GRAM High Performance Spun Concrete Columns

The GRAM High Performance Spun Concrete Column is essentially a steel column wrapped in reinforced concrete by a centrifuging process. The core of the column is solid steel. This core is surrounded by a steel reinforcing cage that is encased in high density spun concrete for protection from fire and corrosion. This configuration allows the standard steel to concrete ratio of 8% to be raised to 17%. The amount of fire resistance desired is easily obtained by varying the thickness of concrete covering the main reinforcement. Also, the high density concrete has a low thermal inertia and heat conductivity which provides good resistance to high temperature. The prefabricated GRAM column makes it possible for an engineer or architect who wishes to use a small cross-section column to have a choice of material other than steel. In addition, architects can specify various surface treatments such as colors, groovings, or super-smooth marble-like surfaces. The development of the GRAM column was carried out in Switzerland during the mid 1980s in cooperation with the Ecole Polytechnique Federale de Lausanne. After a series of tests made in 1998 at Karlsruhe University, it is now accepted throughout Europe.

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