



## FRS-3: Superior Decolorization in Sugar Refinery

**FRS-3** is a patented carbon-based high-performance adsorbent designed for superior decolorization and filtration associated with **carbonatation sugar refineries**.

### Functionality:

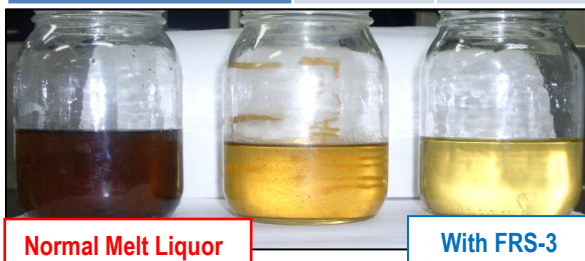
- Superior purification and filtration for sugar refinery liquors through adsorption.
- Operates at a high capacity due to higher brix & higher flowrate.
- Enhances the efficiency of IER or GAC.
- Low capital cost and no liquid effluent.
- Reduces centrifugal washings.
- Energy savings.
- Removes starch and beverage floc in liquor.
- Increases the overall yield of the refinery.

### Projected Benefits:

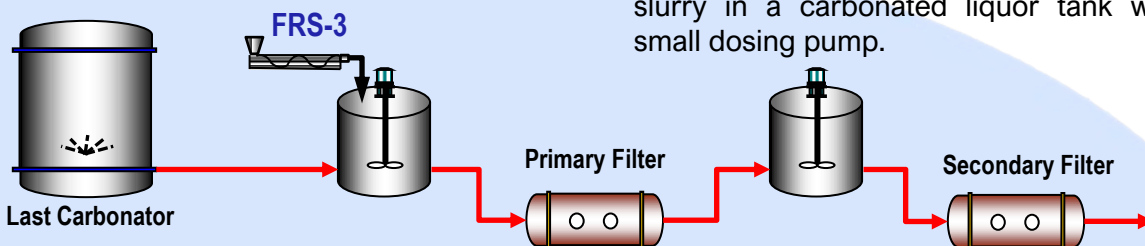
Parameter	Effect
Color Removal	(+) 30 – 50 %
Turbidity Reduction	(-) 70 – 90 %
Potential Floc (Sugar) Reduction	(-) 30 – 40 %
Plant Yield	(+) 0.5 – 6.0 %

### Data Report:

Parameters	Regular Process	FRS-3 Process
Flowrate (m3/h)	232	232
Concentration (Brix)	57	61
Fine Liquor Color (IU)	238	138
RSO (Ton/Day)	3300	3700
Fuel Oil (Kg/Ton Sugar)	84	68
Steam (Ton/Ton Sugar)	1.13	0.84
Water (L/Ton Sugar)	620	440



### Process Diagram:



### Application:

HPA is added as powder or 15 – 20 % slurry in a carbonated liquor tank with small dosing pump.