISO/TC 146/SC 6 Secretariat and its SCs

↕ Standard and/or project	↕ Stage	↕ ICS	↕ TC
✓ ISO 12219-1:2012 Interior air of road vehicles -- Part 1: Whole vehicle test chamber -- Specification and method for the determination of volatile organic compounds in cabin interiors	60.60	43.020 13.040.20	ISO/TC 146/SC 6
✓ ISO 12219-2:2012 Interior air of road vehicles -- Part 2: Screening method for the determination of the emissions of volatile organic compounds from vehicle interior parts and materials -- Bag method	60.60	13.040.20 43.020	ISO/TC 146/SC 6
✓ ISO 12219-3:2012 Interior air of road vehicles -- Part 3: Screening method for the determination of the emissions of volatile organic compounds from vehicle interior parts and materials -- Micro-scale chamber method	60.60	13.040.20 43.020	ISO/TC 146/SC 6
✓ ISO 12219-4:2013 Interior air of road vehicles -- Part 4: Method for the determination of the emissions of volatile organic compounds from vehicle interior parts and materials -- Small chamber method	60.60	13.040.20 43.020	ISO/TC 146/SC 6

ISO 12219 „INTERIOR AIR OF ROAD VEHICLES” VDA VERSUS ISO.

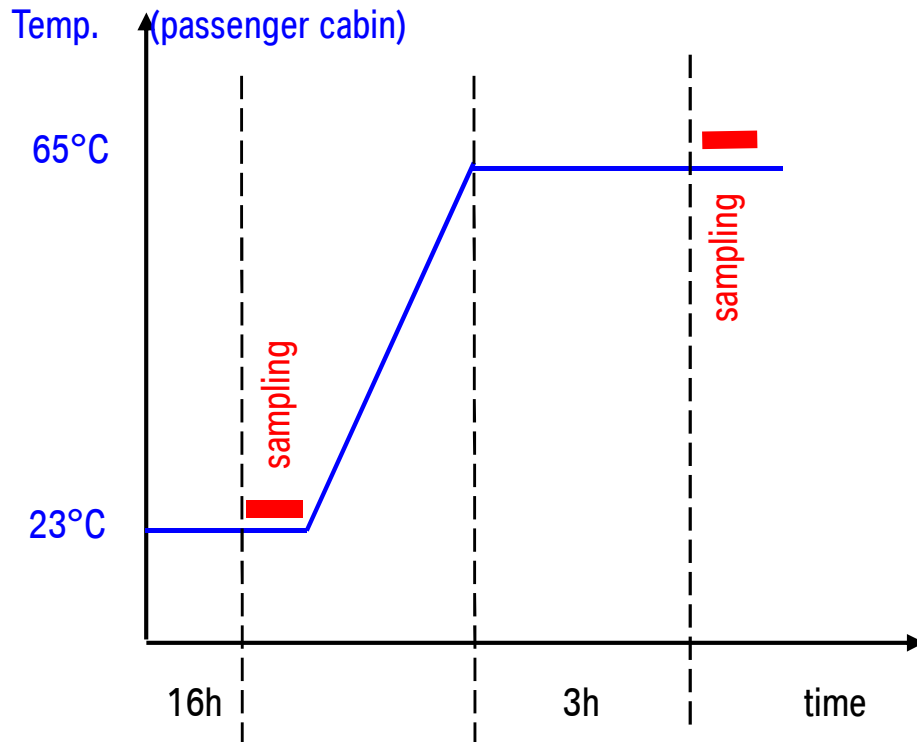


worst case scenario

realistic in use scenario

VDA

(Indoor air emission standard)

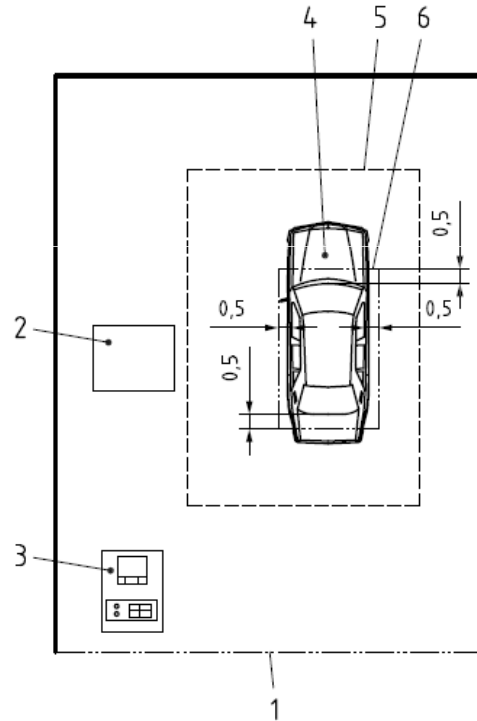


ISO 12219-1

	Ambient mode:	Parking mode:	Driving mode:
Temperature in vehicle cabin Not controlled	1 h door open – minimum 8 h – door closed	– door closed – radiators on 400 W/m ² ± 50 W/m ²	– radiators on – door open max. 60 s – fan highest level or air-conditioning regulator on
23 °C		4 h	
	VOC/ carbonyl compounds	H ₂ CO	VOC/ carbonyl compounds
Sampling in vehicle cabin	30 min	30 min	30 min
Back- ground sampling	30 min	30 min	30 min

ISO 12219 „INTERIOR AIR OF ROAD VEHICLES”

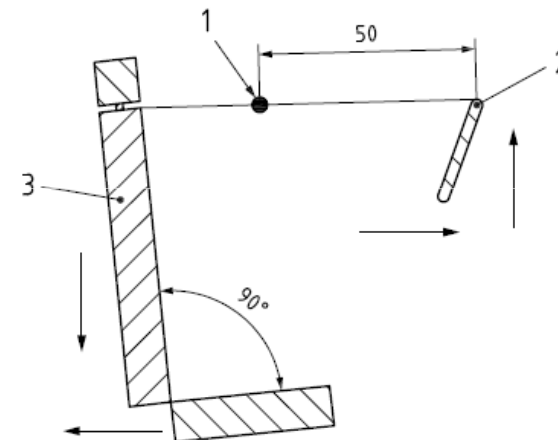
ISO 12219-1 TEST ARRANGEMENT.



Key

- | | |
|---------------------------------------|-----------------|
| 1 door test chamber | 4 test vehicle |
| 2 sampling device | 5 test area |
| 3 controlling and data-logging device | 6 radiator area |

Figure 1 — Schematic arrangement of whole vehicle test chamber components and the test vehicle



Key

- | |
|-----------------------|
| 1 sampling point |
| 2 steering wheel |
| 3 seat with head-rest |

Figure 2 — Schematic arrangement of the sampling position in the test vehicle

ISO 12219 „INTERIOR AIR OF ROAD VEHICLES” ISO 12219-1 SPECIFICS.



Specifics		ISO 12219-1 : 2012
Category of vehicles		passenger cars, specified under ISO 3833:1977, new 28d +/- 5, <50 km
Test modes		Ambient, Parking , Driving mode
Test Measurement procedures		
	Humidity	50 % RH ± 10 % RH
	Temperature preconditioning / ambient mode	23°C +/- 2
	Time preconditioning	8h
	Heating in Parking mode	400 W/m ² ± 50 W/m ² , temperature depends on vehicle insulation
	Time heating	4h
	Temperature in Driving mode	23°C +/- 2, AC on in fresh air or automatic mode
Sampling		
	Ambient mode	Aldehydes: ISO 16000-3 VOC: ISO 16000-6
	Parking mode	HCHO: ISO 16000-3
	Driving mode	Aldehydes: ISO 16000-3 VOC: ISO 16000-6
	Substances measured	All Aldehydes and VOC that can be detected by ISO 16000-3 and -6