

THE CONCEPT GROUP

The Concept Group is a premier and one of the leading organization in South India excelling in variety of products and services. Its flagship company Concept Pneumatic is a reputed organization in the field of world class state of the art epoxy floor coatings since 1996. It has created a brand in itself with numerous satisfied references for turnkey based epoxy floor coatings. Concept boasts of a host of world class clients like Bosch, GM, Ashok Leyland, Kirloskar, Bajaj Auto, Sansera Engineering and a host of others.

CONCEPT HEAT TECHNOLOGIES

CONCEPT HEAT TECHNOLOGIES (CHT) is a Concept Group Company and fast developing into a premier organization with respect to **Copper Brazing and Hydrogen Annealing** of components. With presently having over 25% market share in South India, Concept is emerging as a force to reckon within the field of Copper Brazing and Hydrogen Annealing.

Concept uses the best state of the art equipment and technology and with its stringent quality checks which leads to almost zero rejection rate and overall improved efficiencies, it is perched up to become the leader in its field.

Not only that CHT has in hand a host of brazing job orders from premier institutions, it is in talks with a number of reputed potential customers who have shown keen interest in our copper brazing facility and have promised substantial business.



Fig1. Brazing and Annealing Furnace at CHT

TECHNOLOGY AT WORK AT CONCEPT

Brazing as we know is a joining process whereby a filler metal or alloy is heated to its melting temperature and is distributed between two or more close fitting parts, and at this temperature the molten filler material and flux interacts with a thin material of the base metal, cooling to form a strong joint. The brazed joint becomes a sandwich of different layers each metallurgically linked to the adjacent layers.

At Concept, we undertake one of the most technologically advanced **Brazing Furnace**. The furnace is designed to have uniform heating, providing a controlled heat cycle, accomplishing an excellent quality braze without needing a post braze cleaning. The inert atmosphere used is a mixture of hydrogen with nitrogen at (-) 70 DEG C dew point produced by cracking ammonia by a Cracker Unit, which cleans the braze material simultaneously, thereby eliminating the need of protective flux in the filler material.

RESOURCE EQUIPMENT AT CONCEPT

CHT utilizes the best possible arrangement of equipment and resources to arrive at a world class brazing facility. Following is a glance at the various equipments at Concept.

FURNACE	:	A fully automatic, continuous mesh belt furnace with muffle
MAX FURNACE TEMPERATURE	:	1150 Deg C
PRODUCTION CYCLE TIME	:	80 min. approx.
FURNACE OVERALL DIMENSIONS	:	Length- 1200 mm, Width- 1000mm Height- 950 mm
INERT ATMOSPHERE	:	Dissociated Ammonia with stoichiometric composition of :- Hydrogen : 75% Nitrogen : 25% Oxygen : Nil Uncracked Ammonia : Nil Atm. Dew Point : (-) 70 Deg C
MUFFLE MATERIAL OF CONSTRUCTION	:	Hot Zone- Inconel 600, Cold Zone-SS-304
MUFFLE HEIGHT	:	220 mm, 210 mm available for loading
MUFFLE WIDTH	:	220 mm
COOLING DETAILS	:	Double Wall Water Cooling

CONVEYOR WIDTH	:	220 mm
COMPONENT WEIGHT PER CYCLE	:	Approx 25 kgs per hour
HOT ZONE LENGTH	:	2200 mm (2 x 1100)
COLD ZONE LENGTH	:	3750 mm (3 x 1250)



Fig2,3. Charges traveling inside the Brazing Furnace

COMPONENT SIZE FOR BRAZING

At CHT, we shall be able to handle all component sizes up to 190 mm diameter, as the furnace muffle size is 220 mm x 220 mm.

ANNEALING FURNACE

At Concept, we undertake one of the most technologically advanced **Annealing Furnace**. The furnace is designed to have uniform heating providing a controlled heat cycle, accomplishing an excellent quality of Annealing.

FURNACE	:	A fully automatic, batch type furnace.
MAX FURNACE TEMPERATURE	:	1000 Deg C
PRODUCTION CYCLE TIME	:	90 min. approx.
MUFFLE DIMENSIONS	:	600 X 600 X 600 mm
NUMBER OF TRAYS	:	A provision of loading 8 trays at a time in each furnace has been made to house maximum number of charges in the furnace.



Fig4. Annealing Furnaces

PRODUCTION FLOOR

For a world class production facility, and also to avoid dust on concrete floor area has been coated with epoxy, which is also one of the service provided by the CONCEPT group.



Fig4. Epoxy flooring done by the CONCEPT group.

UTILITIES AVAILABLE :-

- Ammonia Cracker with Purifier.
- FRP Cooling Tower with water circulation system.
- 100% percent power backup with Kirloskar generator.
- Ammonia Manifold.
- Nitrogen Manifold.



Fig4,5. Ammonia Cracker and Dryer.



Fig6. FRP water cooler tower.



Fig8. Ammonia Manifold.



Fig7. Kirloskar Generator.



Fig9.; Nitrogen Mnifold.

SAFETY AND ENVIRONMENT POLICY

At CHT all our processes and equipment are safe with respect to hazard to environment and to general conditions to its applicators and users. The services are offered after stringent regulations with respect to their effect to safeguarding the user's health and to the general environment as a whole.

REFERENCES

Though in initial stage, CHT boasts of following companies where we have provided our services of copper brazing to the entire satisfaction of the end users:

- MICO-BOSCH- ADUGODI BANGALORE PLANT
- GENERAL MOTORS INDIA LTD- HALOL GUJRAT
- PRICOL- COIMBATORE
- NASH INDUSTRY
- CONTINENTAL FORMERLY KNOWN AS VDO SEIMENS

BRING YOUR COMPONENTS TO CHT

In an era where companies are concentrating on their core competencies, its best to concentrate on your core business process, and leave the copper brazing to us. CHT promises you of an excellent quality brazed joint with long lasting life.

ASK FOR DEMONSTRATION COMPONENTS

Concept shall be glad to have your components for copper brazing for demonstration of our quality of braze so as to enable you to evaluate the overall brazing quality by your team, before you start up a long term association with us. We shall at our best to provide you at-your-doorstep services to collect the demo pieces and bring back the brazed components to you for quality evaluation.

We shall be pleased to conduct site visits to any of the above stated references. The plan of the visit can be ascertained on mutual convenience.

We trust the above shall help you generate some interest in Copper Brazing by Concept Heat Technologies. We look forward to your call for long term mutually satisfying business experience.

We shall be glad to hear from you for further discussions on the subject matter.