

# GENTEX CORPORATION

MAY 16 2005

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May 6, 2005

Centers for Medicare and Medicaid Services  
Department of Health and Human Services  
Attn: CMS-3145-IFC  
PO Box 8018  
Baltimore, MD 21244-8018

Reference File Code: CMS-3145-IFC  
Re: Exceptions

Dear Centers for Medicare and Medicaid Services:

It is stated by the Centers of Medicare and Medicaid Services that having both a sprinkler system throughout and battery operated smoke detectors in resident rooms and public areas will **duplicate** fire safety efforts. This is the wrong answer!! Sprinklers are designed to extinguish the fire while smoke detectors are designed to detect the fire at the early stages (when smoke is present) and provide advanced notification, to both occupants and staff, of the potential fire.

In recent research conducted by The National Institute of Standards and Technology (NIST), smoke alarms responded on average 44-60 minutes sooner than sprinklers in fires that were the same type of fires that took place in Connecticut and Tennessee nursing home fires. Enclosed is the summary sheet of these NIST tests for your review.

We strongly suggest that smoke detectors and sprinklers be installed and for the Center for Medicare and Medicaid Services to not look at smoke detectors as a redundant feature to sprinklers. In *both* the Connecticut and Tennessee nursing home fires referenced in the Federal Register, the fires were started by smoking materials left unattended. Without smoke detectors, the result(s) will be the same if you install only sprinklers!

Please, for the safety of the occupants of the nursing homes, install both smoke detectors and sprinklers.

If we can be of any further assistance, please let us know.

Best regards,

  
Scott Edwards  
Vice President  
Gentex Corporation

Enclosures

SRE:/ks



Test 1, Smoldering Chair, Living Area  
Test 2, Flaming Chair, Living Area  
Test 3, Smoldering Mattress, Bedroom (Test aborted due to ignition failure)  
Test 4, Smoldering Mattress, Bedroom  
Test 5, Flaming Mattress, Bedroom  
Test 6, Smoldering Mattress, Bedroom  
Test 7, Flaming Mattress, Bedroom  
Test 8, Smoldering Mattress, Bedroom  
Test 9, Flaming Mattress, Bedroom. (Burn Room Door Closed)  
Test 10, Flaming Chair, Living Area  
Test 11, Smoldering Chair, Living Area  
Test 12, Cooking Oil Fire, Kitchen  
Test 13, Cooking Oil Fire, Kitchen  
Test 14, Flaming Mattress, Bedroom, (Burn Room Door Closed)  
Test 15, Flaming Chair, Living Area

Test 30, Smoldering Chair, Living Area (Test aborted due to ignition failure)  
Test 31, Smoldering Chair, Living Area  
Test 32, Flaming Chair, Living Area (Test aborted due to ignition failure)  
Test 33, Flaming Chair, Living Area  
Test 34, Smoldering Chair, Living Area  
Test 35, Flaming Chair, Living Area  
Test 36, Flaming Mattress, Bedroom (Burn Room Door Closed)  
Test 37, Smoldering Mattress, Bedroom  
Test 38, Flaming Mattress, Bedroom  
Test 39, Flaming Mattress, Bedroom  
Test 40, Smoldering Mattress, Bedroom  
Test 41, Cooking Oil Fire, Kitchen

For the non-modified smoke alarms, heat alarms, and telltale sprinklers, only an activation time is available. Uncertainty in the measurements is discussed below.

**Activation Time for Non-Modified Smoke Alarms, Heat Alarms, and Sprinkler**

Test	Description	Non-modified Smoke Alarms			Heat Alarm	Telltale Sprinkler
		Photo	Ion	Ion		
SDC01	Smoldering Chair in Living Room	3412	5192	5247	--*	--
SDC02	Flaming Chair in Living Room	78	24	28	130	--
SDC03	Smoldering Mattress in Bedroom (Test aborted due to ignition failure)	--	--	--	--	--
SDC04	Smoldering Mattress in Bedroom	3871	--	--	--	--
SDC05	Flaming Mattress in Bedroom	42	32	32	140	147
SDC06	Smoldering Mattress in Bedroom	3443	5998	5998	--	6073
SDC07	Flaming Mattress in Bedroom	85	43	47	205	137
SDC08	Smoldering Mattress in Bedroom	2339**	3697	3699	3798	3745
SDC09	Flaming Mattress in Bedroom (Burn Room Door Closed)	95	29	29	3724	127
SDC10	Flaming Chair in Living Room	108	--	44	369	194
SDC11	Smoldering Chair in Living Room	883	3971	3963	--	4359
SDC12	Vegetable Oil on Kitchen Stove	741	--	751	1453	1437
SDC13	Vegetable Oil on Kitchen Stove	690	588	682	1388	1388
SDC14	Flaming Mattress in Bedroom (Burn Room Door Closed)	2648	3402	3406	--	3414
SDC15	Flaming Chair Living Room	231	203	199	--	351
SDC30	Smoldering Chair in Living Room (Test aborted due to Ignition Failure)	--	--	--	--	--
SDC31	Smoldering Chair in Living Room	4245	4905	4911	8084	8103
SDC32	Flaming Chair in Living Room (Test Aborted due to Ignition Failure)	--	--	--	--	--
SDC33	Flaming Chair in Living Room	106	20	22	16	--
SDC34	Smoldering Chair in Living Room	1668	3548	3712	3900	--
SDC35	Flaming Chair in Living Room	108	22	22	138	--
SDC36	Flaming Mattress in Bedroom (Burn Room Door Closed)	72	38	44	99	124
SDC37	Smoldering Mattress in Bedroom	1632	1746	1736	--	--
SDC38	Flaming Mattress in Bedroom	95	39	37	1145	139
SDC39	Flaming Mattress in Bedroom	90	34	34	120	126
SDC40	Smoldering Mattress in Bedroom	2570	--	--	--	--
SDC41	Vegetable Oil on Kitchen Stove	642	136	230	1244	1262

\* No data available

\*\* Triggered alarm for 40 s at 2339; second alarm at 3707 s