

Minutes of TFTEI (workgroup) meeting

21/01/2016

Participants

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Issues discussed:

- data confidentiality,
- study methodology,
- output data format,
- data which could be made available by the car industry.

As a starting point, context was reminded by CITEPA to the participants.

Next meeting: Friday 19th February 2016

Context

- Determination of costs of VOC emission reduction measures is one of the tasks assigned to TFTEI in 2015-2016. France indeed proposed to exchange information on cost data of VOC abatement technologies through TFTEI in 2015/2016, on the basis of the work carried out in 2003-2006 by EGTEI and used in the current STS BREF, in order to deliver this information to Sevilla for the revision of BREF.
- TFTEI work is financially supported by ADEME.
- TFTEI focuses in a first step on two activities: flexible packaging printing and car manufacturing
- CITEPA manages the work on car manufacturing and KIT (Germany) the work on packaging printing.

Data confidentiality

CITEPA commits to not reveal confidential information it will have access to. An agreement could be established for that. Plant or manufacturer specific data will remain for internal use only and if necessary will be « anonymized » into any working papers of the CITEPA.

Data will be aggregated by reference installation (1 to 4) and submitted according to a range (minimum and maximum) to take into account data scattering (see table below - meeting of 15th October 2015).

Reference plant	E-coat (EC)	Sealing, damping (SD)	Primer (PR)	Basecoat (BC)	Clearcoat (CC)	Solution to reduce VOC emissions
1 (existing)	EC	SD	SB	SB	SB	Post integrated measure (PIM) Secondary measures (SM)
2 (existing)	EC	SD	SB	WB	SB	Post integrated measure (PIM) Secondary measures (SM)
			WB	SB	SB	This plant can also be transformed to use WB/WB and SB paint systems (ref 3)
3 (existing)	EC	SD	WB	WB	SB	Post integrated measure (PIM) Secondary measures (SM)
4 (new)	EC	SD	WB 1/2		SB	i.e new plant

Common parameters for the 4 reference installations

Annual production: 250 000 car bodies (passenger cars only) (according to Renault 250 000 car bodies per year assumption is oversized and unadapted to a standard plant organisation (3x8 shiftwork under full loaded. Renault suggests lowering annual production to consider 200 000 car bodies per year, corresponding to 2x8 shiftworks loaded for a more representative hourly production of 60 cars bodies). 250 000 is not changed as validated in october 2015.

- ⇒ Electrophoretic area: 97 m²
- ⇒ Efficiency of solvent management (ie optimized use of solvent)
- ⇒ Optimized transfer efficiency
- ⇒ Ovens/dryers are treated by oxidation

Considered reduction measures :

Primary measure: Switching from primer and/or basecoat solvent based to water based (concerns reference plants 1 and 2)

According to the mention « can also be transformed » in the table above, car industry focuses on the following points about primary measures:

- ⇒ Global unfeasibility to apply aqueous based products in a paintshop designed for solvent based products, as well as incompatibility of simultaneous production of both technologies in a same spray booth.
- ⇒ Global unfeasibility to modify in situ a solvent based spray booth into a water based spray booth or to convert primer spray booths during scheduled stops of the paintshops (ie summer stop in August)
- ⇒ Primary measures such as water based paint generally involve renovation (or rebuilding) of a significant part of the paintshop. Huge investments are, most frequently, never profitable.

Secondary measure: Spray booth treatment (transport, concentration and oxidation) (concerns reference plants 1, 2 and 3).

Output data format of the study

Output data will be expressed under the format €/ton of VOC avoided, €/(g/m²) and €/car body.

Regarding output data, car industry recommends to include:

- ⇒ For « primary measures »: investments (expressed on different operating conditions), with possible additional « secondary measures », and the ELV to be obtained.
- ⇒ For « secondary measures »: the whole of investment and operation costs. Investment depends on the air volume treated.

Car industry recommends to present costs in order to be able to examine what could be the manufacturers economic constraints for manufacturers, especially overall costs of the project in relation to cash management. According to car industry, total cost expressed per car body is a more relevant and discriminating indicator than a cost per ton avoided.

Initial state of reference installations

Solvent Management Plans (SMP) data will be provided to CITEPA for Renault and PSA plants (minimum, maximum and average):

- ⇒ **I1**: amounts of solvents purchased and used, detailed by each stage (E-coat/Sealing damping/Primer/Basecoat/Clearcoat/Cavity preservation/cleaning and other minor applications)
- ⇒ **O6/O8**: amounts of solvents contained in collected waste or recovered for reuse but not as input into the process
- ⇒ **O5**: amount of solvents destroyed by a treatment unit, by specifying what type of process is used and the outlet treated (ex : Regenerative oxidation (RTO) on e-coat and clear-coat dryers)
- ⇒ **Total emissions (in g/m²)**

SMP		Scenario 1	Scenario 2A	Scenario 2B	Scenario 3	Scenario 4
I1 - quantity of organic solvents which are used as input into the process (g/m ²)	E-coat					
	Sealing Damping					
	Primer					
	Basecoat					
	Clearcoat					
	Cavity preservation					
	Cleaning and other minor applications					
	TOTAL					
O5 - organic solvents which are destroyed by incineration (g/m ²)						
O6 - organic solvents contained in collected wastes (g/m ²)						
O8 - organic solvents contained in preparations recovered for reuse (g/m ²)						
Total emission (g/m ²)						

For other European car manufacturers, data to be provided to CITEPA only correspond to total emissions (minimum, maximum and average) by type of reference installations.