



## Technical Specification for Blank Tilting Machine

Ref. : EPD/WEX/BTM/01/2014-15

06.04.2014

### Specification for "Design, manufacture & Commissioning of ceramic Ceramic blank Tilting Machine"

#### A. Introduction

Pugmill is a ceramic extruding machine from which ceramic blanks are extruded with diameter 1000 mm, weighing about 3 tons, cut to the required length of 2000mm. The ceramic blanks that are extruded in horizontal position on to a slat conveyor is required to be placed on a pallet vertically for drying. The tilting of blank for horizontal to vertical position shall be slow and smooth placement on the pallet. The positioning of the ceramic blank shall be such that the cut bottom portion sits on the pallet (refer sketch-EP/SK/BTM/01/2014-15), the sketch shown is indicative.

#### B. Description of tilting process

1. The Extruded Ceramic blank is manually cut to required length of 2000 mm
2. It shall slide over to a powered conveyor with free wheel mechanism, to avoid damage to the Ceramic blank surface. The conveyor may also be provided with an extra holding mechanism to grip and move the Ceramic blank on to the conveyor
3. A custom made pallet shall be placed on the tilt table on rollers and the Ceramic blank from the powered conveyor will be driven up to the pallet face, by pressing a push button, such that the bottom face of the ceramic blank rests on the pallet
4. The Tilt table shall then be tilted by 90° to make the Ceramic blank vertical, by pressing a push button.
5. The Pallet rails will get aligned with a set of rollers fixed in the drier floor and the pallet will be pushed out to the rollers.
6. The hydraulic mechanisms for tilting and pushing out the pallet to the external rails shall be provided on the Tilt table assembly it self.

#### C. Scope of supply

Scope of supply shall include Design, Manufacturing and Erection of the Conveyor mechanism and Tilt table along with 4 No's custom designed Pallets in line with the tilting process described above. The Hydraulic power pack and controls shall be supplied by the vendor. The controls will be with manual push button switches. The complete operation will be manually controlled in steps ,with out any automatic handling. Vendors shall provide suitable sensors for safe operation of the equipment.

#### D. General Instructions

1. The bidder shall visit BHEL works to understand the work content and operation.
2. The bidders to provide a detailed schematic diagram of the proposed system with step by step description of the functioning of the system in detail for every stage in the Technical Bid. BHEL reserves the right to modify the schematic of the automation proposed at the technical bid evaluation stage.
3. For the proposed system the general operating systems shall be primarily hydraulic. Pneumatic systems shall be provided where it is absolutely essential.

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