

Incoming Email

from

"Steve Hart"
<Steve@mason-uk.co.uk>

on
25/10/2013 09:52

Create Mail Reply

File Ref 1 Acoustics

File Ref 2

File Ref 3

To: <A.Lewis-Nunes@maxfordham.com>
Subject: RE: Grenfell - Actions from M&E meeting

Associated Documents

pasted in by: **Michael McMillan** on 25-Oct-13

3 attachments



RBACD_Met.pdf



MFS.pdf



MFS Floor Section.pdf

Arthur,

Thanks for the call.

Boxing Bag Support

Looking at the below email trail, I think the standard bracket with the chain would be the best option. If this was mounted on a steel plate, say 10mm thick, and the plate in turn was mounted on 3 RBA-Black fully captive isolators to the wall, then I think this would do the trick. The isolators will take the shear dead load of the punch bags, and being all directional, will take the forces when the bag is swinging about.

With the option of suspending from the ceiling things are a little more complicated. The same type of isolator could be used to suspend a plate or angle. The guide or guard could also be fitted to the wall with this type of isolator. Although there will not be much dead load, I think you will require an isolator that can take loads in all directions from the swinging bag.

Floor

I notice that you are advising to use a floating timber floor on rubber cubes by TVS. In our experience within gyms where there is a lot of impact energy from skipping, dropping of free weights, running machines etc the use of elastomeric isolators might not attenuate the impact energy to the required levels. Therefore energy could enter the structure and you may have structure borne noise problems to the floor below. The problem is that an elastomeric based system just cannot deflect quick enough under the impact loads to absorb the energy of someone skipping, or free weights being dropped.

In these cases, with a light weight timber floor construction, we would recommend a spring isolator. The Mason MFS-150 Yellow floor springs installed to floor battens with the floor construction over

would be a better option. The floor springs would normally be set at approximate 600 x 500mm centres. See attached sketch and data sheet, and link to our website below. If floor to ceiling height restrictions are critical, the batten can be removed, but installation becomes a bit more tricky. The springs act quickly to the impact loads. The energy of the impact is converted into spring deflection, and is attenuated from entering into the structure.

<http://www.mason-uk.co.uk/basket.asp?pid=384#.UmotGoxwZfw>

We would be grateful if you would put forward this option for the flooring. The square metre cost of the floor would be of a similar magnitude to the £70 to £100m2 mentioned below. I will give you a call to discuss.

Regards

Steve Hart
Project Engineer



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From: A.Lewis-Nunes@maxfordham.com [<mailto:A.Lewis-Nunes@maxfordham.com>]

Sent: 24 October 2013 16:16

To: Steve Hart

Subject: Fw: Grenfell - Actions from M&E meeting

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----- Forwarded by Arthur Lewis-Nunes/MaxFordham on 24/10/2013 16:00 -----

From: Bruce Sounes <bruce@studioe.co.uk>
To: "A.Lewis-Nunes@maxfordham.com" <A.Lewis-Nunes@maxfordham.com>,
Cc: "M.Smith@maxfordham.com" <M.Smith@maxfordham.com>, "Tom Ashton (Tom.Ashton@curtins.com)" <Tom.Ashton@curtins.com>, Grenfell <Grenfell@studioe.co.uk>
Date: 22/10/2013 18:30
Subject: FW: Grenfell - Actions from M&E meeting

Email from Claire below for your information:

We're proposing to show the bags, dotted, as below.

Regards

Bruce

From: Claire Williams [<mailto:clwilliams@kctmo.org.uk>]
Sent: 22 October 2013 16:39
To: Bruce Sounes; BOOTH Philip
Subject: RE: Grenfell - Actions from M&E meeting

Team

My issue is that we are not supplying the fixings, nor are we yet clear on the numbers of punch-bags etc. If we need to specify a type of fixing, then we will need to do this via the lease; which means the boxing club need to be fully alerted to this. Will the testing tell us if there is a preferred type of fixing for the punch bags?

I have arranged for Arthur to have access on the half term week, but am not sure that this will be more than a look-see and monitoring exercise.

Claire Williams
Project Manager



t: [REDACTED]
m: [REDACTED]

a: The Network Hub, 292a Kensal Road, London, W10 5BE

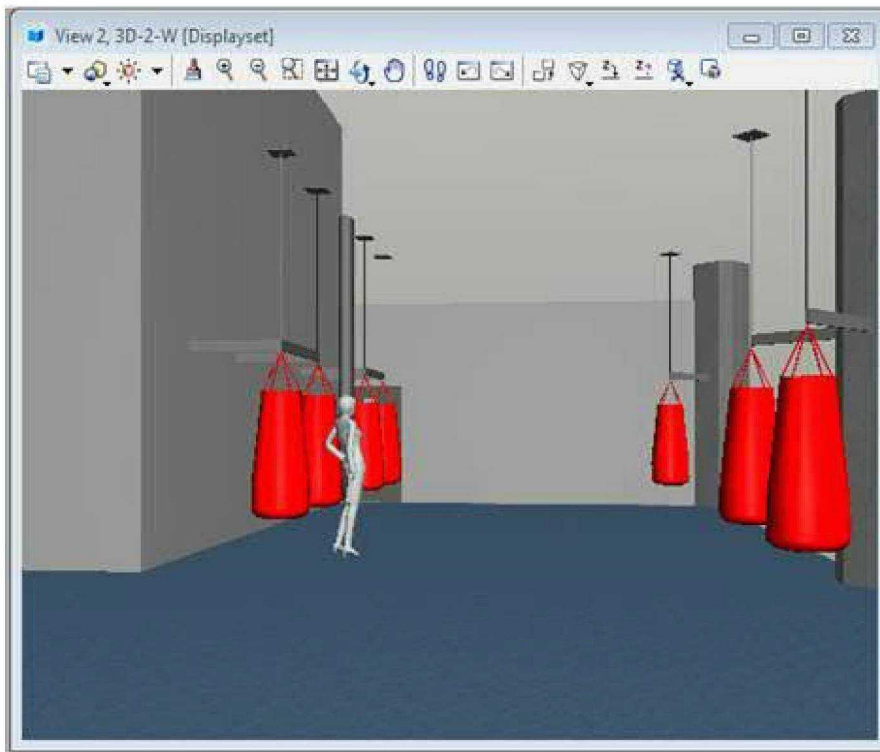
 Before printing, please think about the environment

From: Bruce Sounes [<mailto:bruce@studioe.co.uk>]
Sent: 21 October 2013 20:07
To: BOOTH Philip; Claire Williams
Subject: FW: Grenfell - Actions from M&E meeting

Philip, Claire,

I think you need to see the conversation below on the Boxing Club acoustics. The comments in red are from Arthur Lewis Nunes, the acoustician from Max Fordham.

We could do an experiment and visit the nursery on a boxing night to understand how much noise is transferred via the fixings to the bags. I was thinking of something like this as an alternative to goal post structures:



Regards

Bruce Sounes

For and on behalf of

STUDIOELLP

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Arthur,

Boxing

Thanks for the response. Looks expensive!

Table 0.1a Dwelling-houses and flats – performance standards for separating walls, separating floors, and stairs that have a separating function

	Airborne sound insulation sound insulation $D_{nT,w} + C_w$ dB (Minimum values)	Impact sound insulation $L'_{nT,w}$ dB (Maximum values)
Purpose built dwelling-houses and flats		
Walls	45	-
Floors and stairs	45	62
Dwelling-houses and flats formed by material change of use		
Walls	43	-
Floors and stairs	43	64

We had specified Hush-Batten ([Link](#)) which falls short on the Impact L value:
Dntw+Ctr= 47dB / L'ntw = 56dB

Questions:

- I believe we are required to comply with this table from Part E. How have you arrived at the design rating for this system?

Part E gives the minimum performance requirement between two dwellings. Where a dwelling is adjacent to a non-domestic use Part E states that a higher performance standard may be necessary, but doesn't prescribe specific targets. Given that a boxing gym is probably noisier than typical domestic scenarios, this indicates that it is appropriate to provide enhanced sound insulation. The advice on the floor build-up is based on that impacts from skipping, dropping free-weights etc are quiet enough in flats not to disturb residents.

- I see another company, [CMS](#) does the same system which is imported from the USA. Should I use TVS as the supplier reference? Yes, TVS can be used. I understand they are both suppliers of the product which is actually by Kinetics Noise Control.
- What is the minimum required air gap thickness? 50mm - the mineral wool is included within this
- Are there cheaper alternatives? Or a rational for a relaxation that could allow a cheaper system? It could be argued that we only design to meet minimum Part E requirements for between dwellings - these could be achieved with a much simpler floor build-up. However, I expect that the residents below the boxing gym would end up complaining about noise so we wouldn't recommend doing this. TVS advised that the cost of the floor described in my previous email would be in the range £70-100 per m2.
- Can the floor finish contribute to the overall impact performance, eg [Polyfor Acoustix vinyl sheet](#) claims 19dB impact reduction. This is a bit misleading. The 19dB reduction is derived from a specific test that involves using a 'tapping machine' with small metal weights that drop down by a few cm. Although this is the test used to assess impact noise under Part E, this is not representative of e.g someone skipping in the boxing gym. Under these conditions the reduction would be much less.
- Would this have to extend into the changing/toilets/circulation if there was a residential unit below? No, in these areas something like a 5mm rubber underlay would be adequate.
- I know post completion testing for residential properties is required under Building Regs but is it mentioned in your specification and should we mention it in ours? It will be included in our specification
- Please confirm the requirement for a standard gypsum ceiling to the boxing club? Could this perhaps be held back subject to testing? Yes, we can wait till we've done the testing to confirm that this is required.

Punchbag Frames - Questions

- Again, this sounds expensive. Is there no way of isolating a standard [bracket](#) (this one below has a spring which must help) I think it will be difficult to support a bracket from the wall in a way that is both acoustically effective and structurally secure. I can speak to Mason Industries (suppliers of vibration isolation products) tomorrow to see if they can suggest anything but I think its unlikely.



- Could the bags be suspended from the slab above using the same rubber grommets and isolator pads? Potentially a piece of Unistrut could be fixed from the soffit on rubber hangers. However, it would have to be fairly close to the soffit to avoid an excessive lateral load on the fixings. However I imagine this will then result in the punch bag swinging too much.
- If so we might be able to argue that the club provides it's own support and we just provide an indication of a solution.
- Which pad should we specify? The W (Waffle) Pad is 8mm, the Super W is 10mm. Are you asking for 50mm combined thickness? Won't this result in the post swaying? I think the Super W is 20mm. I think this would probably be adequate but need to do some further assessment if this solution is to be developed.

Room Data Sheets

The client is asking for Room Data Sheets. We are providing references to drawings and drawing series instead of duplicating information and you could do the same. You just need to give the criteria: separation from adjoining units and reverberation time. There aren't any reverberation time targets (its not standard for a building of this type). My point about the sound insulation is that for every space there maybe different targets going into each of the adjacent spaces. I can do my best to rationalise this, but it still might end up being unclear.

Regards

Bruce Sounes

For and on behalf of

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From: A.Lewis-Nunes@maxfordham.com[mailto:A.Lewis-Nunes@maxfordham.com]

Sent: 18 October 2013 16:58

To: Bruce Sounes

Cc: d.campbell@maxfordham.com; Grenfell; M.Smith@maxfordham.com; Stefano Strazzullo; Tom Ashton

Subject: Re: Grenfell - Actions from M&E meeting

Bruce,

Boxing Gym floor

The solution we are proposing is to use a floating timber floor system (e.g. TVS). The raised floor is supported on 50mm rubber isolator cubes, typically in a 300mm grid. A mineral wool layer is required in the cavity. The raised floor will probably need to be formed of 2 layers of 18mm ply with a 15mm plasterboard payer sandwiched between. There will also need to be a further 15mm resilient underlay over the timber floor, beneath the floor finish. A gap around the perimeter of the floating floor with a resilient strip is required to isolate it from the surrounding walls. Total floor build-up is approximately 130mm depending on the floor finish. Some of the manufacturer's details are shown in this link:

<http://www.totalvibrationsolutions.com/pdf/rimw.pdf>

This system would require a levelling compound to be applied to the existing floor.

Punchbag Support Frames

The proposed solution is to support the punchbags on 'goalpost' frames. The foot of each post is welded to a steel baseplate (approximately 300mm x 300mm). The baseplates are mounted on rubber isolation pads (which we expect to be 50mm or less) which sit on the slab. The baseplates are secured to the slab with bolts through rubber bushings to maintain the isolation (<http://www.mason-uk.co.uk/HG.pdf>).

Room Data Sheets

The acsoustic targets we're designing to are in terms of the sound transmission from one space to another. I'm not sure if these can be simply added to the room data sheet, as for each room there may be separate targets for all of the rooms its adjacent to. It might be simpler to mark-up a floor plan with the acoustic targets.

I can send some details for the above on Monday. I'll also give some details for the new partitions.

Kind regards,

Arthur

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From: Bruce Sounes <bruce@studioe.co.uk>
To: "M.Smith@maxfordham.com" <M.Smith@maxfordham.com>, "d.campbell@maxfordham.com" <d.campbell@maxfordham.com>,
Cc: Grenfell <Grenfell@studioe.co.uk>, "A.Lewis-Nunes@maxfordham.com" <A.Lewis-Nunes@maxfordham.com>, Tom Ashton <Tom.Ashton@curtins.com>, Stefano Strazzullo <Stefano.Strazzullo@curtins.com>
Date: 15/10/2013 12:24
Subject: Grenfell - Actions from M&E meeting

Matt,

Actions from Friday

- Detail of proposed flooring to boxing. Can't go further than [this](#)
- Fixing details for proposed punch bag supports.
- Acoustic targets for Room Data sheet (Can you add columns to attached Spreadsheet?)
- Landscape scheme with light masts (see attached. We don't believe Bouyges have selected fittings but will ask Matthew Wigan)
- (Urgent) Motivation for renewing smoke exhaust/general fire strategy submission to Building Control.
- Provide std detail for dry riser – or point to where we can find it.

Room Data Sheets

I propose to use an Excel spreadsheet to compile the room data sheets. They will either be Mail-merged into Word documents or individual Excel worksheets. Can you provide your headings, or an example from a previous project which I can use to start setting this up? TMO/Artelia have agreed that we should include any "Schedule of Works" type descriptions in the Room Data Sheet.

4	5	41	42	43	44	45	46
Room	Room name	Lighting	Switching	Specialist lighting	Power details	Sockets in floor	Fused Conne
A001	Entrance	Refer to drawings	Reception + photocell		1 double socket	N/A	
A002	Reception Desk	Refer to drawings	Reception + photocell		2 double sockets	N/A	N/A
A003	Soft Play	Refer to drawings	Reception		N/A	N/A	N/A
A004	WC Lobby	Refer to drawings	Reception + presence		N/A	N/A	N/A
A005	Accessible WC	Refer to drawings	Reception + presence		N/A	N/A	
A006	Public WC - Male	Refer to drawings	Reception + presence		N/A	N/A	
A007	Public WC - Female	Refer to drawings	Reception + presence		N/A	N/A	
A008	Cafe	Refer to drawings	Reception + photocell		2 double sockets	N/A	
A009	Servery	Refer to drawings	Reception + photocell		2 double sockets	N/A	N/A
A010	Kitchen	Refer to drawings	Reception + local switch		3 double sockets	N/A	N/A
A011	Kitchen Store	Refer to drawings	Reception + local switch		1 double socket	N/A	N/A
A012	Lobby	Refer to drawings	Local switch		N/A	N/A	N/A
A013	Stair A	Refer to drawings	Reception + photocell		1 double socket	N/A	N/A
A014	Lobby-Stair C	Refer to drawings	Reception + photocell		N/A	N/A	N/A
A015	Baby Change	Refer to drawings	Reception + presence		N/A	N/A	
A016	Soft Play WC	Refer to drawings	Reception + presence		N/A	N/A	
A017	Entrance Lobby	Refer to drawings	Reception + photocell		N/A	N/A	N/A

Regards

Bruce Sounes

For and on behalf of

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[attachment "131002 Ext Works.zip" deleted by Arthur Lewis-Nunes/MaxFordham] [attachment "ScheduleArea.xlsx" deleted by Arthur Lewis-Nunes/MaxFordham]

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