

Loading Test Report

Approval office for construction
products

Structural Testing Office

Fire Engineering Department

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Applicant:

Contruss engineering company
4500 Cote-des-Neiges Rd, Westmount,
QC H3V 1E6, Montreal, Canada

Subject of approval:

Loading test report of Contruss permanent filler

The above-mentioned approval subject is hereby loading test report. This test report comprises 6 pages.

1- Introduction:

This report is related to loading test of permanent fillers that are practiced in voided slab with perpendicular ribs. The test has been implemented in three positions of middle, edge and corner on the filler proposed by Contruss engineering group.

2- Test method:

Loads are applied in three positions of middle, edge and corner on the fillers in this test. The area subjected to applied load is 8*8 cm. The load level is as much as 150 kg. Permanent deformation or fracture under the applied load is not permissible in the filler, trays and piles.

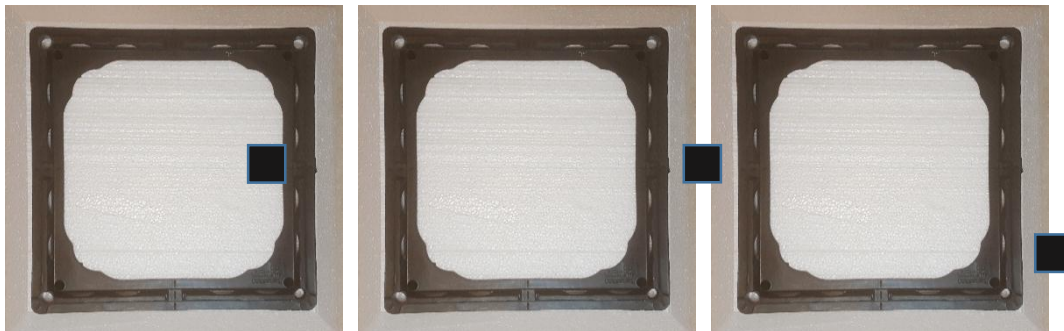


Figure 1. Locations of applied load



Figure 2. load applying on the center of filler

3- Sample specifications:

Three filler samples were presented to the CIBmt by the applicant. In addition, a polystyrene block sample has been received separately for density measurement. The fillers are made of polystyrene and also the upper and lower trays and pile are made of polypropylene. The polystyrene block dimensions are 55*55*20 cm and trays dimensions are 45*45 cm. Density of the expanded polystyrene used in the fillers was measured 8 kg/m³.



Figure 3. Weighing polystyrene block to measure density



Figure 4. Side view of the filler

4- Test conclusions:

By applying load up to 150 kg, observations illustrated that none of the fillers are fractured, and also there is no permanent deformation in the fillers and no deviation in the piles. Due to compressibility of polystyrene, localized permanent deformation was observed in the location of applied load and the amount is presented in the following table.

Table 1- localized deformation in the location of applied load

	Location of applied load on the filler	Amount of localized permanent deformation (mm)
1	Middle	12.65
2	Edge	8.46
3	Corner	4.15



Figure 5. localized deformation under location of load

5- Concluding:

Based on the conclusions and according to acceptable criteria by the CIBmt, the filler samples have enough strength to bear loads applied by passing of workers during construction of voided slab ceiling with perpendicular ribs. Note that the conclusions are related to the samples and the product or a special production line is not considered, meanwhile it will be generalized to the product.