SPP Limited Theale Cross Reading Berkshire RG3 7SP England Telephone (0734) 323123 Telex 848189 Fax (0734) 323302

COATING OF PUMPS WITH BELZONA SUPERMETALGLIDE

1. SCOPE

1.1 This standard relates to the coating of the internal hydraulic surfaces of pump units with Belzona Supermetalglide in order to enhance the level of performance. This instruction will be specified on the COF.

2. SURFACE PREPARATION

2.1 STATIONARY PARTS - VOLUTE CASING, DIFFUSER CASING, INSERTS

2.1.1 Mismatched flow surfaces between successive stationary parts will be dressed to achieve near perfect matching where practicable. (Mismatch of 1 mm or less is acceptable)

2.1.2 On volute casings the cutwater will be radiused and any rough edges removed.

2.1.3 On diffuser casings the inlet and outlet guide vanes will be radiused and any rough edges removed.

2.1.4 The whole of the liquid passages will be cleared of all major projections so that we have smooth contours in the flow passages.

2.1.5 At the extremities of the surfaces to be coated the edge should be chamfered, typically to 2 mm x 45°. This would apply at joint flanges, delivery and suction branches , wear ring shoulders etc.

2.2 ROTATING PARTS - IMPELLERS

2.2.1 Impeller inlet vane tips will be dressed smooth and radiused.

2.2.2 Any steps left by machining at the impeller eye are to be removed by careful contouring.

2.2.3 Any "backing off" that is specified must be carried out well down the impeller vane so that no heel is left. Reference should be made to the Impeller drawing or any specific hydraulic design instructions should be made. Fluid passages will be thoroughly cleaned of all projections and rough edges such that a clean smooth surface is achieved.

2.3 All surfaces to be coated shall be grit blasted to Swedish Standard Sa2.5 or BS 4232 Second Quality. The air supply shall be free from oil and water, the abrasive grit may be metallic or non-metallic but capable of producing a minimum depth of profile of 75 microns. (3 thou)

2.4 Metal surfaces prepared as per 2.3 shall be available for coating with Belzona Supermetalglide within 4 hours to ensure no oxidation of the surface takes place. If oxidation of the surface has occurred then it must be reblasted before coating.

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3. PREPARATION OF COMPONENTS FOR COATING

3.1 Clean all surfaces to be coated using copious amounts of Belzona Cleaner/Degreaser (04537) applied by brush in a flood coat.

3.2 Mask off all machined surfaces or areas not to be coated.

4. COATING SYSTEM

4.1 FIRST COAT

4.1.1 Thoroughly mix the Supermetalglide material using equal parts by volume of Solidifier (Grey) and Base material to produce a homogenous material, free from streaks. (Useable life when mixed limited to one hour at ambient temperature)

4.1.2 Apply the supermetalglide to the surfaces to be coated using a stiff brush. The material should be applied in sufficient quantities to achieve a dry film thickness of 250 microns.

4.1.3 Check for any "holidays" in the coated surface.

4.1.4 Any "holidays" should be made good by local brush application.

4.2 SECOND COAT

4.2.1 The minimum overcoating time will vary according to coating thickness and the ambient temperature but under normal circumstances this minimum time will be approximately six hours. (Under no circumstances shall the first coat be left longer than 24 hours)

4.2.2 Thoroughly mix the the supermetalglide material using equal parts by volume of solidifier (blue) and base material.

4.2.3 Apply the supermetalglide to the hydraulic surfaces to achieve a full system thickness of 500 microns.

4.2.4 Check for any "holidays" on the coated surface.

4.2.5 Make good any "holidays" by local brush application.

4.2.6 The coated component should then be left to cure for 24 hours before handling.

4.2.7 To achieve a full cure before immersion in fluid a further 48 hours should elapse.