

C O L U M N



Barrie Kirkman

Valve casting weld repairs entitled "The Good, the Bad and the Ugly" was shared at the API 75th Fall Refining and Equipment Standards Meeting Nashville, Tennessee, USA

Experience of global foundries and their weld repairs practices was shared with the Piping Joint meeting. Indeed member's eye brows were raised with some of the photographic evidence. Many questions were raised.

API Resume;
Some ASTM casting stan-



The "Good" - casting surface



The "Good" - welding control



The "Good" - welding control



The "Good" - recording weld repairs



The "Bad" - concealed castings repairs

dards define major repairs and require stress relieving after the repairs are completed. There is no stress relieving requirements for weld repairs not meeting the major repair criteria. ASTM's A217, A995, and A494 define major repairs. ASTM A216 has the same requirement but does not use the term "major repair". ASTM's A703 and A985 specifies major repairs shall be subject to prior approval of the purchaser but does not define major repair nor does it specify stress relieving after completion of repairs.

Here are some slides illustrating The Good, the Bad and The Ugly for weld repairs. I think they are self explanatory.

Many thanks for your time,

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The "Bad"



The "Bad" - uncontrolled welding



And the "Ugly"



And the "Ugly"



And the "Ugly"

Precision Fine Casting up to 4 Kg

Linn High Therm GmbH has introduced Supercast and Titancast, induction heated precision fine casting machines for aerospace, automotive, medical, mechanical parts and the jewellery industry, which can cast up to 4,0 kg. A sophisticated medium frequency technology allows melting and casting metals in a very short time by centrifugal casting process. A remarkable feature

of this unit is the high melting capacity at low energy consumption. It is possible to melt and cast large quantities of material within shortest time. For example, 2 kg Ti in approx. 8 min or 3,5 kg steel in 6 min. Melting temperature up to 2000 °C. It is also secured that due to the eddy currents of the induction heating metals

and alloys can be mixed thoroughly and therefore are of continuous and reproducible quality. This is not possible in any other melting process.

Easy to operate due to modern S7-control with touch panel. All systems are available in vacuum version which enables to cast under air, inert gas, vacuum or vacuum with inert gas purging. Comprehensive accessories: e.g. optical temperature measuring unit, water circulation cooling. Ceramic crucibles and casting moulds are available.



Titancast



Supercast

Scana to Supply Propeller Shaft Forgings

Scana Industrier ASA has signed a one year contract through its subsidiary, Scana Steel Björneborg, to supply forgings for propeller shaft lines. This agreement with Wartsilä Propulsion covers the supply of propeller shafts and intermediate shafts for vessels.

Scana Steel Björneborg AB refines steel from raw materials to finished machined

Bulletins

Wind Tower Hub

Tata Steel has invested £1.3 million and created 19 new jobs at its Scunthorpe steelworks to tap into new market opportunities in the renewable energy sector. The company has created a new wind tower hub to process and distribute up to 200,000 tonnes each year of steel plate. Tata Steel has bought a purpose-built Messer Omnimat profiling machine and installed it alongside two other profiling machines at the wind tower hub.

products that are ready to use. These specialised high-quality forgings are represented within the marine, machine, energy and industry business areas.



Compact Graphite Iron Process Controls

Daedong Metals Co. Ltd. will begin producing compacted graphite iron using the SinterCast process. The company has entered into a long term agreement with the developer and licensor of the CGI process control technology, following a period of product development. SinterCast will customize a version of its System 3000 process control system for Daedong. The system provides liquid metal analysis and operator feedback results at two different locations in the foundry. The System 3000 was delivered and installed in early January. Daedong Metals' CGI series production includes three different cylinder heads for commercial vehicle engines ranging from 6 to 11L displacement. The cylinder heads will be used for the high performance versions of existing engines.

Welding Rod Development

Weldability-SIF has developed Sif Super Silicon No. 9, a new welding rod in the Sifbronze range for oxy-acetylene welding of cast iron. Designed for full fusion welding, the rod provides a machined high-strength weld metal and a good color match with the same structure as grey cast iron.

Offered in 4mm, 6mm and 10mm diameter 1m rods, the rod is square in section and available in 1kg and 5kg packets. The rod is suitable for the welding and joining of castings found in general manufacturing, agricultural and construction industries. It can be used for welding cast iron to high alloy steel

or cast iron to Manganese steel plates. It can also be used to build up and repair worn, broken or damaged areas, as well as surfacing of new castings. Provided the surface area to be welded has been ground and angled to a fine point, this rod can be used for TIG welding.

2011

China Castpart Exhibition

8th China International Non-Ferrous and Special Foundry Exhibition

April 12-14, 2011
Nanjing International Expo Center, Nanjing, CHINA

Organizer: CHINA FOUNDRY ASSOCIATION

Concurrent Events:

- 2nd Meeting of 6th CFA Board of Directors
- China Foundry Summit
- Quality Casting Competition
- 2011 China International Casting Purchasing Conference

Supporting Media:

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