

Fuel Oil Production in a Factory of Packaging Manufacturer

June 15, 2009
Environment System Co.,Ltd.



Installation Site

- Company name: Hosokawa Yoko Co., Ltd.
- Place: Gunma-Fujioka Factory
- Address: 704 Ushida, Fujioka City, Gunma Pref.
- Product: Soft plastic packaging



Packaging Products Line-up



Business Policy
“Harmony of Management & Environment”



Introduction of Oil Production System

Purpose

- (1) Reduce waste plastics disposal and use product oil
- (2) Reduce environmental impact --CSR
- (3) Reduce CO₂ emission

Even if it is a waste, we do put it to practical uses because it is our resource in our factory.



Lab-test equipment



Operation panel

Cracker

Condenser



Reactor

Oil output

Bench-scale reactor for waste plastics



Specification

- Dimension: 3060 L x 1535 W x 2590 H
- Material: SS400
- Reactor volume: 270 L, 210 L in effective volume
- Heater: Propane gas burner
- Power input: 8kW maximum/200V
- Cooling method: Water recycling

Inquiry: Shonan Trading Co., Ltd
Tel. 045-317-9378
URL: <http://www.shonantrading.com>

Appearance of product oil by PE and waste packages of OPP



Product oil properties



Properties of oil from mixed waste plastics

Centane number	Kinetic viscosity (50 ° C)	Flashing point
56.4	1.225 mm ² /s	38 ° C

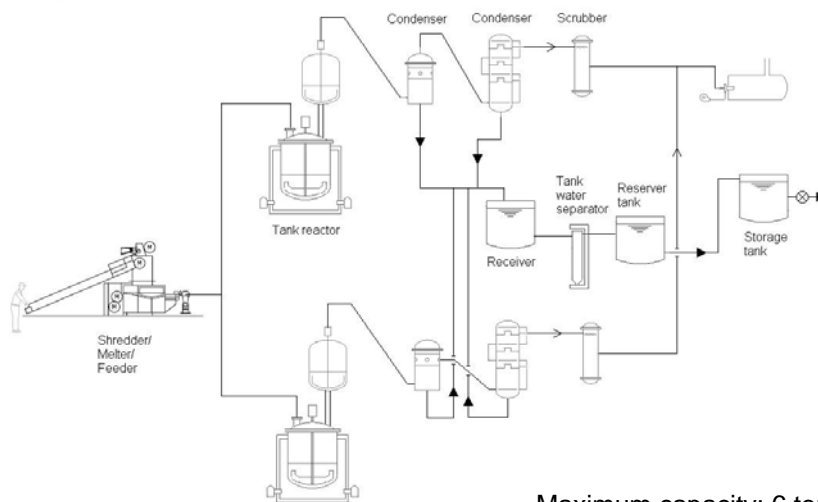
Cetane number is high enough for a heavy oil boiler and power generator.

Inappropriate plastics as feedstock for oil production



PVC, PVDC, PA and PET

Schematic flow of our oil production plant

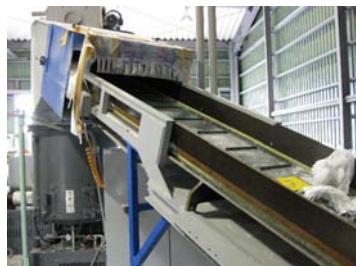


Maximum capacity: 6 ton/day

Whole view of oil production facility

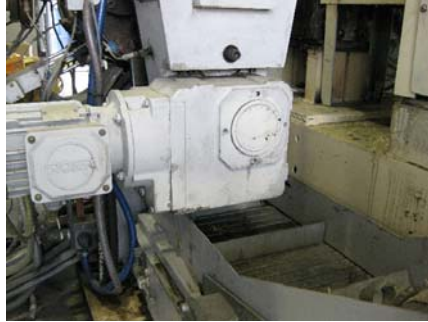


Pretreatment system



Feeder ⇒ crusher ⇒ melter

Filtration system



Plastics melt ⇒ separator ⇒ aluminum and PET

Diverting valve, reactor and condensers



Melter ⇒ Diverting two systems to enable continuous feeding ⇒ Tank reactor ⇒ Cracker ⇒ Condenser

Receiver tank



Secondary condenser ⇒ Oil receiver tank
⇒ Centrifuge to remove moisture and solid impurities
⇒ Storage tank

Storage tanks A and B Pump room



Reserving tank ⇒ Storage tank A and B (9.8 kL each)
⇒ Pump room ⇒ Boiler and power generator

Boilers & power generators



Pump room ⇒ Steam boiler and Power generator (495 kW × 3)

● Thank you for your attention.

Masataka Tsukada, President
Environment System Co.,Ltd.

