CENTRAL FOOD TECHNOLOGICAL RESEARCH INSTITUTE, MYSORE – 570 020

Continuous bio-plate casting machine

INTRODUCTION:

Traditionally plant residues such as leaves, areca palm sheaths have been used in India forming into different shapes such as plates, cups, saucers, etc. for serving of foods. Normally these are formed by stitching the leaves /sheaths into desired shapes by stapling several leaves together by using split plant stems made as pins. A simple pedal operated leaf cup machine was developed by CFTRI nearly 30 years back and this machine has become very popular.

A continuous bio-plate casting machine useful for making articles for variety of purposes, particularly for serving or holding of food is developed recently at the Institute and this machine has got definitely better advantage than using the pedal operated units. The machine is composed of 2 units viz. sheet blanking machine and die casting machine for the plate making. The advantages of the machine are as follows:

1. It has got the mechanical advantage and improves the efficiency of workers.
2. The leaf cup machine can be made into operation as an industry and continuous production can be achieved
3. Stream lining of the bio-plate making can be achieved by using this units

MARKET POTENTIAL:

Presently, there are about 25,000 - 30,000 small -scale bio-plate manufacturing units in the country, which are using leg operated bio-plate casting machine. Using the continuous bio-plate casting bio-plates of uniform dimension can be produced with least manual drudgery. Using the same machine various types leaves can be thermo set. Besides this every year, about 100 to 200 new bio-plate manufacturing units are coming up in the country and there is a vast untapped market. The continuous bio-plate casting machine is ideal for rural industry wherein it has a good potential for employment generation. With the increased customer awareness towards biodegradable materials, the leaf plates and cups are gaining popularity and the product has a very good export potential as well.

PLANT AND EQUIPMENT:

Sheet bending unit, lathe machine, surface grinder, S.S. welding unit, grinder, hand tools, etc.

PROJECT COST - FIXED COST - WORKING CAPITAL (in Rs. '000)
(Estimate/or a model project, manufacturing 50 machines p.a.)

a) Land & Land development (250 M^2)	300.00
b) Building & civil construction (150 M^2)	300.00
c) Plant and machinery	669.50
d) Miscellaneous fixed assets	152.00
e) Pre-operative expenses	168.90
Total Fixed Capital	1590.40
Working capital margin	330.10
Total Project cost	1920.50
Total working capital required - short-term loan	740.00

Means of Finance	
- Promoter's contribution	727.70
- Term loan	1192.80

PRODUCTION CAPACITY - (estimate)

50 set of machines per annum

TECHNOLOGY/MANUFACTURING PROCESS - Availability

The machine consists of 2 units known as sheet casting machine (main unit) and blanking die. The capacity of the unit is to cast 720 numbers of standard size of 200 mm dia plates per hour. The estimated cost of the unit will work out to Rs.2.25 Lakhs along with 3 sets of dies as against the cost of fabrication Rs.1.50 Lakhs including 3 die sets. CFTRI will provide the design drawings for both blanking unit and the casting machine as part of the technology transfer.