

GENERAL ELECTRIC CONTROL SYSTEMS FLUID PURIFICATION - CARTRIDGES

Background: On a typical GE TAFEFU (transfer and fuller's earth filtration unit) with the 400 or 800 gallon reservoirs there are two Hilliard housings for the purification media each with either one or two cartridges. For the latter they would be stacked for a total of four.

Summary: In the early days the Hilliard fuller's earth cartridges had the code FFC-00. These reportedly contained 15 lbs of Hilite brand fuller's earth which is a LVM (low volatile) water resistant, calcined fuller's earth. Chemically it is crystalline hydrated magnesium aluminium silicate. Further, the grade used was said to be Hilite Green label which is supposed to be 50-80 mesh. These details are important because fuller's earth is a naturally occurring material that is mined, however, there can be considerable variations in the constituents, the refining and the mesh sizes. The moisture content can also vary, even in stores.

Then in 1989 or so Hilliard changed the manufacturing process and redesigned the cartridge. The result was that the outside diameter (OD) decreased from 7" to 6" and the inside diameter (ID) increased. The designation now became HT718-00-C and to stack two in the older style housings required a smaller ID so there is version with a plastic insert having the code HT718-00-CR. On a related matter a few stations substituted on the Hilliard cartridges but some were found to have cardboard centre tubes! Apparently this was done by without in-house technical approval.

Concerns: There is less media in the cartridges. See GE TIL 1053-4. However, this refers to only 27% reduction while recent checks show that the Hilliard fuller's earth cartridges are only 112 lb total and Hilliard say that there is just 7 2 lbs of media! **This is half so that the historical change intervals (i.e. 2-4 times a year) should be adjusted accordingly.** The flowrates might also require adjusting downwards based on the TAN, water and resistivity.

Secondly, the substitution of fuller's earth from other manufactures should only be done on proper approval that includes the submission of test data showing that they perform at least as well as those from Hilliard and as perform as well with phosphate ester control fluids.

Suggested Actions:

- 1. Verify what fuller's earth cartridges are in stores. If not Hilliard HT178-00-C(R) or Hilliard HT-718-00-03ZXC determine why? If Selexsorb substitute ST for the HT.**
- 2. Determine the FE change frequency and the supply date of oldest cartridge.**

GE, Hilliard, and Forsythe are trademarks of the respective companies. The above information is believed to be valid and correct but no responsibility can be taken for typos or dated material. Contact your suppliers for the most recent data.