Southern BUILDING

PUBLICATION OF
SOUTHERN BUILDING CODE CONGRESS

GYPSUM INDUSTRY PLANS FOR THE FUTURE

APRIL 1968

World's Tallest Residential Building Selected for Gypsum Association Test Program

Lake Point Tower (see cover) in Chicago is the site of an extensive study being conducted by the Gypsum Association to develop an understanding of partition movement.

This single tower skyscraper is 70 stories high, rising to a height of 645 feet, making it the world's tallest reinforced concrete building, as well as the world's highest apartment structure. When completed, 900 luxury-type apartments will be included, ranging from efficiency to three bedroom suites. Over a hundred tenants now inhabit the lower floor apartments, while construction continues above.

Partitions selected for the Gypsum Association study are located on four consecutive floors, 48th through 51st. Party walls—those between apartments—have been selected for the tests. Most of the test partitions are located in the west wing of Lake Point Tower, since the greatest extremes in temperature are found there. At least one partition on each floor located in northeast and south wings will also be measured.

Racking, slab deflection and thermal movements are all being measured in this field test program, according to Mr. Henry Omson, Technical Director for the Gypsum Association. The partition types selected for study are described briefly as follows:

1. Gypsum Drywall with provisions for relief of stresses.
2. Gypsum Drywall without provision for relief of stresses.
3. Gypsum Veneer Plaster (thin coat plaster over a gypsum base) with provisions for relief of stresses.
4. Gypsum Veneer Plaster (thin coat plaster over a gypsum base) without provisions for relief of stresses.

Each of the above methods of constructing partitions is located on a separate test floor. On each test floor, two column-to-column partitions and three column-to-shear wall partitions are being tested.

Measurements are being made each month of the slab deflections at the test partitions. However, since these partitions were erected about 100 days after the floor slabs were cast, the initial slab deflections upon removal of the forms are not being included in the program. The maximum slab deflection recorded is approximately 0.17 in. to date, with each test floor exhibiting similar patterns.

In cross-section, Lake Point Tower resembles a three-leaf clover. All walls are curved and each apartment has nearly all-glass outer walls with dramatic views.

All party-walls and corridors were constructed of gypsum and attained a two hour fire rating and 50 STC sound rating throughout the building. This was achieved by using one layer of half-inch thick Type "X" wallboard over a layer of five-eights inch thick Type "X" wallboard on both sides of one- and five-eights-inch metal studs.

Lake Point Tower is located at Lake Shore Drive and Grand Avenue in Chicago. Bordered on the east by Lake Michigan and the west by the north end of Chicago's Loop, the Tower is ideally located near the heart of the business and entertainment center of the city. The skyscraper features a circular drive and heated walk-ways, and a heated four-level parking facility. The third level has the following features: a private two-acre park with the outdoor swimming pool, reflecting pond with waterfall, landscaped walkways, a council ring and a putting green.

With the selection of Lake Point Tower for its structural test program, the Gypsum Association anticipates to gather meaningful data that will be useful in predicting movement of partitions in other types of high rise buildings.

Who knows more about fire resistance than the Gypsum Association?

The Devil you say!

Outside of the Devil himself, nobody knows more about fire resistance ratings than the Gypsum Association. In our recently published booklet, "Design Data/Fire Resistance," you'll find up-to-date results on hundreds of fire tests conducted by the Gypsum Association. If you haven't already received your copy of the new 1967 edition, or would like additional copies, write us now. Gypsum Association, 201 N. Wells Street, Chicago, Illinois 60606.