Swiss Quality-Control of Diesel Particle Filter Systems consists of 3 elements:

(a) a quite extensive 4-stage type approval test: one filter per filter technology family must pass all 4 stages successfully
   --> maximum test effort for a minimum but representative number of test objects

(b) every single Particle Filter System must be controlled and emission-tested at minimum once per 24 month: function, leakage, back-pressure, opacity
   --> 100 % field control with minimum test effort

(c) manufacturer must yearly submit detailed failure statistics to authority and will lose his approval if 5 % failure rate per calendar year and filter are exceeded
   --> manufacturing responsibility, information on technical failure details

VERT-verification of particulate trap systems in Switzerland and efforts for worldwide harmonization

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AKPF TTM BUWAL AFHB

Type Approval

VFT 1
VERT Filter Test
Steady state
+ transient during regeneration
EC/PM/SMPS/N

VSET
VERT secondary emission test
Steady state
PAH/PCDD/Nitro-PAH
Size spec. analysis
GC-MS/ELPI chem. analysis

VFT 2
VERT field Test
Controlled field
test > 2000 hrs
datalogging
P/T/RPM

VFT 3
Repetition of VFT 1
Steady state
+ transient during regeneration
 opacity

Filter List recommended systems

Field Control

Steady state
+ transient

opacity / BC

Opacity / BC

Optional:
Gas emissions CO/CO₂/O₂/
NO/NO₂/HC

El. Chem.-Cells; NDIR

Statistical:
fine particle filtration
measurement

NanoMet

Filter listing confirmed, if failure rate < 5%
rejected if > 5%

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