

6.10.1 Floor 93

There was no structural or insulation damage to the trusses, core beams, or perimeter columns on floor 92 or floor 93. Columns 504 and 605 were damaged structurally on floors 92 and 93, while column 705 was damaged on floor 93 only. There was no insulation damage to the core columns on these floors.

Since there was no insulation damage, the trusses and columns on floor 93 stayed relatively cool. The trusses had a mean insulation thickness of 2.2 in., which resulted in gradual heating of the entire floor system. The core beams were covered with 0.5 in. of insulation and, as a result, heated faster. This is illustrated by significant heating of the core beams at 1,800 s after impact. As the fire spread toward the south face of the North Tower, the core beams gradually cooled and showed relatively lower temperatures at 6,000 s after impact.

6.10.2 Floor 94

Figure 6–45 shows the structural and insulation damage to floor 94.¹

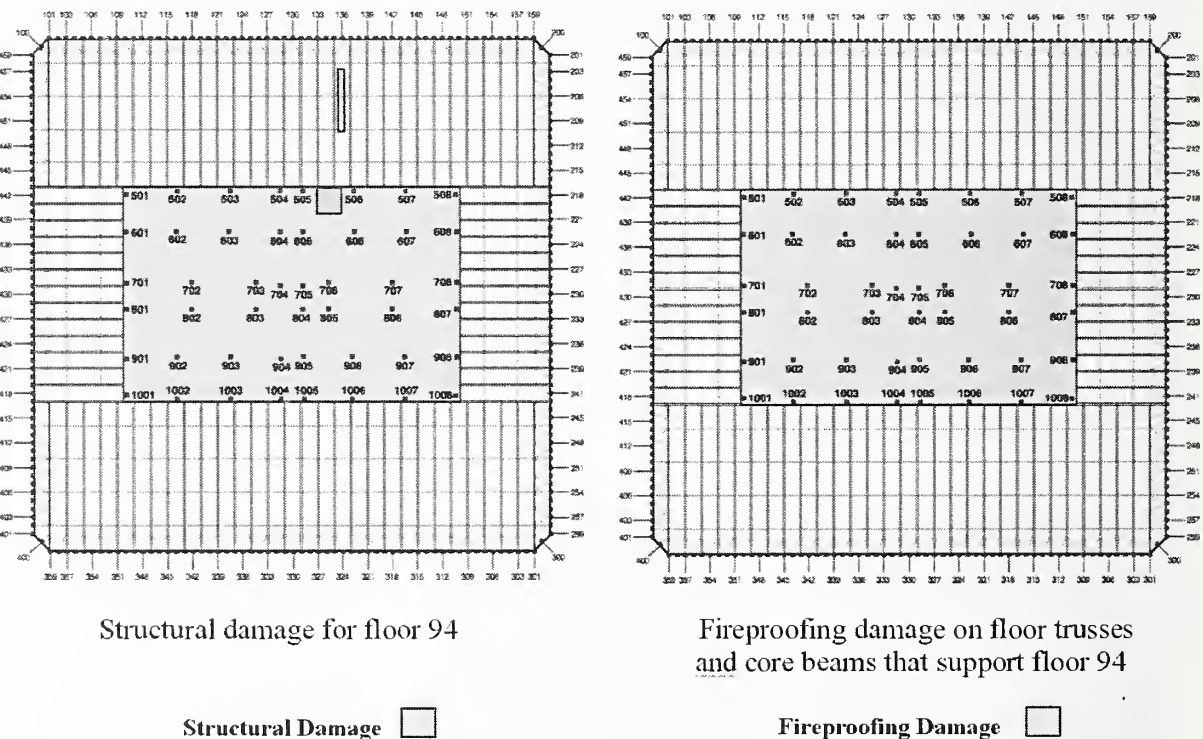


Figure 6–45. Structural and insulation damage to floor 94 of WTC 1, Case A.

The trusses supporting the slab on the 94th floor, with their insulation intact, stayed relatively cool, heating no more than 150 °C during the course of the simulation. The thinly insulated core beams were covered with 0.5 in. insulation and as a result, the core beams were heated significantly at 1,800 s and

¹ The damage graphics used in the thermal analysis are discussed in detail in NIST NCSTAR 1-6 and have been presented here for reference only.