

**Dorm Sprink/UnSprink
Sprinklered and Non-Sprinklered
College Dormitory Room Fires**

**Available Formats
VHS or CD-ROM**

**Sprink/UnSprink Video illustrates the Need for College Dormitory
Sprinklers**

NIST's new nine minute video of recent test fires in two University of Arkansas, Fayetteville dormitory rooms just might prove the adage that a picture is worth more than a thousand words. Mr. Daniel Madrzykowski, NIST fire engineer who coordinated last year's dormitory fire tests, hopes that the videos will awaken college administrators and others to the importance of incorporating sprinklers into housing features. People talk all the time about the importance of fire sprinklers, Madrzykowski said. But last year, sprinklers were present in only 27 percent of the buildings in which fires were reported to have occurred. Smoke alarms are not enough, sprinklers are also needed and this video show you why. Two dormitory rooms were depicted in the video, one with sprinklers and the other without them. In the room with sprinklers, the fire grew until sprinkler activation. In the room that was not equipped with the fire extinguishing devices, the blaze reached "flashover" conditions (when all combustibles in a room burst into flames and the fire spreads rapidly) in less than five-and-a-half minutes. The video also includes post-fire photographs, which can be used to compare the damage caused by each fire. The college dormitory experiments were sponsored by the U.S. Fire Administration, as part of their Campus and Student Fire Safety Program, Living with Fire. The University of Arkansas, Fayetteville donated a scheduled-for-demolition residence hall for the fire tests. Madrzykowski said the video will be an effective education tool for fire training academies, college and university administrators, and code officials. For a free VHS copy, send a request to Nelson Bryner by fax at (301) 975-4647 or by e-mail to nelson.bryner@nist.gov.

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The Sprink/UnSprink Flashover video includes a pair of dormitory room fires. Both rooms were furnished with bed, desk, bed linens, clothing, books, and other items one might typically find in a college dormitory room. An electric match was used to ignite the wastebasket in each room. An electric match is a book of matches with a bit of resistance wire interwoven in amongst the match heads. When voltage is applied across the resistance wire, the wire heats up and ignites the entire book of matches at the same time. The electric match is used because it is controllable and very reproducible. Both fires were allowed to grow and spread as can be observed in the video. In the sprinklered room, the sprinkler activated in less than two minutes. The sprinkler controlled the fire quite quickly and rapidly reduced gas temperatures in the room. The unsprinklered room proceeded to “flashover” in approximately five and a half minutes. Flashover is a transition from single objects in a room being on fire to where all combustibles in a room burst into flames and the fire spreads extremely rapidly. Post-fire still photographs allow comparison of the damage caused by the fire.

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