



Abstract

A medium sized company from South East Sweden is looking for expertise in the domain of corrosion and wear and tear analysis of casting steels. The analysis method should be fully developed and quality certified. The preferred partner is either a university or a research institute, with thorough knowledge of the domain.

Description

The company has recently developed casting steels with innovative properties, and would now like to test at least one, but possibly three of these materials regarding corrosion and wear and tear. The company is preferably looking for either a university or a research institute, with thorough knowledge in the domain of corrosion and wear and tear analysis of casting steels.

The following aspects should be analysed:

1. Corrosion:

The material loss/time unit at the exposure of different substances, such as: sea water, natural gas, petroleum substances (crude oil, diesel, petrol) etc.

The analyses should initially be conducted at temperatures between 0 and 20 degrees celsius. Subsequent tests may be needed at higher temperatures.

Depending on the results given, there might be requirements to assess different types of corrosion protection.

2. Wear and tear

To study the material loss/time unit - regarding wear and tear, at the exposure of sand and sand mixed with petroleum products.

The company was awarded in 2009 a product development grant by the Swedish Agency for Economic and Regional Growth in order to develop the materials.

Technical Specifications / Specific technical requirements of the request

The initial material to be tested is NS 236, and the subsequent two are NS 165 and NS 166.

The data below is for 1: NS 236, 2: NS 165, 3: NS 166

C in %: 0,13-0,2; 0,06; 0,06

Si in %: 0,60; 1,00; 1,00

Mn in %: 1,00; 1,00; 1,00

P in %: 0,025; 0,025; 0,025

S in %: 0,025; 0,025; 0,025

Cr in %: 0,5-1,5; 14,5-17,0; 14,0-17,5

Ni in %: 1,0-2,0; 3,5-7,0; 3,5-6,0

Mo in %: 0,3-0,8; 0,5-2,0; 0,5-2,0

Additional data: V; V Nb; V Nb

Re in Mpa: 850; 750; 820

Rm in Mpa: 950; 920; 1000

A 5 in %: 12; 15; 12

KV/C° in J: 42-20; 42-20; 42-20

Additional data on the materials will be provided when a suitable partner is found.

Valid until: 25/11/2011

For further information (including IPR status)

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