Hotel Fire
Chicago

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The world's largest hotel, the 2,600-room Conrad Hilton in Chicago, was the scene of a ninth-story fire that claimed the lives of two deaf-mutes and hospitalized 38 other people early on Sunday, January 25, 1970.

Basically of fire-resistant construction, the hotel forms a complex occupying three-quarters of a block, the remaining section of the block being an open parking area.

The main hotel section, built in the late 1920's, fronts the block on Michigan Boulevard and measures 401 feet by 174 feet, with 25 floors and six basement levels. At the rear are two annexes, both connected to the hotel, one a 14-story service wing, the other a four-story exhibition and convention facility that was added in the middle 1960's.

In the main section Floors One through Four and the basements are used for restaurants, ballrooms, reception rooms, services, and administration. Floors Five through Twenty-five are all residential, each floor averaging 125 guest rooms.

An elevator bank for the guests is centrally positioned, with 14 elevators opening to a lobby in each floor (see the floor plan of the ninth floor, next page). The lobbies are approximately 50 feet by 30 feet. Immediately north of the guest elevators is a service area with eight elevators and one stairway. Fire walls and doors separate that area from the guest section.

The guest area of the ninth story is typical of all the other stories, with rooms opening off a central main corridor and branch corridors.

The interior finishes of this area comprise plaster-on-metal-lath ceilings in the lobby and branch corridors and a mineral-fiber lay-in acoustical tile ceiling along the main corridor.

All the wall surfaces are vinyl fabric on plaster, adhesive unknown. When tested to ASTM-E84 the fabric had been given a Class A rating, with a flame spread as low as 8.

Each guest room has a standard 1½-inch wood-frame door with a ¾-inch panel. The only exceptions are two rooms opening directly to the elevator lobby, where ¾-inch plywood had been added to the outside face of the doors to complement the elevator lobby decor.

Fire fighters attempt to revive a victim found only 20 feet from an exit.

Grateful acknowledgment is made to Fire Commissioner Robert J. Quinn and officers of the Chicago Fire Department for their cooperation in providing information and assistance in compiling this report. All the photographs are official Chicago Fire Department material.
All vertical shafts and ducts except those serving as bathroom vents are sealed either at floor level or by doors or covers.

The room air conditioning does not connect with or enter the corridors, and it was not operating at the time of the fire.

Fire protection in the hotel does not include sprinklers or fire detection systems.

The seven internal stairways are protected with self-closing doors, some metal, some of wired glass in metal frames. At the rear of the building there are five external fire escapes accessible directly from the corridors.

No smoke doors are provided throughout the 1,200-foot corridor on each floor.

Illuminated signs indicate the exit doors to stairways and fire escapes, nonilluminated signs the routes to exits.

The eight standpipe systems, located at various exit stairways and fire escapes, are provided with 1%-inch preconnected hose and 2%-inch fire department connections at all levels. Siamesed inlets are located at street level for Fire Department use to supplement domestic pressure.

The hotel alarm system consists only of one pull station at the elevator lobby on each floor. The pull stations give a coded signal in the telephone operators' room. There is no general alarm or fire department connection.

Before the fire about 50 chairs awaiting repair had been stored in the elevator lobby of the ninth story. The chairs, consisting of wood frames, foam rubber seats, and cotton-padded arms and backs, were stacked forming an island about 10 feet by 15 feet in the center of the lobby. The chairs were concealed from public view by draperies on aluminum-frame stands.

The last known person in this vicinity was a security patrolman who clocked in the area at 3:00 am and reported nothing abnormal.

Among the guests on the ninth floor was a party of 41 youths from a deaf-mute school who were in town to attend a basketball game.

The fire was discovered about 6:45 am when a guest in the ninth floor called the hotel operator reporting smoke and heat in the corridor.

A security man went to the ninth floor and, finding heavy smoke, roused occupants by calling and knocking on doors until deteriorating conditions prevented further attempts.

The telephone operator, receiving other reports from guests, called the Fire Department at 6:50 am.

It is reported that the hotel operators then systematically called all the rooms to alert guests, but the sequence used and the effectiveness of the calls are not known. A number of guests made statements to the press that they had received no such call.
The Chicago Fire Department, responding to the telephoned alarm with a first attendance of three engine companies, two ladder companies, a special service squad (snorkel/rescue), and a battalion chief, deployed around the building on preplanned procedure. At that time there was no exterior evidence of the extent of the fire.

Crews entering at ground level had difficulty in locating anybody with knowledge of the fire until a member of the kitchen staff whose English was very limited managed to indicate that it was on the ninth floor.

Using a service elevator, the crews ascended to the eighth floor and, taking the preconnected 1⅝-inch hose and a 2½-inch fire department hose line from the standpipe outlet at that level, moved up the service stairway to the metal doors at ninth-story level.

When they opened the doors they met intense heat and smoke and zero visibility. From that point no progress could be made without breathing apparatus.

Other crews that had entered by means of a stairway at the south end of the building were able, wearing breathing apparatus, to work down the ninth-floor corridor using a 2½-inch line from the standpipe system. At that time many ninth-floor guests were still in their rooms, and fire fighters could hear them calling for assistance. Reassuring them and warning them to keep their doors shut, the fire fighters continued working down the corridor until they reached the seat of the fire in the elevator lobby.

At the same time rescue operations were in progress. At the north end five youths, part of the deaf-mute group, were hanging from window ledges of ninth-

The elevator lobby where the fire originated on the ninth floor.

Top: The main corridor on the fire floor, looking south from the elevator lobby.

Above: The main corridor of the tenth floor from the same position. This photo indicates the condition of the ninth floor before the fire, and the absence of damage immediately above the fire.

floor rooms in a recessed area over the flat roof of the lowest four levels. Fire fighters entered rooms in the eighth story and pulled four of the youths to safety; just before he could be reached, the fifth fell five floors to the roof, sustaining fractures to both legs.

Guests on upper floors were now experiencing smoke in the corridors, and they were evacuating in large numbers using interior and exterior stairways. A number of guests were taken down from the ninth floor over the Department's 144-foot aerial ladders.
SECOND, THIRD, AND FIFTH ALARMS had been struck in fairly quick succession, bringing a total of 20 engine companies, 10 ladder companies, and 10 ambulances, together with special supporting apparatus. The manpower thus assembled was fully utilized, dealing not only with the fire and the casualties but also with the problem of controlling about 1,800 guests, the majority of whom were evacuating on their own initiative.

Searching fire crews located the bodies of two 17-year-old deaf-mutes in the ninth-story corridor, about 20 feet from the northeast corner fire escape. Continuous resuscitation efforts by the fire fighters were of no avail.

In all, 36 people, most of them deaf-mutes, were hospitalized, mainly because of smoke inhalation or heat exposure. The security guard who first responded to the fire and one fire fighter were among the injured.

One family, who used an elevator from the sixteenth floor, experienced a blast of heat and smoke when the elevator stopped at the fire floor. Fortunately, before smoke could obscure the electric eye device the doors reclosed, and they descended safely to the first floor.

Other elevators responded unoccupied to the ninth-floor level, apparently because of fire damage to the call circuit at the fire scene. The elevators that remained open there were severely damaged.

INVESTIGATION OF THE CAUSE OF THE FIRE, which originated in the accumulation of chairs in the elevator lobby, has narrowed down the probabilities to careless disposal of smoking materials by a passer-by or by someone who for unknown purposes went behind the draperies concealing the chairs.

The question of deliberate ignition is still being explored, but motivation or purpose for such an act was not immediately apparent.

THE BEHAVIOR OF THE MATERIALS AND FINISHES indicates that the fire proper was confined to the stacked chairs, the foam rubber producing considerable heat, dense smoke, and carbonized particles.

Apparently radiated heat ignited trim and wood surfaces in the immediate area of the elevator lobby, and convected heat with some radiation appears to account for the ignition of door surfaces along the corridors for about 100 feet on either side of the lobby.

The entire corridor system of the ninth story from ceiling to floor was damaged by extremely heavy smoke and carbonized deposits.

There was no evidence that the carpeting contributed to the spread of fire or smoke, as only the portion in the immediate vicinity of the stacked chairs burned.

The behavior of the vinyl wall covering cannot be fully determined, but there is no doubt that heat caused the adhesive to weaken, allowing the covering to peel and hang. Firemen have stated that the covering did not seem to be burning as they moved along the corridor toward the seat of the fire. The vinyl surface is backed by a cotton reinforcement, and that appeared to have carbonized.

As was noted above, room doors and trim were charred for about 100 feet in both directions from the elevator lobby, but no penetration occurred, even in those doors opening directly to the lobby. In general the electrical circuits were unaffected by the fire, receiving only local damage. The emergency lighting on the ninth floor continued to function. The exit signs, however, were obscured by soot deposits.

Smoke traveled to upper corridors apparently by the opening of elevator doors at the fire floor. Unavoidable spread of smoke also occurred during fire-fighting operations, because hose lines had to be brought through stair enclosures. Re-entry into corridors at upper levels occurred where guests were evacuating by the same stairways. On upper levels there was negligible smoke damage.

THE INTERIORS OF ONLY TWO ROOMS WERE AFFECTED — 939A and 940A, the rooms that had been occupied by the two youths who died and the others who were rescued from window ledges. Both rooms sustained severe smoke damage.

It appears that while the two victims were attempting to reach the stairway, smoke forced the others to climb out the windows. As they went they left the doors open. All the boys were deaf-mutes, and presumably the smoke prevented them from communicating with one another in their normal way, using sign language.

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The test method described in this Standard is applicable to the fire-testing of window assemblies and glass block and other light-transmitting assemblies. The assembly under test is exposed to the conditions of the standard time-temperature relationship used for fire-testing building material assemblies. The test method includes a fire endurance test and a hose stream test. The text that was Tentatively adopted in 1969 is being submitted without change by the Committee on Fire Tests for Official adoption this year.


This Standard, containing design and construction requirements for portable shipping tanks with capacity between 60 and 660 gallons, is being submitted by the Sectional Committee on Transportation of Flammable Liquids for Official adoption. The text is unchanged from the version Tentatively adopted in 1969.


This Standard, Tentatively adopted in 1969, provides fire prevention and protection recommendations for explosives motor vehicles terminals. Motor vehicle terminals provide an area where motor vehicles transporting explosives over public highways can be parked pending further movement, usually by another carrier. The Standard presented this year for Official adoption contains revisions of the Foreword and of Chapters 1 and 2. The revisions were made to answer two criticisms of the Tentative Standard — that the Foreword did not stress the point that the purpose of No. 498 is to prevent fires and explosions (rather than to control the effects of explosions), and that the text contained too many indefinite spacing recommendations.


This Standard has been prepared by the Committee on Mobile Homes and Recreational Vehicles of the American National Standards Institute (A119), sponsored jointly by the Mobile Home Manufacturers Association, the National Fire Protection Association, the Recreational Vehicle Institute, and the Trailer Coach Association. It will replace the American Standard Installations of Plumbing, Heating and Electrical Systems in Travel Trailers (A119.2 — 1962) and the coverage of travel trailers in the former NFPA Standard for Fire Prevention and Fire Protection in Mobile Homes and Travel Trailers (No. 501B — 1964).

In its present form No. 501C does not cover the construction of recreational vehicles or features related to their safety and performance when they are in use as vehicles.

The participation of the NFPA as a sponsor of this project is administrative and undertaken in the sole interest of safety to life and property from fire and allied hazards.

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Storage of combustibles in corridors or exit routes is not permitted under Chicago's Fire Code, and the hotel has since been cited for a violation in this case.

The preliminary estimates of the property loss have been given as $75,000 to $100,000.

One of the significant features of this fire was the lack of an alarm-sounding system (not a legal requirement in Chicago). This raises important questions that require consideration and about which conflicting opinions are held by many:

How effective under fire conditions can it be to call each room by telephone, when one considers the length of time necessary and the need to determine sequence to be used according to fire conditions?

Would a general alarm signal have helped in this case, involving large numbers of people, many of whom could and did remain in their rooms with safety, and who might have been subjected to danger had they left the rooms?

Would a voice alarm system with general and zoned operation be suitable for a large hotel? If so, who should make the decision which floor or floors to evacuate first?

Should hotels make special arrangements for guests with disabilities, or should the organizers of parties of such guests themselves provide adequate supervision by persons with full faculties?

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