

Evaluation of Applying Filsorb XP20 with a Star Filter Press to Clean NGMO Canola Oil Used for Frying Peanuts

Customer Y produces a variety of roasted nuts and became interested in Filsorb in order to reduce the Free Fatty Acids (FFA) in their oils to prolong their oils life to reduce both cost and waste. Customer Y is using a plate and frame Star Filter.



A laboratory simulation using Customer Y's oil was done. During this simulation, Filsorb XP20 was applied to their oil. The used oil had a FFA value of 0.30% Oleic Acid and after being treated with Filsorb XP20 the FFA value was reduced to 0.04% Oleic Acid. In addition to the reduction in FFA value, the oil's color and clarity also improved.

Filsorb XP20 Simulation Trial

Oil Used: Mix of cottonseed/peanut oil; batch roaster 3 and peanut oil after day 7

Contact Time: 10 minutes

Temperature: 300 +/- 10F

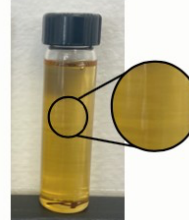
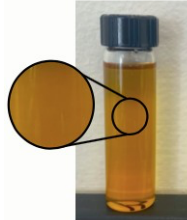
Pressure: 0 PSI

Before Filsorb XP20

After Filsorb XP20

Free Fatty Acid (FFA): 0.30% Oleic Acid

0.04% Oleic Acid



After a positive simulation trial, it was decided to bring Filsorb XP20 to customer Y's facility to run a trial in line. The oil used to evaluate the effectiveness of Filsorb XP20 was NGMO canola oil that was used to fry peanuts the day prior. The 825lbs of NGMO canola oil was heated to 300F +/-10F and treated with 20lbs of Filsorb XP20. The oil had a contact time of 10 minutes once all the Filsorb XP20 was added in the mixing tank.

During this application the FFA value of the NGMO Canola reduced from 0.11% oleic acid to 0.01% Oleic Acid.

Filsorb XP20 In House Trial

Oil Used: NGMO Canola

Contact Time: 10 minutes after all 20lbs of Filsorb XP20 added

Temperature: 300 +/- 10F

Filter Media: 212 Filter Paper

Filsorb: XP20, LOT# 06TFP21-125

Before Filsorb XP20

After Filsorb XP20

Free Fatty Acid (FFA)

0.11% Oleic Acid

0.01% Oleic Acid



Cost Evaluation

	Before Utilizing Filsorb	After Utilizing Filsorb
Cost of Oil	\$1.08 / lb	\$1.08 / lb
Pounds of Oil Discarded per Month	22,500 lbs	0 lbs
Cost of per month of discarded oil	\$24,300	\$0

Team Notes

Customer Y was purchasing filter circles for their star filter from a third-party supplier. Crystal Filtration supplies the appropriately sized filter circles to fit all models of star filters. Crystal Filtration’s filter paper has been tested and proven to remove FILSORB particles from cooking oil while also providing optimal flow rates.

Crystal Filtration Part Number: FILCIR1384-12.25

Description: 12.25” circle with two 1” holes to fit Star Filter
500 circles per box

Price per box of 500: \$200

Details: One box of filter circles can fit on a pallet with FILSORB therefor eliminating shipping costs

	Before Utilizing FILCIR1384-12.25	After Utilizing FILCIR1384-12.25
Cost of 500 Box of Filter circles	\$250.00	\$200.00 (free shipping)
Filters used per month	500	500
Cost of per month for filters with shipping	\$280	\$200