



Thermo-Man[®], Meyrin, ETC
Thermal Protection Evaluation System

DuPont Protection Technologies Laboratory

Type of test:

Evaluation of garment ensemble for fire fighter application

Garment description:

NTI 112 Jacket and Trousers made of Nomex [®] Tough (FC) 195 g/m ²
with GE membrane technology ePTFE bicomponent laminated with Nomex [®] spunlace
with liner made of Nomex [®] /Viscose FR quilted with a layer of Nomex [®] N-401 spunlace
total weight about 490 g/m ² , size 52
washed 5 times DIN EN 6330
test for NTI/Novotex-Isomat Schutzbekleidung GmbH

Exposure summary:

Exposure time	8 second
Acquisition time	120 second
Sample rate	10 per second
Heat flux density (nominal)	2.0 cal/cm²/sec (84 kW/m²)
Number of burners & location	12 burners around the manikin (knee/hip)

Predicted body burns:

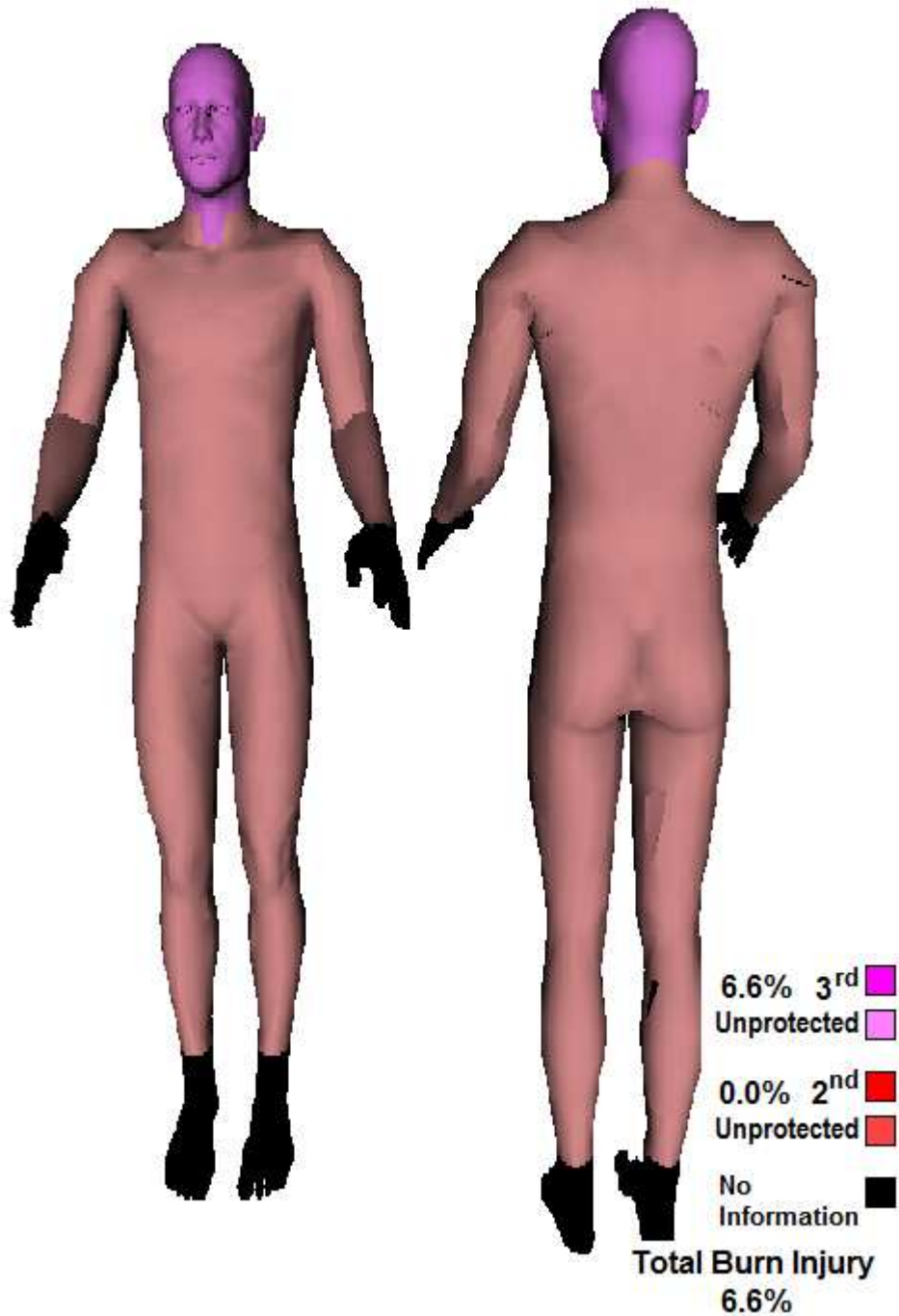
2 nd . degree burns	0%
3 rd . degree burns	6.6%
Total burns (including head)	6.6%

Test observations:

After-flame / After-Glow time	102 second
Smoke intensity	Heavy smoke
Other observations	None

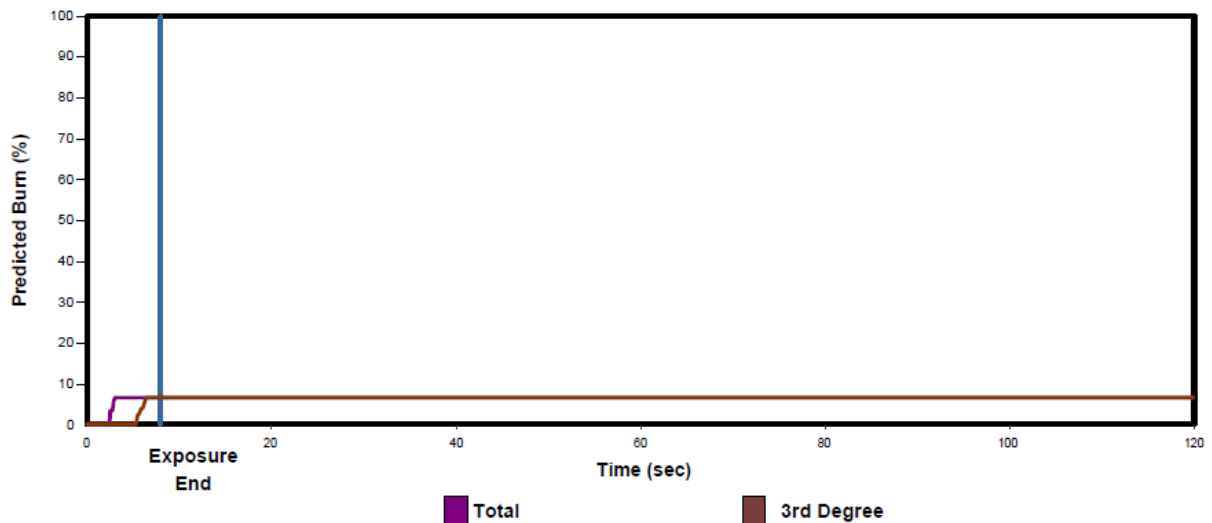
Predicted Burn Injury (graphical picture)

Test File: E_20130813_084



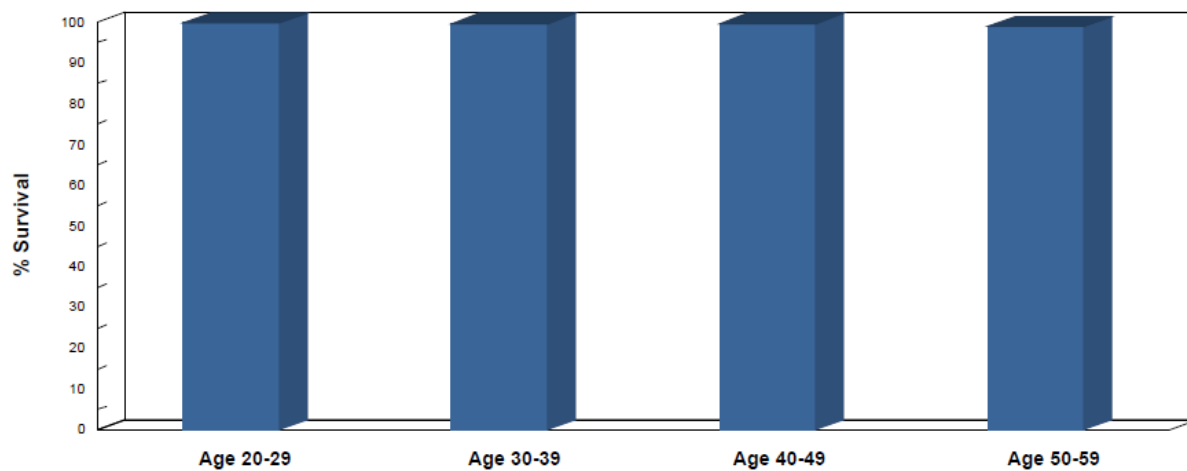
Predicted Burn Injury versus Time

Test File: E_20130813_084



Predicted Burn Injury Survival Test Data

Test File: E_20130813_084



Based on American Burn Association, National Burn Repository® 2012, Data Version 8.0

Result interpretation & comments:

Thermo-Man® results are using the new predicted burn injury model published in ASTM F1930-13.
This new predicted burn injury model will be implemented during the current revision of ISO 13506:2008.

Pictures / Film:

See E_20130813_084.mpg

Responsible technicians	DPT Laboratory Manager
Marco Mazzolini	Andre Capt

Disclaimer:

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Sample rate	10 per second
Heat flux density (nominal)	2.0 cal/cm²/sec (84 kW/m²)
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Predicted body burns:

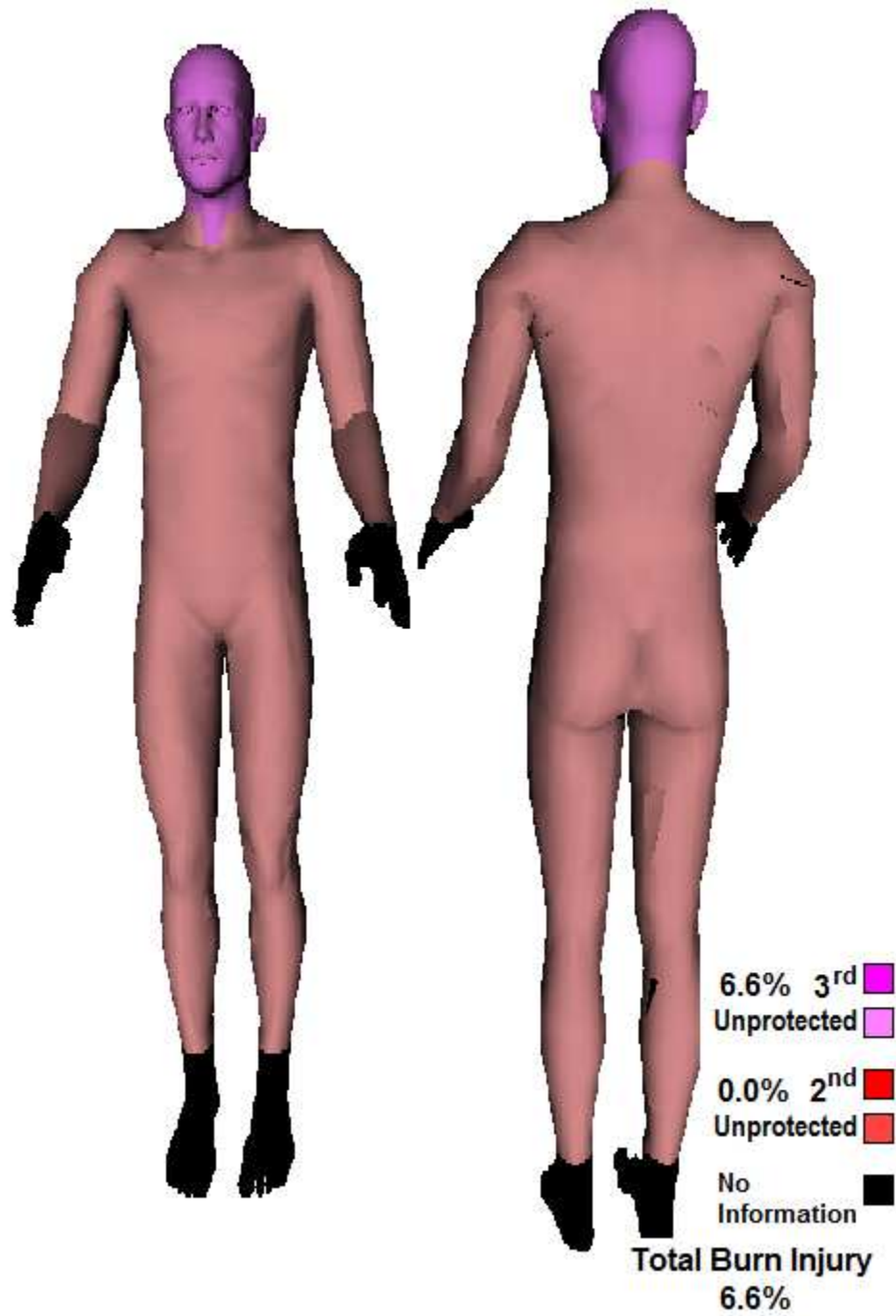
2 nd . degree burns	0%
3 rd . degree burns	6.6%
Total burns (including head)	6.6%

Test observations:

After-flame / After-Glow time	>120 second
Smoke intensity	Heavy smoke
Other observations	None

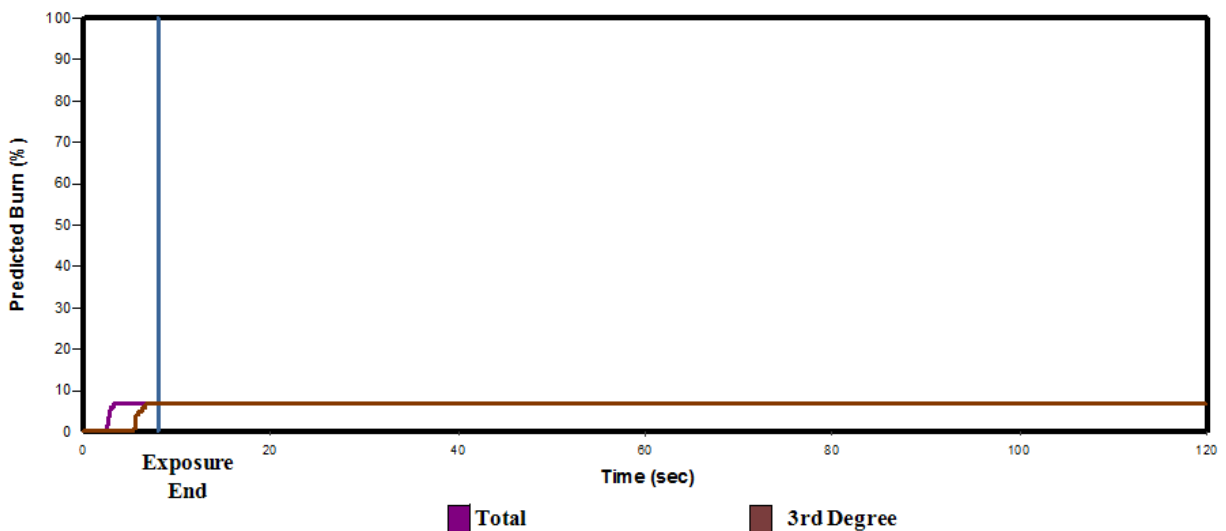
Predicted Burn Injury (graphical picture)

Test File: E_20130820_097



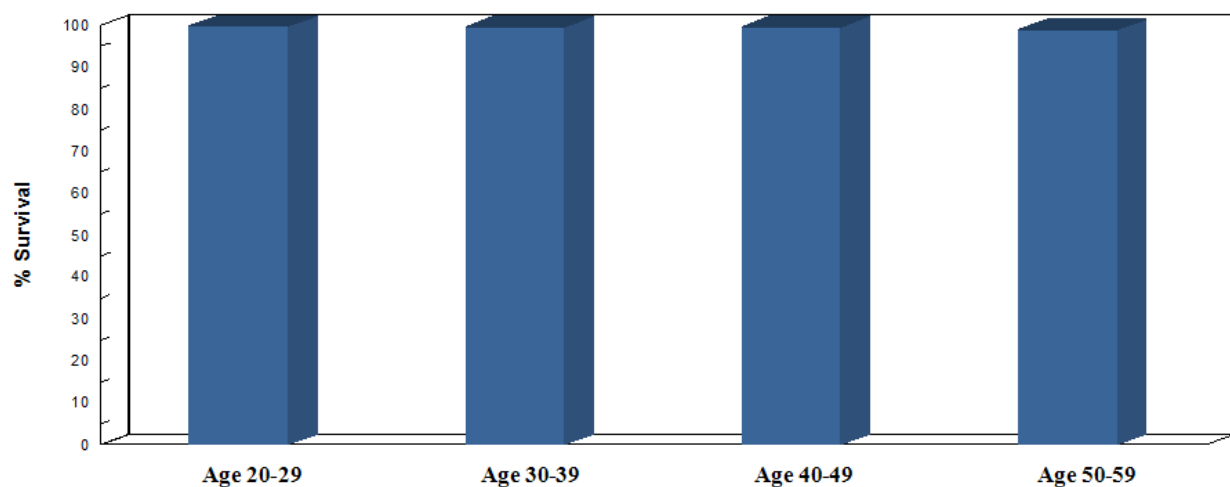
Predicted Burn Injury versus Time

Test File: E_20130820_097



Predicted Burn Injury Survival Test Data

Test File: E_20130820_097



Based on American Burn Association, National Burn Repository® 2012, Data Version 8.0

Result interpretation & comments:

Thermo-Man® results are using the new predicted burn injury model published in ASTM F1930-13.
This new predicted burn injury model will be implemented during the current revision of ISO 13506:2008.

Pictures / Film:

See E_20130820_097.mpg

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