



INTERIOR ODOR TEST

Application

This test method is used to determine the odor originating from interior trim materials/components/assemblies in the passenger or luggage compartment or from parts or ducting that convey air into the passenger compartment as dictated by the Material and/or Performance Specifications. Customer Clinics have indicated that the customer expects a new vehicle to have a neutral or 'new car' smell. This test is designed to establish whether parts and materials used in a vehicle have an inappropriate or disturbing odor.

Apparatus and Materials Required

Mechanical Convection Ovens

Capable of maintaining the specified test temperatures.

3-Litre Odorless Preserving Jar with Lid

The jar and any seals it may employ must be odorless. A suitable odorless material for the jar seals is polyethylene closed cell foam, 3 mm thick of 45 kg/m³ density.

Suitable suppliers for jars of this type are:

Amazon.com

www.amazon.com

Le Parfait French Glass Canning Jar with
100 mm Gasket and Lid-3 Liter

Approximate dimensions: 295 mm x 193 mm
x 185 mm

French Flint and Ormco Ltd.

www.frenchflint.com

Product Name/Code: Kiln3000

Approximate dimensions: 283 mm x 138 mm
diameter

Suitable supplier of material for making jar seals is:

RS Components Ltd

<http://uk.rs-online.com/web/>

Stock Number: 733 6696

UFP Technologies

www.ufpt.com/

Stock Number: LD45 Plastazote

Stainless Steel Wire Ring/Support Frame

The above material is available from any reputable laboratory equipment supply house.

Distilled or Deionized Water

20 micro ohms/cm at 25 °C maximum conductivity (ASTM D1125).

Sample Preparation

The area or weight and number of samples is determined using Table 1 below. The choice of variants A, B, C or D is based upon the area or weight content of each material used in the vehicle interior.

Date	Action	Revisions	Rev. 9
2017 05 31	Revised	See Summary of Revisions	D. Stark, NA
2016 08 22	Revised	Added jar dimensions for each source	D. Stark, NA
2007 06 07	Activated		J. Williams FQE



TABLE 1

Variant	Application	Specimen Weight/Size*
A	Clips, plugs, covers, foils and other small parts	Sum of total, similar parts. Equal to or greater than 100 g or 100 cm ²
B	Armrests, ashtrays, door handles, shift lever gaiters, sun visors, steering wheels, door/window seals and other medium size parts	1 each of 90 x 200 mm. If the component is less than 90 x 200 mm, test the actual part, i.e. door handles. For steering wheels, door/window seals or similar parts cut the component into a 200 mm length size
C	Seat Trim/roof covers, sound-deadeners, foils, foam materials, carpets, ducting and other large surface materials	3 each of 90 x 200 mm (in same jar)
D**	Sealers, adhesives, liquid applied sound deadeners and antilflutter mastics	<ul style="list-style-type: none">Panel dimensions: 200 x 100 x 0.8 mmSubstrate:<ul style="list-style-type: none">-Paint shop applied materials-HDG with EC-Body shop applied materials-HDG substrate (cleaned and degreased)Materials dimensions:<ul style="list-style-type: none">-Paint shop sealer-150 x 85 x 1 mm bead**-Body Shop sealer -100 x 6 mm bead**Curing conditions: FLTM BV 150-05 at minimum, nominal and maximumAge sample for 14-28 days after manufacture at room temperature prior to bagging to allow for curing

* Do not test components less than 100 g or 100 cm². Surface area is determined as sum of areas exposed to car interior cabin.

**Unless otherwise noted in the material specification.

Note: For material testing, select variant per intended part application. For materials used in several applications, test to the largest application variant.

If the material thickness of a homogeneous material is more than 20 mm, then the sample is to be prepared for a 20 mm thickness. Sandwich materials must be tested in their compound state.



Conditioning of Materials, Air Exposure and Test Conditions

All test values indicated herein are based on material conditioned in a controlled atmosphere of 23 ± 2 °C and $50 \pm 5\%$ relative humidity, for not less than 24 hours prior to testing, and tested under the same conditions unless otherwise specified.

Parts should be exposed to the air for a period of time after manufacture and before testing. This helps ensure samples and parts are representative of behavior in vehicles. This period of time of air exposure is as follows:

Part is manufactured in China for vehicles sold in China	7-14 days air exposure
Part is manufactured anywhere else	14-28 days air exposure

The following points should be observed during the time of exposure to air:

- Temperature should not exceed 25 °C
- Normal atmospheric pressures and humidities should be maintained
- Parts/Samples should not be exposed to air in contaminated locations or locations with poor air quality
- Maximize the exposed area of the parts during air exposure (i.e. plaques should not be stacked but stored such that face and back sides are not in direct contact with other plaques)

All parts or samples should be wrapped/bagged for shipping and/or to limit the air exposure time as per the durations listed above. For wrapping/bagging one of the following should be used:

- heat sealed polyethylene (PE) bags
- clean plastic wrap foil (PE or PP)
- PE coated aluminum bags or aluminum foil

Beginning and end date of air exposure should be declared with the information supplied with the part. This is important for the test laboratory to know if air exposure has already occurred.

Parts for testing must be labeled with the following information:

- Supplier Name
- Contact information
- Date of manufacture
- Beginning and end date of air exposure
- Curing condition if applicable
- Program code if applicable
- Part number if applicable
- Part name if applicable
- Plant and location
- Shipping date

Procedure

1. Clean the jars, lids (using laboratory washing machines) and seals (hand or machine wash) before each use. They must be clean and odorless.
2. A blank test jar may be employed, as a control, to ensure that the jars are odorless and the water quality does not create an odor.
3. The jars containing the specimen(s) (or blank) should be conditioned and assessed per Table 2 below.