

**THE GAUTENG FOUNDRY TRAINING CENTRE**

**REQUEST FOR TENDERS**



**SAND MOULDING SYSTEM**

**TENDER REFERENCE NUMBER: GTC 2012 /002**

## **Supply of a chemically bonded moulding system, comprising of a continuous mixer, sand delivery system, vibratory compaction table and roller track conveyer system.**

### **1. Continuous Sand Mixer**

1.1 The supply of a high speed continuous sand mixer, rated at one (1) to three (3) tons per hour of silica sand suitable for the alkaline phenolic binder system.

The mixer is to be used in a training centre and will be used on an intermittent basis.  
Ease of access for cleaning of the trough and blades will be important

#### 1.2 Equipment

1.2.1. 1 x one (1) to three (3) ton per hour high speed continuous sand mixer for use with the alkaline phenolic process.

1.2.2. Separate control cabinet for the binder and catalyst pumps remote from the mixer.

1.2.3. PLC control, with automatic calibration for binder / catalyst and sand additions.

1.2.4. All electrical cabling and binder / catalyst feed piping to be supplied.

1.2.5. Heavy duty drum stand for the positioning of the binder and catalyst bulk drums

1.2.6. The mixer is to be constructed and components supplied suitable for a heavy duty foundry environment.

1.2.7. The tenderer should indicate the methods of ensuring that the first and last sand discharge is usable

1.2.8. The binder and catalyst pump type and delivery method is to be specified and show how the binder and catalyst can be prevented from draining back from the injection nozzles when the machine is turned off.

#### Specifications (Typical)

Shaft Speed:	720rpm
Main Motor Drive	3kW
Sand Inlet Height	1500mm
Sand Discharge Height	1000mm
Trough Pivotal Range	270 degrees
Trough Length	750mm

1.2.9. The mixer is to be fully guarded with electrical interlocking safety systems

### **2. Dry Sand Supply System**

2.1. The silica sand will be delivered in one (1) ton bulk bags to be discharged into a receiving hopper and pneumatically transported into a five (5) ton (nominal) capacity overhead silo.

The system must be free of dust and be so designed, that the sand flows freely into the mixer without “hanging” in the silo.

## 2.2. Equipment

- 2.2.1. 1 x overhead sand hopper, five (5) tons capacity complete with support structure, sealed lid and micro reverse jet dust filter
- 2.2.2. 1 x two (2) ton capacity sand hopper, suitable for receiving dry sand in one (1) ton bags.
- 2.2.3. 1 x Pneumatic conveying system, (three tons per hour) for transporting of the sand from the bagged sand supply hopper, to the hopper overhead the machine. Complete with all control equipment.
- 2.2.4. The transport system must be dust free to conform with the green requirements of the training foundry.
- 2.2.5. The plant must be complete with all inter connecting piping and cabling as well as control systems.
- 2.2.6 The overhead sand hopper must have the provision to supply dry sand to the core sand mixing storage adjacent to the hopper.

## **3. Vibratory Compaction Table and Conveyor**

- 3.1. The compaction table is intended to demonstrate the advantages of mechanised compaction and mould consolidation in the chemically bonded moulding process.

The vibration amplitude and time duration must be variable.



## 3.2. Equipment

- 3.2.1. 1 x Vibratory compaction table, 600mm x 600mm with a 700mm operating height suitable for a maximum load of 300kgs
- 3.2.2. The unit must be fitted with fixed rollers spaced at 100 – 150mm, maximum with a vibrating frame for raising the mould from the roller surface during compaction.
- 3.2.3 2 x 10m Lengths of heavy duty roller track, 600mm wide and 700mm operating height for the moulding and curing stations.

**Note:** Tenderers may offer all or some of the above items. The purchaser reserves the right to purchase all or some of the items from individual tenderers. Items must therefore be priced separately.

## **Closing Date**

**20<sup>th</sup> (Twenty) July 2012 – By Close of Business**