Hydro Aluminium Profiler a.s

HYDRO

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To whom it may concern. Date: 31st of March 2011

ALUMINIUM PRODUCTS IN MARINE ENVIRONMENT AND ALUSTAR ALUMINIUM SYSTEM SCAFFOLD

Hydro Aluminium Profiler AS hereby confirms that the profiles to Alustar aluminium products are of alloy **EN AW-6082 T6** which fully complies with the following European Standards regarding quality of the profiles, punching of the scaffolding planks and design:

- EN 1999-1-1. Eurocode 9: Design of aluminium structures. Part 1-1: General structural rules
- EN 1090-3: Execution of steel structures and aluminium structures. Part 3: Technical requirements for aluminium structures
- EN 13195: Aluminium and aluminium alloys - Wrought and cast products for marine applications (shipbuilding, marine and offshore).
- EN 755-1. Aluminium and aluminium alloys - Extruded rod/bar, tube and profiles - Part 1: Technical conditions for inspection and delivery
- EN 755-2. Aluminium and aluminium alloys - Extruded rod/bar, tube and profiles - Part 2: Mechanical properties
- EN 755-9. Aluminium and aluminium alloys - Extruded rod/bar, tube and profiles - Part 9: Profiles, tolerances on dimensions and form

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For shipbuilding, marine and offshore usage the standard EN 13195: Aluminium and aluminium alloys a.o. states the following for ally **6082 T6**:

"A2.1.2 Alloy EN AW-6082

EN AW-6082 is one of the most widely used heat treatable alloys and often the principal alloy used in many countries for welded and non-welded applications. It is a high strength alloy available in most forms, solid
and hollow extrusions, tube and finds increasing use in components exposed to the marine environment. It is normally used in the fully heat treated condition T6.

The choice of this alloy as a structural material is based on a favorable combination of properties: high strength after heat treatment, good corrosion resistance, good weldability by both MIG and TIG processes,
Good formability in the T4 temper and good machining properties."

It must be noted that the Alustar aluminium scaffold components are pressed and screwed together so that no strength has been lost with welding.

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Aluminium products have for many years been in use in shipbuilding, marine and offshore solutions. The following list with a few examples shows the wide range of application:

- Large modules, for instance living quarters
- Small modules, for instance workshops, dressing rooms, dining rooms, painting workshops, control rooms
- Telescopic bridges
- Fixed bridges
- Helicopter landing deck
- Supporting structure to the helicopter deck
- Helicopter hangars
- Stair Towers and Stairs
- Walking Routes
- Rope Access Platforms
- Railing
- Flexi Barrier
- Ladders
- Antenna Tower
- Data Floor
- Scaffolding systems
- Structures that protect against falling objects
- Weather protection
- Explosion Relief Walls
- Ventilation Grilles
- Roofing on ships
- High-speed vessels and ferries (all in aluminum)
- Suspension Tires on ferries
- Lifeboat Suspension
- Life Boats
- Lifeboat platforms
- And Other ... ..

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