



May 1, 2000

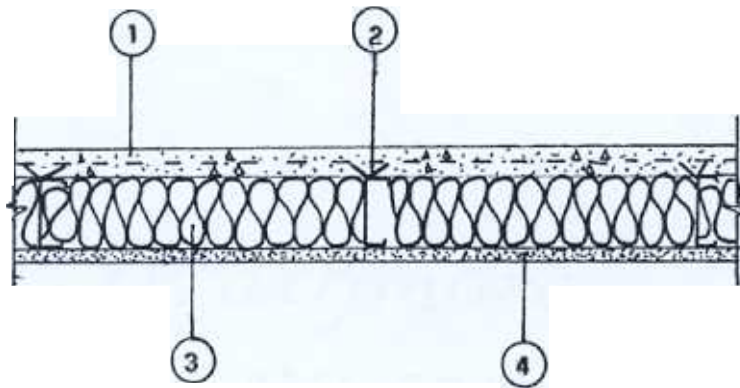
Earl Composite Systems  
199 South Hudson Avenue  
Pasadena, California  
U.S.A. 91101

Attention: Paul M. Clark, Jr.

Dear Sir:

**Re: Two Hour Rated Exterior Wall Design for Target Stores, Yonkers, New York**

The following exterior wall design using Earl Composite Systems (Metal Studcrete®) concrete/ steel stud wall system will provide a two hour fire resistance rating, load bearing, in accordance with ASTM E-119 and the Uniform Building Code requirements. This determination is based on our experience in testing gypsum wallboard and similar concrete wall assemblies.



- 1 **Exterior Concrete** - Minimum 3 in. thickness normal density concrete (2800 PSI @ 28 days) reinforced with 6 in. by 6 in., 2.9 by 2.9 welded wire fabric mesh.
2. **Composite Steel Studs** - Minimum 16 gauge, 6 in. depth or larger galvanized steel studs and proprietary Metal Studcrete® composite connectors located 24 in. on centres maximum.
- 3 **Insulation** - Fibreglass batt insulation filling stud cavities
4. **Gypsum Wallboard** – Two layers of 5/8 in. Type X or Type C gypsum wallboard, installed vertically and fastened with 2 in. screws located 8 in. on centres. Wallboard joints shall be staggered between layers. All joints and screw heads to be taped and filled on second outside layer.



Warnock Hersey



emc



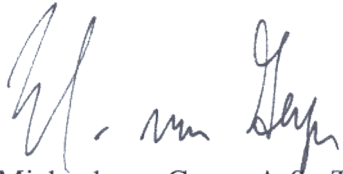
Earl Composite Systems  
May 1, 2000  
Page 2 of 2

Re: Two Hour Rated Exterior Wall Design for Target Stores, Yonkers, New York

This design is valid for the site mentioned above, where the maximum load shall be in accordance with Earl Composite Systems structural design specifications.

Yours truly,

**INTERTEK TESTING SERVICES NA LTD.**  
**Warnock Hersey**

A handwritten signature in black ink, appearing to read "M. van Geyn". The signature is fluid and cursive, with the first name "M." and the last name "Geyn" being the most prominent parts.

Michael van Geyn, A.Sc.T  
Manager  
Fire Testing Laboratory

**MVG/bjm**