

At MEGTEC, we manufacture high quality, catalytic pollution control devices for the graphic arts and paper/process industries. Because of the working environment of this equipment, some deterioration of the catalyst material is expected. We recommend periodic analysis of the catalyst to ensure the most efficient operation possible.

This bulletin is to be used as a guide for taking samples of catalyst for testing. The single most important factor in any analysis technique is the collection of an accurate sample. If a non-representative sample is taken, the results may be skewed. There are 3 distinctly different methods of obtaining representative samples. These methods correspond with the age and model of the pollution control unit. If you are not sure of the model of your unit, contact your MEGTEC Sales or Service representative.

Be sure to shut the unit down and allow enough time for complete cool-down. Consult the Material Safety Data sheet for precautions specific to your catalytic material. Although not part of the sampling procedure, we recommend that every unit be inspected while it is down. During this inspection, in cell type units, look for:

Catalyst Sampling

- ➔ Any cells containing smaller than normal, pure white beads. These catalyst beads have had their active metals rubbed away and are no longer functional. Any cell that contains over 50% of these beads should be refilled with new material.
- ➔ Any cells that are not full. Examine the cell for leaks. If the cell has no leaks, or leaks have been repaired, it should be topped-off with good catalyst.
- ➔ General items such as cell gaskets, cracks in expansion joints and buildup of catalyst dust downstream from the cells.

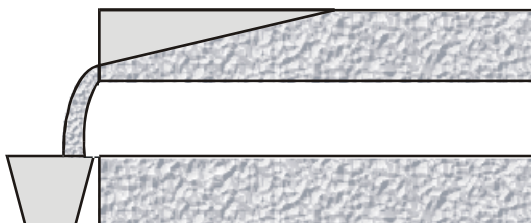
In tray or bed type units inspect for cracks in expansion joints and heat exchangers. Also check for catalyst leakage through the bottom screen.

Method 1

Job #25000 and below

These units contain catalyst cells which resemble drawers. To obtain a sample from this type of unit, the following procedure is recommended.

1. Remove any one cell from the unit. Examine it to be sure that it is reasonably full of catalyst beads.
2. Remove one of the sampling plugs from the cell and empty about 1/4 to 1/3 of its contents into a separate container.
3. Put about 1 cupful of catalyst from the last material poured from the cell into any clean, sealable container.
4. Put the remaining catalyst back into the catalyst cell and re-install the sampling plug.



Method 2

Job #25000 through about #26628

These units contain their catalyst in trays that are fixed in place. To obtain a sample from this type of unit the following procedure is recommended.

1. Pick one tray as the sample tray and carefully remove the top screen. Three samples, about $\frac{1}{2}$ cup each are to be taken from this single bed and put into 3 separate, clean containers (ziplock bags work well).
2. The first sample will be catalyst from the top third of the bed. This sample is to be labeled TOP.
3. Without disturbing any more of the bed than is necessary, move the top catalyst away so that a sample of the middle third can be taken. This sample is labeled MIDDLE.
4. Continue to carefully move catalyst away from the sample area until the bottom third of catalyst is exposed. The third sample is taken from this bottom portion of the catalyst bed. Label this sample BOTTOM.
5. Smooth the catalyst in the tray and add catalyst to fill the bed, if necessary. Check the other 4 beds to make sure they are full.
6. The three portions from this one single bed are sent in labeled as: Top, Middle, and Bottom.



Method 3

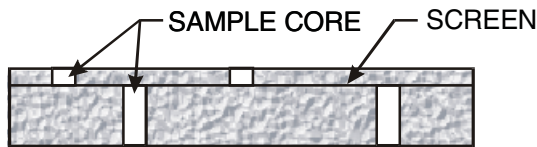
Job #26628 (approx.) and above

At approximately Job #26628, two changes were made to the design of catalytic pollution control devices. These were the introduction of the split bed and test sample cores. If your unit has split beds and/or sample cores, choose one of the following procedures:

Catalyst Sampling

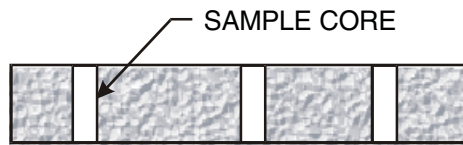
A. Units with split beds but no sample cores

Follow the basic procedure outlined in Method 2. The top sample comes from the catalyst above the split screen, the middle and bottom samples come from the catalyst below the split screen.



B. Units without split beds, but with sample cores

Remove the screen from the middle bed and take out one sample core. Mark the top of the sample core as TOP. Check the beds to see that they are full and re-install the screen.

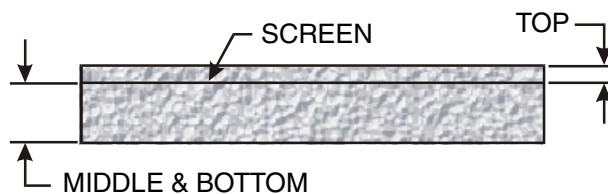


C. Units with split beds and sample cores

The sample cores are located in the middle bed. In these units a sample consists of a short core from above the split screen and a long core from below the split screen.

middle bed. In these units a sample consists of a short core from above the split screen and a long core from below the split screen.

It may be necessary to remove the catalyst above the split screen to gain access to the test cores below the split screen. Take care to replace the remaining 2 inches of test cores above the split screen with the proper side up. When the sample cores are removed, the top of each core should be marked as TOP.





Catalyst Sampling

Getting an Analysis

When sending a catalyst sample from a pollution control unit to MEGTEC for analysis, it is very important to include the following information.

- ➔ Testing requires a purchase order, purchase order number, or other written payment authorization from the customer. In general, we cannot enter the sample into the system until some means of payment is established. A typical catalyst test includes an activity test, a surface area analysis, and a PIXE scan. For current analysis cost, please contact MEGTEC.
- ➔ Name, address and phone number of the customer and who to contact with the results of the analysis.
- ➔ MEGTEC job number of the pollution control unit sampled and date of start up.
- ➔ Date of installation of the catalyst into the unit (month and year). Dates of any previous catalyst sampling and any topping-off of beds.
- ➔ Reason for the sample to be analyzed, such as routine maintenance, smoke or odor problems, etc.

Catalysts samples and their support documentation should then be sent to:

MEGTEC Systems
Pollution Abatement Laboratory
830 Prosper Road • De Pere, WI 54115

The typical turnaround time on a catalyst test is about 4 weeks.

If you have questions or require additional information contact Debbie Devroy at MEGTEC Systems. Direct dial phone number: (920)-337-1747 or E-mail at: ddevroy@megtec.com

For further information, availability, please contact your nearest MEGTEC office by visiting www.megtec.com and click on parts and upgrades or email to info@megtec.com.