

Tip of the Week

December 13, 2004



How Long, How Much and How Hot?

True or False? Method 5 specifies that a particulate test must be done for at least 60 minutes, must collect 30 dscf and must have the filter heated to $248 \pm 25^\circ\text{F}$.

Well, not exactly.

Method 5 says nothing about how long a test should be, except that it should equal or exceed the minimum time specified in the regulations, and be long enough to collect the minimum sample volume, also specified in the regulations. As for the filter temperature, it says that the temperature around the filter holder must be kept at $248 \pm 25^\circ\text{F}$, or some other temperature...once again, as specified in the regulations. It goes on to say that you can operate at any temperature lower than that specified (the theory here is that lower temperatures could only bias the results higher, which is OK from the EPA's point of view).

So what are these other regulations that contain all of this crucial information about how to run the test? One source is the New Source Performance Standards (NSPS), which comprise over half of the bulk of your Part 60 CFR. These are the "subparts", as they are generally called, and are specific for each different type of industry. An on-line version of the NSPS is available at <http://www.gpoaccess.gov/ecfr/index.html>.

Usually, each subpart contains a section called "Test Methods and Procedures", which will provide the required method and pertinent testing specifications for any pollutant that is limited by the regulation. The attached table contains a handy summary of information pertaining to particulate testing at most major industry classifications regulated under Part 60.

Other potential regulations that influence the way the test is performed include the National Emissions Standards for Hazardous Air Pollutants (NESHAPS), as well as specific state or local regulations. Normally, the facility's operating permit will specify the applicable regulations that it must follow.

NSPS Particulate Testing Requirements (40 CFR 60)

All subparts specify EPA Method 5 unless otherwise specified.

N/S = Not Specified. In these cases, either process-specific or Method 1-5 requirements would apply.

Subpart	Facility	Minimum Sample Time (minutes)	Minimum Sample Volume (dscf)	Filter Temperature (°F)	Comments
D	Fossil-fired boilers	60	30	320±25°F	Method 5B required after FGD
Da	Electric Utilities	120	60	320±25°F	Method 5B required after FGD
Db	Industrial Boilers	120	60	320	Method 5B required after FGD Method 17 allowed if gas temperature is less than 320°F.
Dc	Small Industrial Boilers	120	60	320	Method 5B required after FGD Method 17 allowed if gas temperature is less than 320°F.
Ea	Municipal Waste Combustors, 1989-1994 construction	N/S	60	320±25°F	
Eb	Municipal Waste Combustors, constructed after 1994	N/S	60	320±25°F	240 minute test specified for Dioxins
Ec	Hospital Incinerators	60	N/S	N/S	240 minute test specified for Dioxins
F	Portland Cement Mfg.	60	30	N/S	40.6 dscf required for Clinker Cooler
N	Basic Oxygen Process, Primary Emissions	60	53	N/S	Integral # of heats or blows.
NA	Basic Oxygen Process, Secondary Emissions	N/S	200	N/S	Sampling done only during steel production.
O	Sewage Treatment Facilities	60	31.8	N/S	
P	Primary Copper Smelters	60	30	N/S	
Q	Primary Zinc Smelters	60	30	N/S	
R	Primary Lead Smelters	60	30	N/S	
Y	Coal Preparation Plants	60	30	N/S	Sampling must begin no less than 30 minutes after startup and end before shutdown procedures commence.
Z	Ferro-Alloy Electric Arc Furnaces (EAF)	60	63.6	N/S	Integral # of furnace cycles.
AA	Steel EAF, 1974-1983 construction	240	160	N/S	Integral # of heats if single furnace. Use Method 5D for Positive Pressure Baghouses.
AAa	Steel EAF/AOD, constructed after 1983	240	160	N/S	Integral # of heats if single furnace. Use Method 5D for Positive Pressure Baghouses.
BB	Kraft Pulp Mills	60	31.8	N/S	Use water instead of acetone to rinse
CC	Glass Mfg.	60	31.8	350±25°F	248±25°F if gas-fired or <0.5%w/w sulfur oil
DD	Grain Elevators	60	60	Ambient	No heaters allowed
HH	Lime Mfg.	60	31.8	N/S	5D for positive pressure baghouses
LL	Metallic Mineral Processing	N/S	60	<250	Method 17 allowed.
NN	Phosphate Rock Processing	60	30	N/S	
PP	Ammonium Sulfate Mfg.	60	53	N/S	
UU	Asphalt and Asphalt Roofing Materials Mfg.	120	106	N/S	Method 5A specifies 108±18°F
OOO	Non-metallic Mineral Processing	N/S	60	<250	Allows Method 17
PPP	Wool Fiberglass Insulation Mfg.	120	90	N/S	Method 5E required
UUU	Calciners and Dryers in Mineral Processing	120	60	N/S	