


 Date :- 15 Dec 2010.

DRAWING REVIEW

RE :  CHATHAM, KENT

We are aware that the design team are far more advanced with their knowledge of the project than us at this point in time and that many of these issues may have already been discussed and considered. However, we can only make comment based on our knowledge of the project thus far and on the drawings provided.

The drawings below were submitted to us via an electronic file " Issue 16-09-10" which we assume to be the most recent.

F1	Roof Plan ~ No comment	
S1	<p>Calculations should be sought for U value of roof and wall cladding taking into consideration average purlin and rail centres.</p> <p>We note that in some areas purlins are at 430 centres, but the spacer system is not fixed to every purlin. Is the Structural Engineer happy with this ?</p> <p>It is normally expected that roofing should be fixed to every purlin to transfer loads from the roof. . In the case presented on Section C the centre purlin is in fact carrying 50% of the roof.</p> <p>The Lower section of roof on Section C is similarly treated.</p> <p>Drop tests should be requested from the manufacturer to show that their sheet is not fragile at the centres used.</p>	
S2	Again, it is noted that the roof is not fixed to every purlin	
S3	Again, roof loadings are not transferred to every purlin	

S4	Insufficient detail to comment upon	
D1	Where is nearest RWP clip ? When roof sheet expands, will this place undue pressure on top RWP Clip	
D2	<p>U & f factor calculation for up stand area.</p> <p>How is any condensation within the upper roof area to escape ?</p> <p>We note that the flashing covering the gap between the two roofs has a large vertical leg. Under normal circumstances this is likely to “oil can”. However, we note that it is intended to use a 1.5mm flashing which will reduce this somewhat. If Oil canning does occur, is this likely to cause an aesthetic problem?</p> <p>Likewise, any expansion of the horizontal leg has nowhere to go. Albeit a small leg, we have seen fixings fail due to the restricted expansion allowance in similar circumstances</p> <p>Incidentally we assume the colour ref is NCS S3502-B (i.e. RAL 7040) is this correct or is our library out of date please ?</p>	
D3	<p>We would prefer to see a slope on the top of the flashing.</p> <p>Expansion of the cap flashing may cause the front face to distort. Will this cause aesthetical issues ?</p>	
D4	Wind calculations for spacer system at verge (and other high risk areas) should be checked	
D5	As above	
D6	<p>Are the expansion coefficients of the roofing verge detail and glazing supports compatible?</p> <p>Will the fixing of a roofer’s flashing to the window section invalidate any warranties?</p>	
D7	<p>U & f factor for vertical section should be checked</p> <p>Also concern with expansion of flashing similar to that on D2</p> <p>Does the glazing have weep holes, if so where. Can condensation discharge to the outside world</p>	

D7A	As for D7	
D8	Insufficient detail	
D9	<p>Would wish to discuss Kerb flashing detail, external face appears large as one face. Effect of Sun on one side and not the other ? etc</p> <p>Expansion coefficient of 0.9mm Rigidal sheet against 1.2mm flashing. Given that the flashing will be in c3m lengths and the sheet continuous.</p> <p>Will the kerb not be locked up by this detail, if not by the welding, but by being forced to a fixed frame by itself ? How will the leg connected to the steel fare in this battle?</p> <p>We have serious concerns regarding the long term practicality of this detail.</p>	
D10	No comments at this stage	
D11	Face of verge flashing seems a little excessive	
D12	<p>U & f factors to be checked for vertical face</p> <p>Same expansion concerns as noted for D2</p>	
D13	No comments at this stage	
D14	Given that the length of roof sheet leading to this detail is c 6200mm, this will push / pull the ridge flashing by some 6 to 12mm (depending on final colour) Is this likely to cause an aesthetical issue ?	
D15	No comment at this point	
D16	Is a secret gutter not required here ?	
D17	Is condensation likely to get trapped between filler/ pan support and apron flashing ? (vertical detail)	

D18	No comment at this point	
D19	Is there sufficient gap between right hand Z supports at ridge for expansion before it hits the crank of the ridge flashing ?	
D20	Expansion of roof sheet is likely to distort gutter – is this an issue ? If the gutter overflows it appears that water will pour behind the vertical sheet indicated. This is not good practice and will at a minimum ruin the insulation in these locations. Can we request the detail be completed ASAP please.	
D21	No comment at this point	
D22	No comment at this point	
D23	Again, expansion of sheet is likely to distort ridge flashing, albeit this only a minor example compared to else where	
D24	No comment at this point	
D25	No comment at this point	
D26	No comment at this point	
D27	If gutter overflows, water will run behind external brickwork. Is this acceptable ? Is there the potential of a cold bridge at this detail ? f factor calculations are recommended Is gutter bracket / gutter steel or Aluminium? (? dissimilar metals ?)	
D28	Detail incomplete – no comment at this point	
D28A	Could not locate 28A on plan, but subject to application, we have no comments at this point	
D29	Foam fillers on vertical sheet ? ?	

D30	Retainer clip fixed at halter point ????. Appreciate that this also a fixed point so perhaps not so critical, but is it to Rigidal's approval ? Also as for D2, flashing has nowhere to expand	
D31	A little concerned about expansion of flashing (horizontal leg) this is likely to overstress fixings	
D32	External face of verge flashing appears a little excessive, albeit we appreciate that it is 2mm thick	
D33	No comment at this point	
D34	Same comments regarding expansion of flashing	
D35	No comment at this point	
D36	Possible cold bridge through jamb flashings to steel behind ??	
	A few freehand sketches have also been supplied. We would prefer to discuss and fully understand these before commenting please	

Design responsibility remains that of the Contractor at all times.

We trust these comments assist

Yours faithfully

D A Hicks F.I.o.R
Director