4. RESULTS

MATERIALS

The charts below show the low percentage of respondents which implement emerging materials during the execution of each construction element.

Furthmore, respondents were asked to identify which of the five building construction stages is easier to implement or use emerging/innovative materials. Results show that the majority of the respondents (30%) consider the building facade or finishings as the building activities were emerging materials can be easily implemented.

These respondents also have used emerging materials, were asked about the type of building they were applied such materials. iconic buildings are the major building types were emerging materials were incorporated in a newly built project and rehabilitation projects.

Furthermore, the results in the question ‘in which of the six stages do you think it is easier to apply Emerging/Innovative TECHNOLOGIES?’ show that first choice is Buildings façade with 29.1%. The results in the question ‘if you have used Emerging/Innovative Technologies in any stage of a new building or building renovation, please specify the type of building’ show that the use of these technologies at any construction stage has a higher rate of application in new construction than renovation with first choices Residential buildings and Commercial buildings respectively.

Finally, the answer ‘Lack of training among construction stakeholders’ has the highest rate of response with 25.5% regarding the main barriers in implementing emerging technologies. The ‘Lack of necessary information’ and ‘Higher cost’ with an equal rate of 20.0% are the second most selected answers by respondents. Also, it was found that architects and engineers were the major agents implementing these technologies with 47.6% and 14.3% respectively.

TOOLS

The results show that the most commonly used construction standard during construction of residential, commercial, industrial and iconic buildings is EN 1504, followed by other standards such as ISO which is mostly used during construction of iconic buildings.

While the most commonly used Certification Systems, are local ones 46.7%, depending on the local law requirements in different countries, followed by LEED Certification System which is the most widely used construction of Iconic Buildings.

5. CONCLUSIONS

Results show that, in general, there is a lack of regenerative sustainability criteria in Europe, especially in the southern countries. Most countries rely on traditional materials and technologies rather than advanced and emerging materials and techniques. Finally, the results obtained help to understand the current situation of sustainability and to identify the challenges and difficulties of implementing Sustainable Construction in the Europe.

References