**INTRODUCTION**

Nowadays, there are the strongest arguments for building timber frame structures.

Today’s timber frame building is very high valued and is able to answer most of the demands from our society and the environment that we live in.

Timber frame has very good building physical properties, is obviously an ecological material, induces lower energy consumption, reduces the construction rates and is one of the best for paraseismic construction.

My research will be focused on studying the stiffness of timber platform frame walls as it is a central question in a high winds region.

**METHODOLOGY**

I will investigate on the racking & thermal performances of various reinforcement ideas through a technical review and the use of technical softwares.

With TEDDS I will calculate the value of the racking performance of the different types of shear walls, different types of reinforcement (1 is presented on this poster next to the initial solution called Benchmark). The way the different frames are braced will be taken into account in order to get the most representative value of racking performance for the shear walls.

The main answer to “how to increase the stiffness of a timber frame wall” is basically to reinforce it by adding steel elements. The 2 constitutive parts of the frame can be made “stronger” in order to enhance the overall stiffness of the wall by working on:

- The sheathing
- The frame

The 3 different solutions will consider both aspects (the one presented on this poster is a reinforcement of the frame).

Then the technical feasibility of the new reinforced timber frame wall prototypes will be compared to the basic solution (Benchmark) in order to know to what extent those solutions are better (including a price investigation).

**FUTURE WORK**

- Proceed the structural analysis of the different reinforcement designs. Analysis of the racking values and comparison with the anchorage strength.
- Thermal analysis. Focus on the wall performance or investigation on the critical structural connections (timber/timber, timber/concrete).
- Appraisal of every solution. Investigation on the financial and energy cost, consumption of hardware and optionally the time spent to prefabricate the wall.

**REFERENCES**


Ebble/Arcadial database. 2012.

http://www.growninbritain.org/