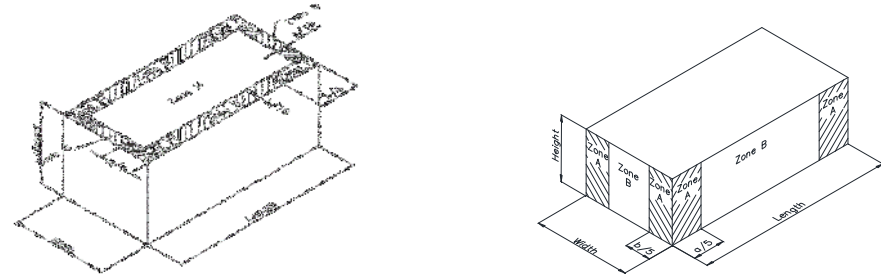


Design Calculations

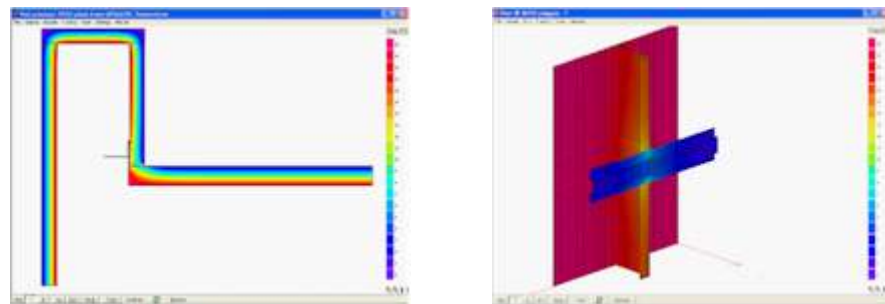
Wind loading and fixing requirements

Wind load calculations carried out in accordance with the requirements of NA to BS EN 1991-1-4:2005 + A1:2010 the UK National Annex to Eurocode 1 – Actions on structures Part 1-4: Fixings numbers can be calculated for mechanically fixed flat roof systems profiled sheeting & cladding and composite panels.



U value and thermal bridging to comply with Part L

The calculations are been carried out using finite element analysis computer program HEAT2 & Heat 3. These program is fully compatible with BS EN ISO 10211-1:1996 Thermal bridging in building construction - Heat flows and surface temperatures Part 1. General calculation methods and so meets the requirements of Approved document L.



Roof drainage and gutter design

Drainage calculations are carried out in accordance with the requirements of BS EN 12056 -3:2000 Gravity drainage systems inside buildings - Part 3: Roof drainage layout and calculation for eaves, parapet, valley gutters and flat roofs.



Condensation risk analysis

The calculations were carried out using industry recognised software JPA Designer from JPA Technical in accordance with BS 5250:2011 Code of practice for control of condensation in buildings. The equations used are from BS EN ISO 13788:2002 Hygrothermal performance of building components and building elements. Internal surface temperature to avoid critical surface humidity and interstitial condensation.



