

## **Eco-Friendly Acoustic Materials for Certified Separating Walls Between Adjacent Rooms**

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### **Abstract**

As Buildings Became With Multi Adjacent Functions And Activities, Checking The Acoustic Performance Of The Separating Walls Which Divide The Building Area Into Number Of Different Adjacent Rooms And Functions, Has Become A Must In Order To Enhance The Indoor Environmental Quality And Achieve The Acoustical Required Comfort. This Became So Clear Especially After The Remarkable Change Of Life Style And Time Periods We Spent In Different Places Due To Latest Circumstances And The Covid19 Epidemic, For Example, Time Spent In Residential Buildings To Stay And Work From Home. One Of The Most Effective Considerations During Designing And Checking The Separating Walls Is Determining The Sound Transmission Classification, Which Known As (Stc) Rating To Check The Room Separators Performance In The Term Of Sound Transmission Either Transmitted Through The Separator Itself Or Flanking From Joints Between The Separator Components And Other Attached Elements Such As Floor And Ceiling. The Study Is Looking After Eco-Friendly Materials By Encouraging The Use Of Recyclable, Earth Materials, Low Embodied Energy And Improved Economic Impact Materials With Determining The Factors That Enhance The Separating Walls Performance That Help To Qualify The Building To Earn “Leadership In Energy And Environmental Design (Leed) In (Usa), Or Green Pyramid Rating System (Gprs) In Egypt” Certifications, In A Way That Achieves The Sustainability Of Environmental And Economic Resources. Therefore, The Idea Of The Research Is To State An Analytical Study And Numerical Comparative Methodology Dealing With Aspects Of Building Science, Include How To Determine The Suitable (Stc) Ratings Values Of Separating Walls Between Adjacent Rooms According To The Rooms Activities And Adjacency Combination Functions To Come Up With A Set Of Results And Recommendations That Achieve The Objectives Of The Research Which Is To Qualify Buildings To Be Certified.

### **Keywords:**

Separating Walls Design - Sound Transmission Classification (Stc) – (Leed) And (Gprs) Rating Systems – Eco-Friendly Materials.