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SPECIAL INSTRUCTIONS REGARDING SILICON IRON PUMPS.

High Silicon iron process equipment has been serving the chemical and associated industries for nearly ninety years. The corrosion resistance of this alloy has been claimed by many to be unexcelled by any other commercially available metal, or alloy, together with its excellent corrosion resistance High Silicon Iron by virtue of its hardness finds many applications where corrosion and / or erosion is present.

The greatest hindrance to the wide-spread use of this alloy has been its susceptibility to both thermal and mechanical shock. It is therefore important that the following points are considered to achieve a long and trouble free service life :-

- (1) Thermal shock should be minimised - if possible gradually heat the equipment to elevated working temperatures.
- (2) Do not allow staff to 'hose down' equipment working at high temperatures. Rapid changes in ambient temperature may induce thermal shock, however, gradual temperature changes generally cause no service difficulties.
- (3) Fitment of pipework expansion bellows, compatible with the pumped fluid, will reduce any mechanical loads or vibrations and is **highly** recommended.
- (4) Check the correct alignment of suction and discharge pipework etc this should be adequately and independently supported. The pump casing should **not** be used as a pipework support.
- (5) Reduce any imposed pipework loading by not overtightening the pipe flange connections. (see torque chart for the **maximum** recommended values).

- (6) *High Silicon Iron alloys are very hard and machining of holes is very difficult, welding of castings is also impractical and should not be attempted.*
- (7) *Metal pumps should have Compressed Non-Asbestos Fibre or similar jointing gasket material approx 1.0 - 2.0 mm thick between the pump branches and connecting pipework. The joint material must be compatible with the pumped fluid.*