

Screw Cleaning

[Print](#)
(10) » [Volume Reduction](#) » [Screw Maintenance](#) » [Screw Cleaning](#)

Screw Cleaning
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I have been in the screw manufacturing business for more than 25 years, and I have seen about every form of cleaning, stage of cleaning and uncleaning that you can ever imagine. Many of the suggest that have already been posted work great (I've heard of the GOJO trick before).

I'd just like to add my method of cleaning that was taught to me and I have past onto many others, who have liked the method very well.

A portion of my career was as the Process manager at NRM Corporation. I had an old time lab tech who had more than 35 years of teaching under his belt. His method to clean screws also works on just about any type of resin that we may have run during the day's trial and left the screw as clean as a baby's bottom. Bill's method of clean consisted of:

1. Set the barrel temperatures at 400°F.
2. Turn the screw on to 20-25 rpm.
3. Dump about a bucket of Fractional melt (.35MI- blow molding grade) HDPE.
4. Watch the pressure gauge and let the machine run until all of the HDPE stops coming out of the die.
5. Stop the extruder.
6. Pull the die, and using an airblow gun and a pair of the needle nose pliers, grab the HDPE with the pliers and, with the blowgun, cool the HDPE as you pull the solidified material out of the die. It should pull out completely clean.
7. Start the extruder up again and let it run out some more, since it is now running against any back pressure, additional HDPE will extrude out of the screw.
8. Using a BRASS wire brush, clean any excess HDPE that is on the push side of the flight. (Typically, this is minimal.)
9. Now you are ready to push the screw out. As you push the screw out, sprinkle stearic acid (this is probably what the ED! soap is made of). Only push out about 4 or 5 turns of the screw at a time.
10. As the stearic acid melts and runs down over the root of the screw, polish the screw with copper gauze, then wipe with a cotton rag to remove any residue.
11. Continue steps 8 through 10 until you reach the feed pocket of the screw.

The similar technique can be used to clean the inside of the barrel, after the screw is removed, by using a long rod with a round wire brush attached to the end. Then wrapping it with copper gauze and sprinkling it with Stearic

Acid, and running it in and out of the barrel, pushing bundles of cotton rags through the barrel to remove the stearic acid (sort of like swabbing a gun barrel) will clean the barrel ID like new.

Anyway, this is food for thought.

- Tim Womer, Consultant

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