



Fire Safety in Sustainable Building Design

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Motivation



U.S. Fire Departments Statistics (2011)

~ 1,389,500 fires

~ \$13 billion in direct property loss

3,005 civilian deaths

17,500 civilian injuries

Fire every 23 s

Structure fire every 65 s

Home Structure Fires Caused

84% of the civilian fire deaths

79% of the civilian fire injuries

Source: NFPA's Fire Analysis and Research Division. References are available at
<http://www.nfpa.org/assets/files/PDF/FireOverviewReference.pdf>.

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Background



Legacy New vs Old Room Fire Rev 1 : <http://youtu.be/1bTppMLPbKw>

Comparison of Room Furnishings

Legacy Room

Modern Room



Natural
Fibers

Synthetic
Fibers

01:12



2009 Underwriters Laboratories Burn Test

* Video starts 1:12 min:sec after initial piloted ignition. Video speed: 2x

Current Research



Future Work

