

Ålesund, 03.09.14

TO WHOMEVER IT MAY CONCERN

1. We are pleased to state that M/S Grintex India Ltd, Gurgaon (India) had undertaken structural design work of an Ice class 95 meters Seismic Research Vessel to DNV class as our sub contractor. The work was completed in 2012 the best of our satisfaction and schedule. The scope of work included following:-

- a) Finalization of Structural configuration of the vessel depending upon the layout of heavy equipment, deck openings for heavy machinery and seismic research vessel
- b) Calculations for the plating, stiffeners – girders, beams, frames, pillars etc for meeting the DNV class requirements DNV +A1, EO, SF, CLEAN DESIGN, COMF C3-V3, HELDK-SH, NAUT-AW, ICE-1B, RP, TMON, SPS
- c) Calculations for ice strengthening of the shell in the ice belt zone for meeting the ice class ICE-1B
- d) Calculations for deck stiffening for heavy seismic winches and other equipment, collision bulkheads etc.
- e) Calculations for heli deck
- f) Calculations for tank bulkhead and deck scantlings
- g) Calculations for shaft brackets and propeller nozzle supports
- h) Calculations for equipment number, anchor, chain cable sizing etc.
- i) Calculations for dock block requirements
- j) Drawings for the profile, longitudinal and transverse sections, deck plans in the entire scope as required by DNV for approval of plans
- k) Drawings for docking plan
- l) Design for Cranes etc

2. We found that the design and consulting team at Grintex India Ltd is highly professional and mature and have sound knowledge of design principles and softwares. They have been flexible and co-operative in their approach.

3. It is also stated that two vessels were built on this design named as, "Sanco Swift" and "Sanco Sword". As last known to us, both vessels are in operation for Dolphin Geophysical and are performing very well.

Best regards

SKIPSTEKNISK AS

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Naval architects and marine engineers

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