

2,400 s after impact and then began cooling. The core beams on the west face were heated by the fires on the 93rd floor below.

The thermal response of the perimeter and core columns was highly dependent on the state of the fireproofing and to a lesser extent on the fire growth and spread pattern. Since there was no insulation damage for the perimeter columns on the 93rd or the 94th floor, the temperature increases were moderate, reaching no higher than 200 °C to 300 °C.

The core columns exhibited a vast variation in steel temperature. Columns 501, 601, 701, 801, 901, and 1001 had intact insulation and stayed relatively cool in spite of fire activity in this region. Column 607 had intact insulation, but was relatively light in weight. It responded relatively quickly to an evolving fire in the vicinity, showing a very high temperature at 600 s after impact, cooling near 1,200 s after impact, and then increasing again at 3,000 s.

The core columns that had lost their insulation heated differently depending on their mass and fire exposure. Columns 1004, 1005, and 1006 reached the 500 °C to 600 °C range at 1,800 s and remained hot until the end of the simulation.

6.10.3 Floor 95

Figure 6-46 shows the structural and insulation damage to floor 95.

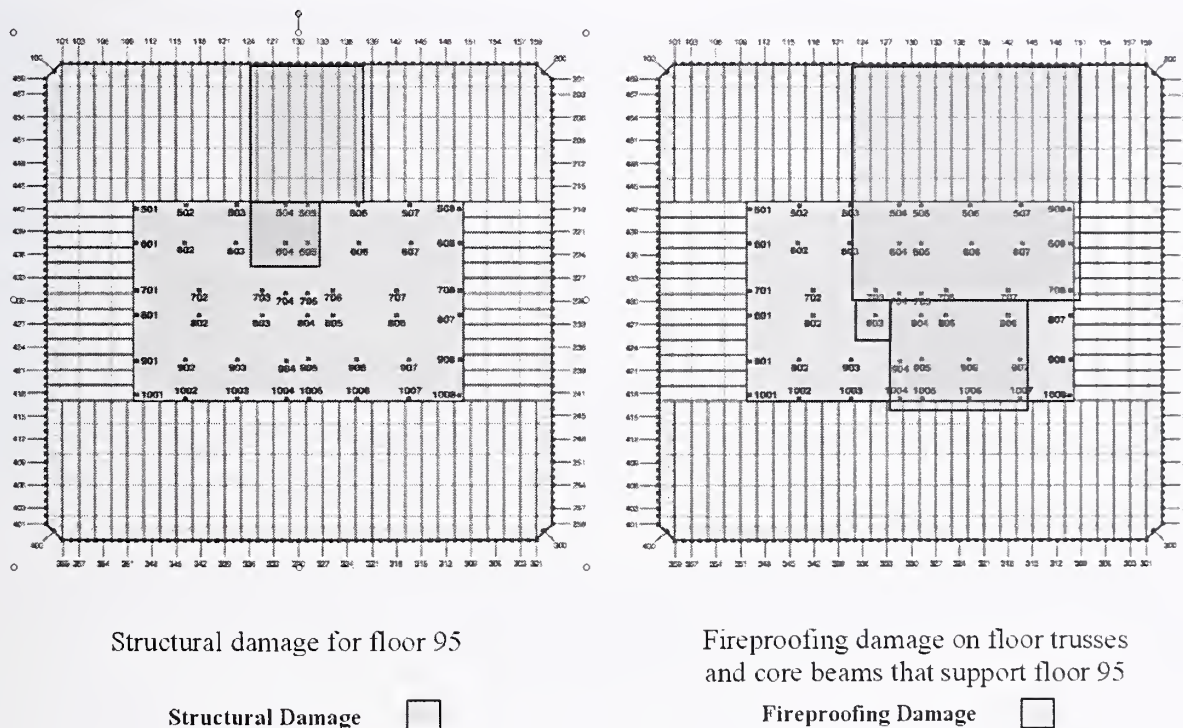


Figure 6-46. Structural and insulation damage to floor 95 of WTC 1, Case A.

There was extensive insulation damage to the trusses that supported the slab on the 95th floor, and those in the northeast heated rapidly. They cooled gradually as the fire moved southward.