

## DOE DISCLAIMER

**The Views Expressed Are Solely Those Of The  
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# *Filter Test Facility Report On HEPA Filter Testing for the DOE*

*Presented By: Christopher Hart*

- Air Techniques International Filter Test Laboratory (ATITL) is an established independent Filter Test Facility (FTF) in Baltimore, Maryland under DOE contract
- Secretary of Energy Memo, June 4, 2001, the Filter Test Lab is to be utilized by DOE Site Contractors
- Testing service is provided to the DOE complex
- DOE work has top priority

# Rejection Categories

***Resistance:*** Criteria of  $\leq 1.0$  " w.g. to  $\leq 1.3$ " w.g. depending on minimum rated air flow.

***Penetration:***  $\leq 0.03\%$  of upstream concentration

***Manufacturing Defects:***

Filter Frame/Case Defective

Damaged Gaskets

Incorrect Faceguard installation

Incorrect Filter pack installation

Defective media

Sealant problems

Separator issues

Missing rivets or bolts

Not within Dimensional tolerance

Out of square measurements

# Rejection Categories (Continued)

## **P.O/ Specification Discrepancy:**

Missing UL labels

Labeled incorrectly\*\*\*

Filters rated incorrectly\*\*\*

Wrong model number\*\*\*

Packaging

## **Shipping Damage:**

(Inspect Damage to Shipping Crates, Pallets & Filter Cartons)

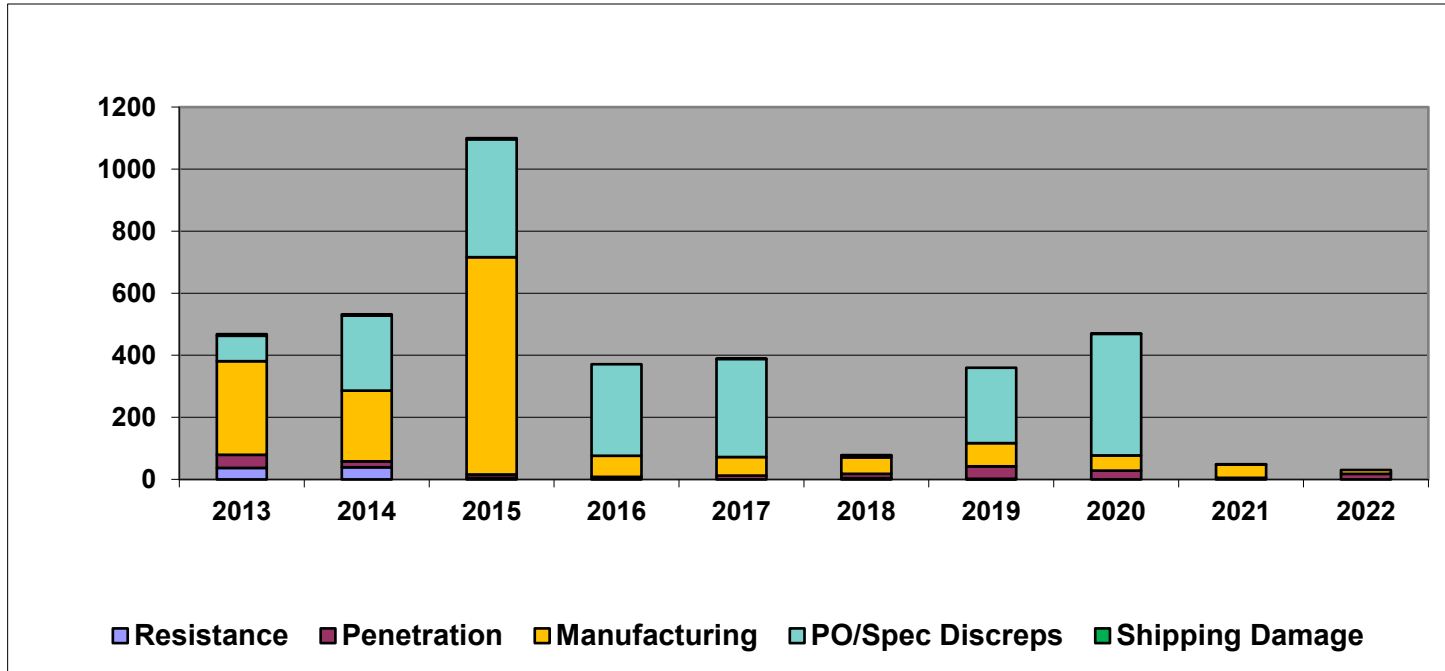
Reject Filter when Damaged

# Summary Of Filter Rejections

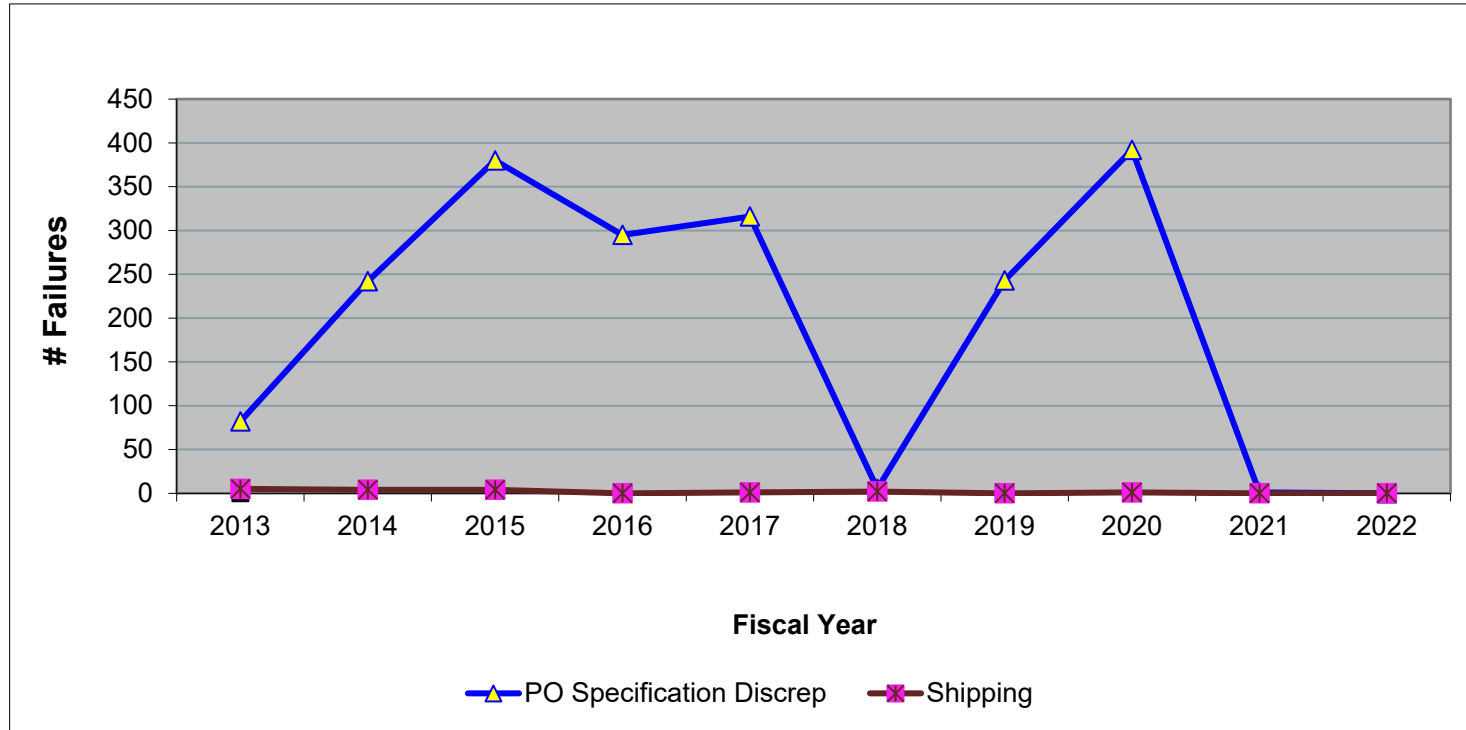
Fiscal Year	Total Tested	Resistance	Penetration	Mfg. Defects	P.O. /Spec.	Shipping Damage	Total Rejected
2013	<b>3023</b>	<b>37</b>	<b>42</b>	<b>302</b>	<b>82</b>	<b>5</b>	<b>468</b>
2014	<b>2514</b>	<b>39</b>	<b>19</b>	<b>228</b>	<b>242</b>	<b>4</b>	<b>532</b>
2015	<b>3535</b>	<b>5</b>	<b>11</b>	<b>700</b>	<b>380</b>	<b>4</b>	<b>1100</b>
2016	<b>3885</b>	<b>0</b>	<b>8</b>	<b>68</b>	<b>295</b>	<b>0</b>	<b>371</b>
2017	<b>2849</b>	<b>0</b>	<b>12</b>	<b>60</b>	<b>316</b>	<b>1</b>	<b>389</b>
2018	<b>1757</b>	<b>4</b>	<b>14</b>	<b>53</b>	<b>5</b>	<b>2</b>	<b>78</b>
2019	<b>2528</b>	<b>2</b>	<b>40</b>	<b>75</b>	<b>243</b>	<b>0</b>	<b>360</b>
2020	<b>1977</b>	<b>0</b>	<b>28</b>	<b>49</b>	<b>392</b>	<b>1</b>	<b>470</b>
2021	<b>2016</b>	<b>0</b>	<b>5</b>	<b>43</b>	<b>1</b>	<b>0</b>	<b>49</b>
2022**	<b>745</b>	<b>0</b>	<b>18</b>	<b>12</b>	<b>0</b>	<b>0</b>	<b>30</b>

\*\* Thru Mar 2022

# HEPA Failures Type by Fiscal Year

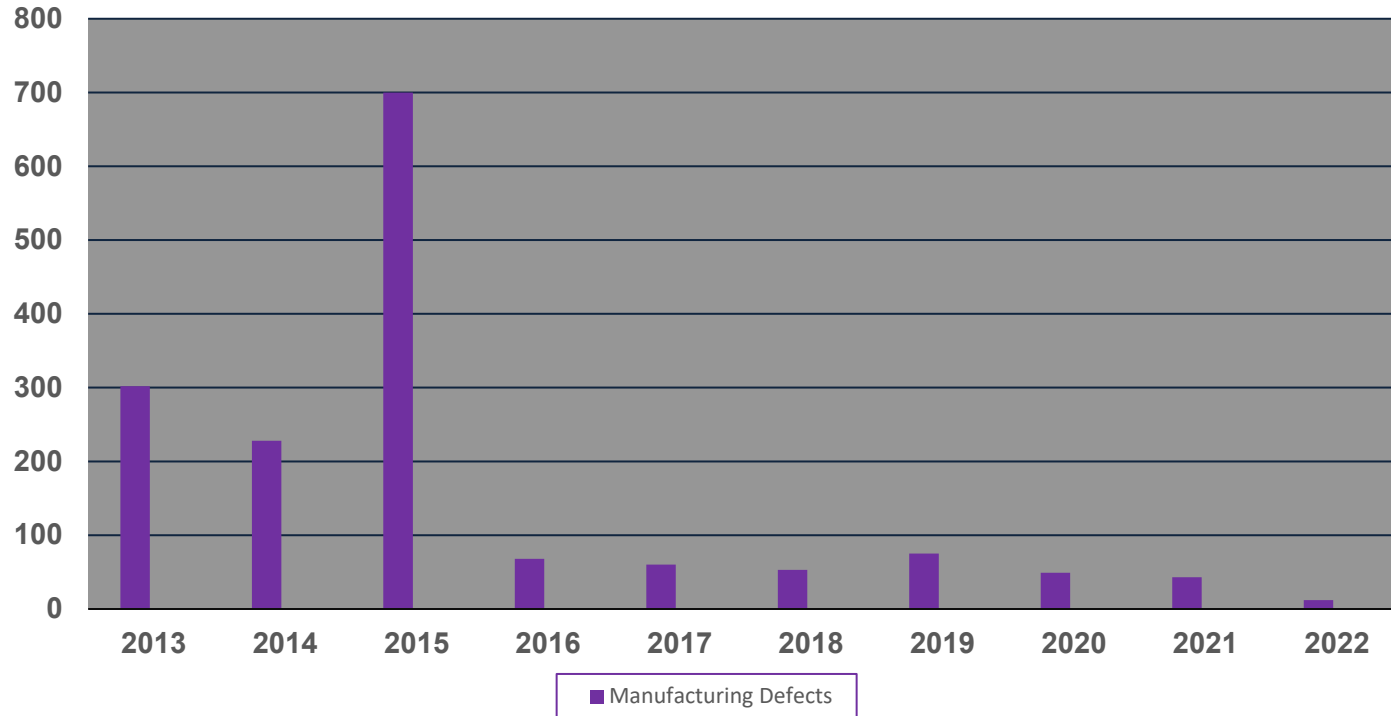


# HEPA Filter Rejection by Number for PO/SPEC and Shipping Damage

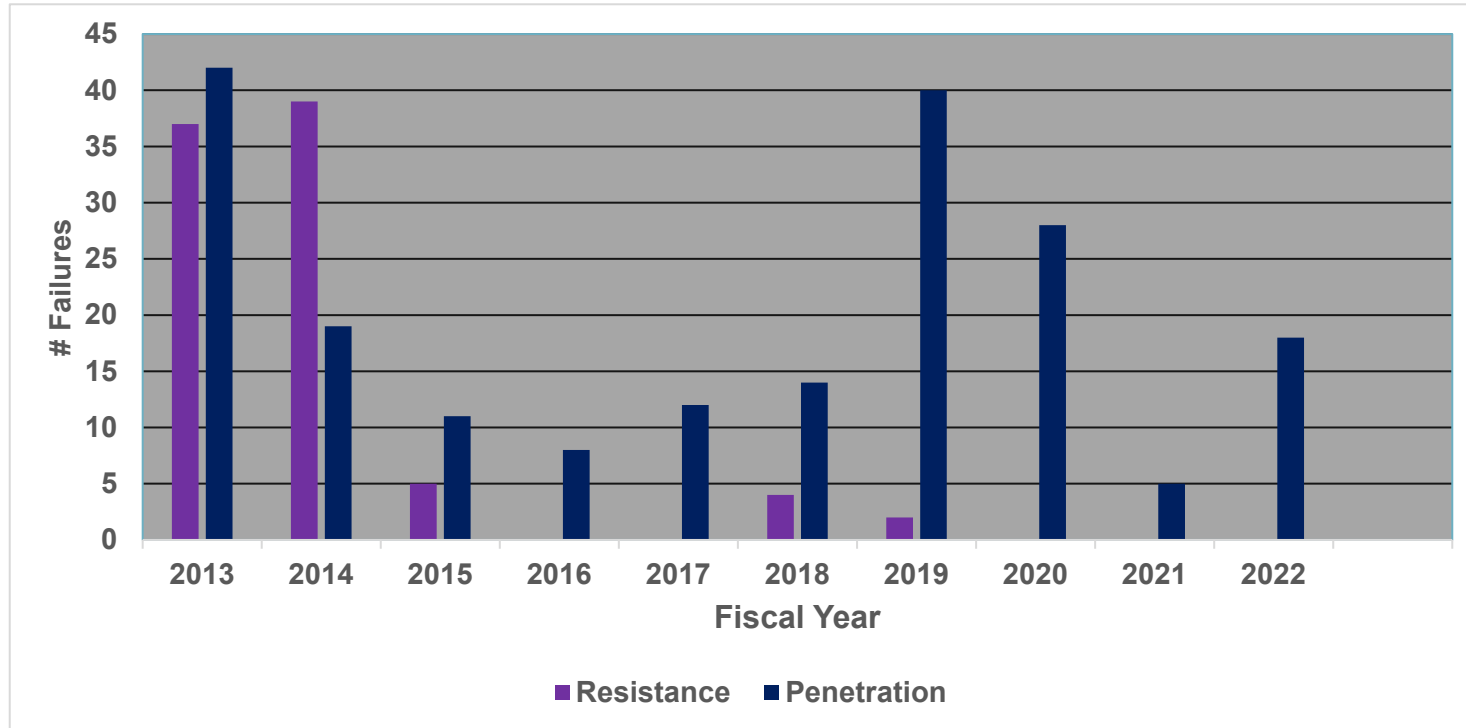




# Manufacturing Defects

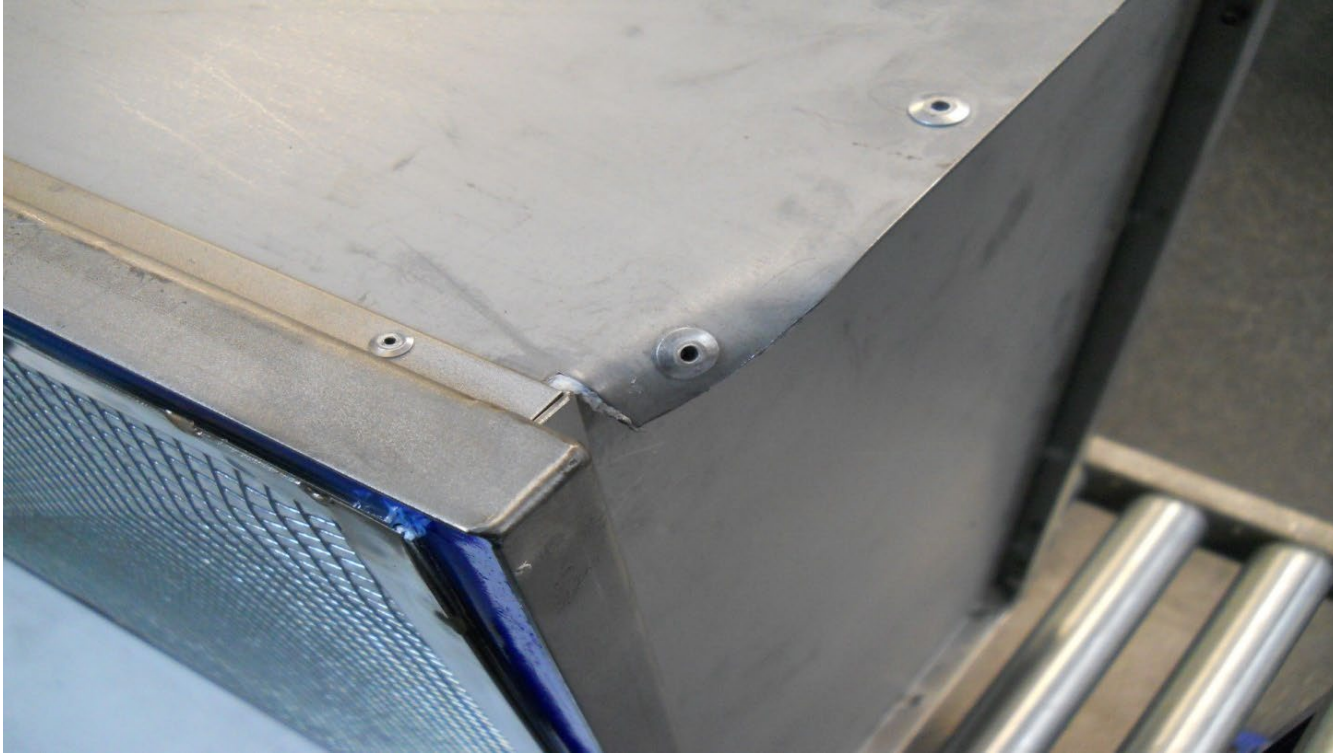


## HEPA Failures Resistance and Penetration



# Filter Testing & Inspection Failures

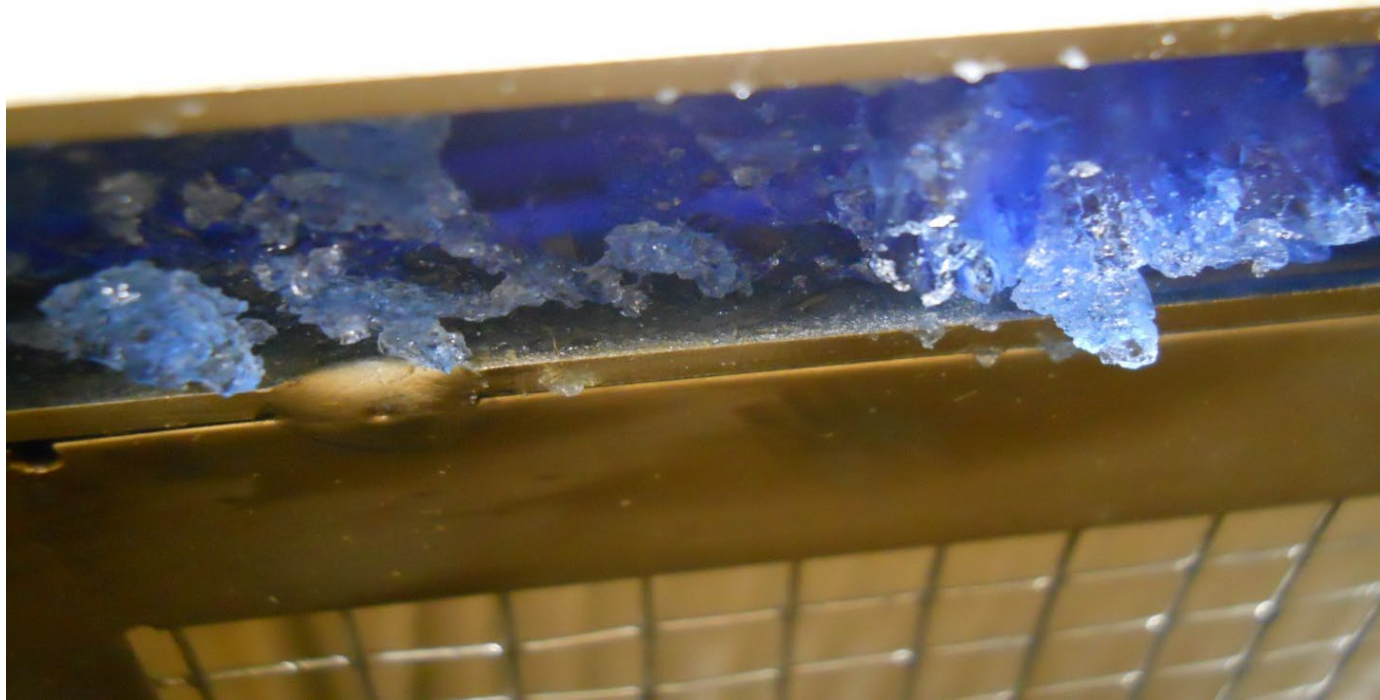
## Damage from Shipping/No crate



# Case - REJECT



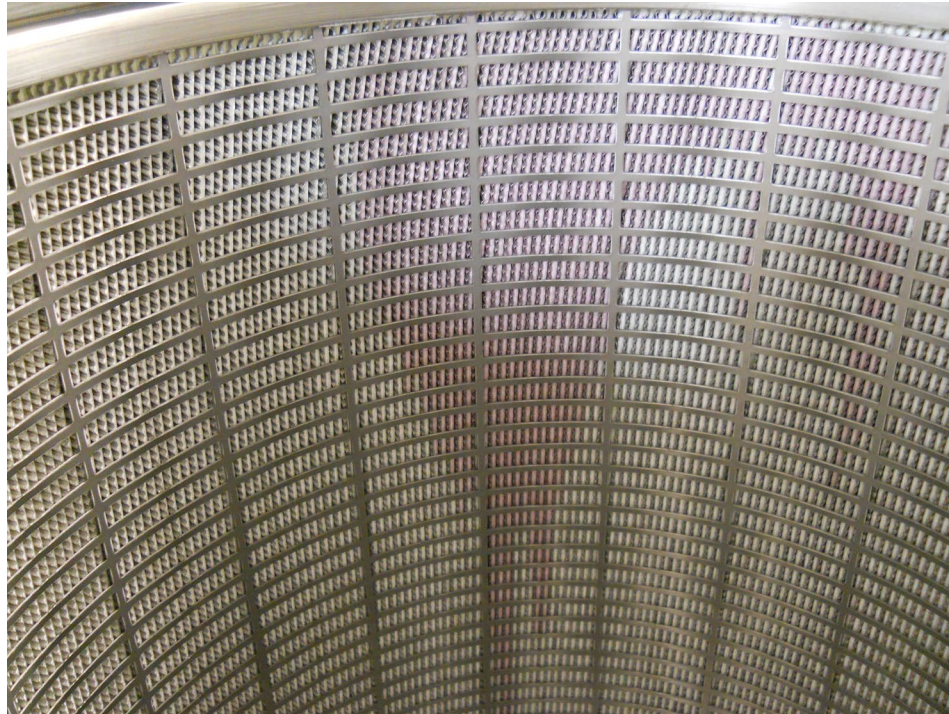
# Fluid Seal - REJECT



# Filter Crate Damage



## Gel Seal Over Pour - REJECT





The results from testing & inspecting DOE filter manufacturers have varied during the last ten years as shown by the Filter Test Facility (FTF) reports



Thank You!

Q&A...

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