

Title:

Development of a Fire Retardant Door Made of Earth Materials

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Abstract:

In the case of fire in buildings, fire doors installed prevent the spread of fire and smoke from crossing across the building compartments. Much recently, there is a growing interest in the development of earth materials as an alternative material in building and construction like standard bricklaying and masonry. In the present study, the earth materials performance as an additive to the fire door core material in terms of its fire resistant is evaluated. It was found that an earth materials infiltrated core at 50% has shown significant improvement in terms of its fire resistant time. In conclusion, earth materials can be used as an additive to improve the fire resistant performance of fire doors. Comparable performance to the existing fire doors will have positive impact on the development and labor cost of fire doors especially for utilization in developed countries.