25 July 2012



ISS Facility Services 51-60 Futura Park Aspinall Way Middlesbrook Horwich Bolton BL6 6SU

our ref: 1204814/jml your ref:

Fao David Jenkins

Dear David,

Proposed Machine Base - Alfa Laval, Birch Road, Eastbourne.

We confirm having visited the above on 24 January 2012 in order to carry out a core sample through the floor slab in order to assess the suitability of placing a new machine in the location indicated to us.

Details of the core sample taken are summarised below:-

Contract of the second of the	 0mm	Floor slab surface.
	 35mm	Grano screed.
	 115mm	Top reinforcement, 6mm bars, assumed A142 mesh.
		Body concrete, deemed of good quality and reasonably high compressive strength.
	 225mm	Bottom reinforcement, 6mm bars, assumed A142 mesh.
	 245mm	Bottom of main concrete.
	 300mm	Bottom of blinding concrete, deemed also of good quality and well bonded to main concrete.

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registered in england and wales number 3636496 vat reg no 702 8806 42 This correlates with our expected findings, based on our knowledge and experience of the building over many years. The section was cored through the original reinforced concrete raft slab distant from any original column lines.

We have been provided with a foundation drawing supplied by the machine manufacturer, plus some additional loading information from yourselves, and would summarise our understanding of this as follows:-

Base width	1850mm
Base length	4575mm
Required thickness	380mm mass concrete on a 200mm thick bed of gravel
Req. ground pressure	78,400 Pa (78.4 kN/m ²)
Machine mass	15,200 kg (150kN)

Subsequently calculated values:-

Area	8.46 m ²
Base self-weight	76 kN
Total mass	226 kN
Ground pressure	26.7 kN/m ² assuming uniform distribution (which is unlikely)

From our experience of the site, a ground pressure of 30 kN/m² is typically considered as acceptable to limit excessive settlements. The calculated pressure is within this, based on assumed uniform load distribution, but the manufacturer's recommended pressure is more than 2.5 times the accepted limit.

The manufacturer's details also show around 17No. recessed anchor bolt pockets which, at approximately 300mm deep, would not be able to be accommodated within the thickness of the existing slab.

Unfortunately we would therefore recommend that part of the raft slab be broken out and replaced with a new and more substantial one. Our further, initial calculations would indicate that a reinforced concrete slab 3000mm x 7500mm on plan and 600mm thick would be required, and that it would need to be tied to the perimeter of the remaining slab in order to provide continuance of the original raft. It should also be kept a reasonable distance from any main portal frame lines (as the raft may be significantly thicker here and could be impaired if disturbed).

We trust you find this of assistance for the present and, should you have any queries or wish to discuss any items in more detail, then please do not hesitate to contact us.

Yours sincerely,

Dales

John M Loades BEng(Hons) CEng MIStructE Chartered Structural Engineer & Principal

Direct email john.loades@jmla.co.uk

Cc: by email. Cc: Alfa Laval, Eastbourne – fao Andy Short (via email).