

1st in India to forge Nickel & Titanium Alloys



New company set to gain strategic advantage in manufacturing nickel and titanium alloy flanges and forgings in India.

JV in India 2010

Hart b.v., a well known and well respected distributor and stockist of

Indian and other Asian petrochemical & chemical industries. Because of this market development, Hart

modernized equipment and systems. Plus, they had experience working with Europe, North America and Canada.



nickel and titanium alloys based in the Netherlands, is announcing its first manufacturing venture set to begin early 2010 in India. This will be a first for them and a first for India. The joint venture, called HAF Forgings, will be the first to manufacture nickel and titanium alloys in India. CFN met with Henry Hart, the chief executive officer at Hart b.v., and with Dr Mike Lowden, special industry consultant from Edencroft Consultancy Ltd., to see what motivated them to move into manufacturing and to India.

Partner search

Henry Hart, president and CEO of Hart b.v., said it all began with the growing demand for Nickel Alloys and Titanium in the

thought, why don't we start manufacturing Nickel alloy flanges for the local Asian market as well as the conventional European and American markets? This concept could only be achieved by matching the high European quality standard. So, the search for the right partner in India began. The new partner needed to be a company with existing facilities, the right quality management systems and, preferably, a company with export experience. Thus, also began their careful selection process resulting in a decision making process which took over a year. Fivebros forgings in Ankleshwar (Gujarat) emerged to fulfill the search criteria. Fivebros had experienced and skilled crew producing quality products using

Technology Development

The next challenge was to develop the technology used in producing components in these high alloys in India. Dr Mike Lowden, Edencroft Consultancy based in the UK, came on board to review the existing equipment and systems. He said, "I was very impressed." The forging plant and equipment, the inherent forging skills, the quality management systems, management information systems and other systems in place were all on par with or exceeded his initial expectations. This gave Hart and Lowden a great sense of confidence in the potential of the partnership. Dr Lowden continued, "Fivebros understood stainless and duplex steels and were supported by excellent skills and systems."

Fivebros brings over 37 year experience in the field of forging, servicing the chemical and petrochemical industries, to the table. They stand on their own as an established and reputable supplier of carbon and alloy steel, stainless steel and duplex steel forgings. The existing plant has all the in-house facilities needed to produce closed and open die forgings in these alloys and to supply them in finished machined condition meeting



all appropriate standards. Supporting the manufacturing facilities are both PED and ISO approvals, certified by TÜV.

Investments in new Equipment

Based on Dr Lowden's recommendations the forging equipment was overhauled and refurbished and a significant investment was made on new reheat and heat treatment furnaces. A manufacturer in Mumbai, who is a leader in the field of furnaces, was selected to build and commission the new equipment. The new furnaces maintain set temperatures through the use of PID type digital controllers linked to fuel efficient high velocity burners.

Associated with the heat treatment furnace is a charging/discharging machine. The forgings can be transferred into a (highly agitated) quench bath in under 30 seconds, producing the desired microstructure and hence mechanical properties. Extensive forging and heat treatment trials to produce a wide range of sizes of flanges and fittings have been undertaken on material supplied by established European and US sources. Follow up test results, both mechanical and NDT, have demonstrated both process and product control. An investment was

also made in an additional compressor and receiver in order to maintain a consistent pressure of compressed air. All investments were made to achieve and assure a high quality product.

Investing in Workforce

One of the major advantages of the joint venture is that it is based in a manufacturing facility that for many years has supplied quality assured product into a demanding marketplace. This has been achieved through open lines of communication and a belief in the fact that a trained workforce is an effective workforce. Over the period of establishment of the joint venture, extensive training, both theoretical and practical (on the job), has

been undertaken involving both shopfloor and staff, to the benefit of all.

Production & Distribution

HAF will produce a wide range of flanges (dies exist for different standards), forgings (rings & discs), forged steel fittings and forged stubends. They will use only base material from renowned European and American mills. The plan is to stay small and flexible with plans for growth but not in to large volumes. Hart b.v. will distribute these products to Europe and North America and HAF will cover distribution in Asia.

www.hafforgings.com



HAF Administrative Team

- Yogesh Vadhar, *Managing Director*
- K.K. Syal, *Technical Director*
- Shrenick Vadhar, *Director*
- Henry Hart, *Communications & Business Development Manager*

Material

- Alloy 400
- Alloy 600
- Alloy 625
- Alloy 825
- Alloy C276
- Titanium grade 2

Products

- Flanges – up to 4”/6”, 150lbs/2500lbs
- Forged Rings – up to 500mm
- Forgings acc. to drawings
- Forged Steel Fittings – 3000lbs/6000lbs
- Forged Stub Ends – up to 6”