

There were some features of the combustion that would be difficult for a simulation of current capability to capture:

- Since chairs of different designs (and thus different burning behaviors) could be fabricated from the same materials, the detailed fire behavior of the chair could not be inferred simply from the cone calorimeter data for the component materials.
- The chair fire rapidly collapsed to a pool fire on the floor whose reduced burning area meant a reduced HRR.
- The various paper piles developed a thick ash layer that would drive down their burning rate. Char formation on the desk surfaces drove down their burning rates.
- The desk surface collapsed, with separate sections doing so at differing times. The initial desk collapse probably did not greatly affect its burning rate, but ultimately what was left was a complex rubble pile whose burning would not be predictable from any knowledge of the original configuration coupled with cone calorimeter data.
- The wall panels collapsed at random times, inward and outward, typically rather late in the fire.

Thus, the further one went past the peak in the HRR curve, the less it would be predictable by a calculation that retained the original geometry. Fortunately, the major effects appeared to have occurred well after the desk surfaces collapsed and the time when contiguous workstations would have become ignited and dominated the heat release.

3.3 AIRCRAFT COMBUSTIBLES

3.3.1 Liquid Fuels

American Airlines Flight 11 (AA 11) departed with 34,500 kg (76,100 lb) of Jet A. At the time of impact with WTC 1, this was estimated to have been reduced to 30,000 kg (66,100 lb) (Barry 2003a). United Airlines Flight 175 (UA 175) departed with approximately 33,000 kg (72,800 lb) of Jet A. At the time of impact with WTC 2, this was estimated to have been reduced to 28,100 kg (62,000 lb) (Midgett 2003). In addition, a Boeing 767-200 aircraft carries 81 gal of hydraulic fluid (Nelson 2003).

3.3.2 Other Combustibles

Based on communications from the airlines and from Boeing, the two aircraft carried the solid combustibles shown in Table 3–6.