

FREQUENTLY ASKED QUESTIONS ABOUT MESOCARP FIBRE OIL EXTRACTION (MFOE) PLANT



1. What is the minimum and maximum plant capacity for Mesocarp Fibre Oil Extraction (MFOE) plant?

20 Ton FFB/Hr mill is ideally the minimum Capacity to have a Solvent Extraction Plant for Mesocarp Fibre and maximum capacity could go to any extent, however, we have successfully commissioned Solvent Extraction Plants based on Mesocarp Fibre in a Palm Oil Mill of 120 Ton FFB/Hr.

2. What is the project implementation time?

Usually, the project implementation schedule varies from 8 months to 12 months, depending upon the location and soil condition.

3. What is the payback period of capex?

For a Mesocarp Fibre Oil Extraction plant based on 120 Ton FFB/Hr Palm Oil Mill, the payback is under one year; for a 90 Ton FFB/Hr based, one and a half years; for 60 a Ton FFB/Hr based, two and a half years; for a 45 Ton FFB/Hr based, three years; for a 30 Ton FFB/Hr based, four years and for a 20 Ton FFB/Hr based Extraction Plant, the payback would be under five years, depending on the prevailing CPO prices and the Fibre contains over 4% to 8% oil. We have observed that oil content in Fibre varies from 4% to 8% depending upon the Mill efficiency.

4. What kind of raw materials, MFOE plant can use?

MECPRO's innovative cutting edge third generation extraction technology allows even wet fibre from the mill to be processed without any difficulty. There is no need of drying and 30% energy cost can be saved, besides capital investment.

5. How much oil can be produced from wet Mesocarp Fibre?

Usually, the Mesocarp fibre has 4% to 8% oil depending upon the mill efficiency. With MECPRO's innovative cutting edge process technology on preparation of Mesocarp Fibre namely slivering of Fibre, which enhances penetration of hexane to the entire raw material, thus resulting in over 25% more oil recovery, than the initial design applied in the previous projects, even after residual 1% oil in the Deoiled Fibre.

6. What is the effect on OER from MFOE Plant?

Based on MECPRO's technology, the OER is enhanced by upto 0.5 - 0.75%, depending on the oil content of the Fibre. However, continuous R&D efforts are being made for further improvement in OER.

7. What is the Utility Consumption?

MECPRO guarantees lowest utility consumption, of Hexane on continuous running at less than 1 Kg/MT & on intermittent running at 2 Kg/MT, Steam 390 Kg/Hr, besides Power 15 to 20 Kw/MT depend upon the distance from the mill, Water negligible.

8. Is there any effluent discharge?

The state of the art plant from MECPRO generates almost zero effluent from the plant, thus making it environment friendly. However, excess steam condensate water will be discharged which is not an effluent.



9. Is the process technology proven & patented?

MECPRO has supplied over 100 Solvent plants of capacity ranging from 100 TPD to 1000 TPD in the last 29 years which are operating successfully across the globe. (Patented) have been obtained for innovative process technologies on Wet Slivered Mesocarp Fibre Oil Extraction developed by MECPRO.

10. What are the value added by products of MFOE plant?

The Deoiled Fibre has wide range of applications and can be used in making, mattresses, pulp, paper & board besides, being used back as fuel to the boiler. The issue regarding reduced calorific value is also compensated by high temperature deoiled fibre from the plant.

11. What to do with the oil produced?

Our effort is to ensure that the product is positioned on a Nutritional platform besides Cosmetics, Carotene recovery, Phytosterol, Tocopherol and Tocotrienol which are over 2000 PPM in the oil. Moreover, this oil can be used for direct consumption after refining since the DOBI is over 2.0. The fatty acid composition of fibre oil is same as Palm Oil, however, only difference is in Nutritional value which is higher than Palm Oil extracted through press and 2% higher FFA than CPO.

12. What is the Safety? What should be the distance between other buildings from MFOE plant?

MECPRO's solvent plants have adopted more than five patented technologies in the process incorporating hexane dictator at all outlets with PLC system. Hence, they are 100% safe as adequate safety features are incorporated. Plants have the option of operating on both flammable, as well as, non-flammable

solvents. Distance between buildings should be 15.25 mtrs and Fire Zone should be 40 Mtrs.

13. What area does MFOE plant require?

Although, it depends on the plant capacity, however, the plant can be set up in 18Mtrs x 30 Mtrs with a height of 15 Mtrs., leaving the radius of 15.25 Mtrs, all around the main plant. The main plant can be set up in 2800 M² upto 120 Ton FFB/Hr based Solvent Extraction Plant.

14. What is the operational life of plant & equipment?

The plant & equipment being supplied by MECPRO has service lifetime of 15-20 years, subject to periodic preventive maintenance, as per MECPRO's guideline.

15. What is the quality of oil produced?

MECPRO'S cutting edge technology based on low temperature azeotrope distillation maintains the quality of oil much better. The oil is very rich in Carotenoids () = 2100 ppm
Vitamin E () = 2200 ppm
Phytosterols () = 3000 ppm
Squalene () = 1000 ppm
and can be used for extraction of Caretenoids. Moreover, with the R&D, the DOBI has been achieved over 2.2 in the recently commissioned plant.

16. How do we proceed further?

MECPRO can arrange a detailed technical presentation to your core technical team, to further clarify any doubts. Moreover, MECPRO can arrange a plant visit to show you the latest plant, based on our state-of-the-art cutting edge innovative technologies. *Contact: projects@mecpro.com*

