

Smoke Hoods Use in high rise residential blocks When every second counts

Tall Building Fire Safety ConferenceSuzanne Johnson, Product Manager Filtering Escape DevicesBrogan Lane, UK & IRE Marketing Manager – Safety Supplies & ConsumablesMay 19, 2022

Agenda



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Fire Statistics & Fires in High-Rise Buildings Item 02 _

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01 _____

Fire Statistics & Fires in High-Rise Buildings

Between 1993 and 2019, there was a total of 3.1 million reported fires around the world with 19.2 thousand recorded fire deaths.

CTIF World Fire Statistics 2021

Fire Statistics

354,400

14,500

(2009 – 2013) Average number of structure fires in high-rise buildings. Causing an average of 40 civilian death and 520 civilian fire injuries². 2019 National Estimates of residential fires in the USA¹

- US Fire Administration Residential Building Fire Trends (2010-2019)

145,208

Number of fires Fire Services attended in England (year ending Sept 21)³

- Gov.uk

772

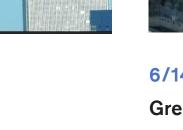
of these fires in the UK were in high-rise buildings (10+ story)³.

Major Fires in Tall Buildings





1974 Joelema Building 227 casualties 9/11/2001 Twin Towers 2,606 casualties







1945 Empire State Building 11 casualties

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Fire in the Bronx, NYC

19 casualties (smoke inhalation)

Recent Fires in Tall Buildings

Top Fire Safety Issues in high-rise buildings*:

1.) Construction of the Building

2.) Evacuation of People

* According to a study from 2018 titled Fire safety issues in the design and construction of high-rise buildings.

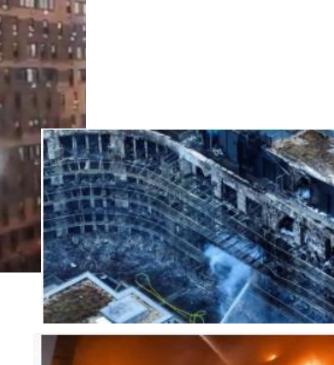




Fire in Essen, Germany

0 casualties







E Menü



GROCOALARM

Zu BILD LIVE

Feuerwehrleute bringen zwei Kinder mit Fluchthau ins Freie Foto: Thomas Knoop

Von: THOMAS KNOOP 22.03.2021 - 20:43 Uhr

Hamburg - Großalarm im Edwid-Scharff-

02_____

What is an Escape Hood & What to look for in an Escape Hood

What is a Smoke Hood?



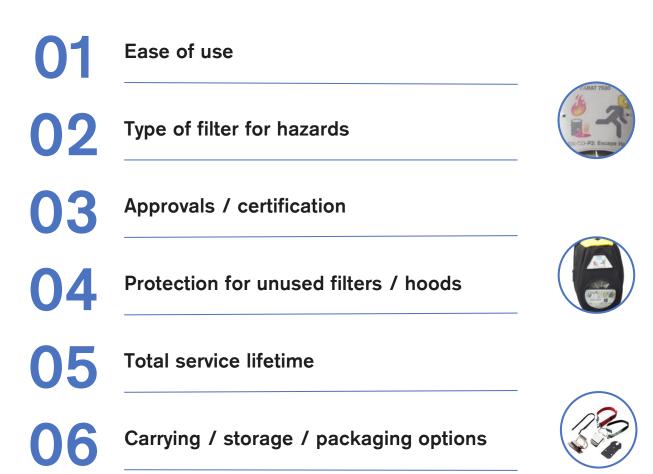
Definition:

A **smoke hood** is a hood wherein a bag seals around the head of the wearer while a <u>filter</u> held in the mouth connects to the outside atmosphere and is used to breathe. Smoke hoods are intended to protect victims of fire from the effects of smoke inhalation*.

* Source: Wikipedia

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What to look for in an escape hood



PARAT® Filtering Escape Devices: Fire Escape Standards & Regulations

EN 403:2004

- This European standard is valid for hooded filtering escape devices for the individual escape from particles, carbon monoxide and other fire-related gases.
- The standard defines the minimal requirements for an escape unit (e.g. min. 15 minutes of escape time), the scope of its purpose (e.g. definition as single use only) and describes the required tests and markings.
- This standard is not valid for escape devices, which can be used in case of oxygen deficiency \rightarrow O2 concentration >17% (e.g. oxygen supplying escape devices Oxy / Saver)
- This standard is not valid for working devices
- This standard is not valid for working devices.

Tested gas capacity:	Test gas	Test gas concentration (ppm)	Breakthrough concentration (ppm)
	Propenol (Acrolein)	100	0.5
NO standard =	Hydrogen Chloride (HCI)	1,000	5
no guaranteed protection	Hydrocyanic Acid	400	10
	Carbon Monoxide	2,500	200
	"	5,000	
		7,500	
) Drägerwerk AG & Co. KGaA, 2022		10,000	

Dräger PARAT[®] Escape Hoods Examples of victim rescue with fire services















Escape Hoods in Use

B News → Midlands News → West Midlands Fire Service

Two rescued from house fire in Lea Hall



"A West Midlands Fire Service spokesman said: 'A man's been rescued using one of our fire escape hoods this lunchtime (18 Jan). The call came in at 12.20pm'."



Fire escape hoods provide members of the public with up to 15 minutes protection from four of the main fire gase (carbon monoxide, hydrogen cyanide, hydrogen chloride and acrolein) and can be worn by conscious or unconscio

"A woman was trapped by the nature of the fire on the 17th floor. She was given fire survival advice by control officers until firefighters located her. Fire crews used a fire escape hood to help lead the woman to safety via the internal staircase."

= The Star News you can trust since 1887

South Yorkshire fire service invests in 'escape hoods' to protect against toxic fumes and smoke

South Yorkshire fire chiefs have invested in new 'fire escape hoods' to protect people from toxic fumes and smoke.



The hoods provide members of the public with up to 15 minutes of protection from four of the main fire gases, including carbon monoxide and can be worn by conscious or unconscious people.

"These hoods will also provide firefighters with vital extra time to consider their priorities and plan the safest exit route, as opposed to simply getting people out as quickly as possible."

ADVERTISER & TIMES

New fire escape hoods piloted after Grenfell Tower tragedy

By Chris March - chris.march@advertiserandtimes.co.uk
Published: 01:01, 19 April 2021

NEW life-saving kit to protect casualties against toxic smoke is being used for the first time by firefighters in Christchurch.

Brought in following recommendations from the Phase 1 report of the Grenfell Tower public inquiry, the fire escape hoods provide at least 15 minutes of protection from toxic fire-related gases, vapours and particles.

Dorset & Wittshire Fire and Rescue Service procured the hoods from last September, training began in February and the first supplies were delivered to fire stations across the county last month. All of the service's fire engines are set to carry the hoods by the end of April.



A fire escape hood in use during a training exercise (46003986)

"Fifteen minutes of protection against toxic smoke can make the difference between life and death. We would always prefer an escape route away from smoke, but that isn't always possible."

Dräger PARAT[®] Escape Hoods Examples of victim rescue with fire services





03.

Escape Hoods in Regulated Use Today

Active Markets for Escape Hoods Oil & Gas / Chemical



Key Application(s):



1 .) Operational use: \rightarrow Chemical / Fire escape



- 2.) Offshore accommodation:
- \rightarrow Fire escape



- 3.) Administrative buildings:
- \rightarrow Fire escape

Active Markets for Escape Hoods Fire Services (Regional)

Key Application(s):



1.) Victim Rescue:

→ Fire escape

(trend to Fire+Chemical

Extinguishing vehicles in Germany require: DIN 14530-5 (LF10) / DIN 14530-26 (HLF 10)

• two escape hoods acc. EN 403

DIN 14530-11 (LF20) / DIN 14530-27 (HLF20)

• four escape hoods acc. EN 403

Similar requirements in NL, AU & CH.

In 2018 London Fire Brigade implemented use of Fire Escape Hoods, all other brigades in UK followed suit.







Target Markets & Applications for Escape Hoods Hospitals & Retirement / Care Homes



Key Application(s):



Every 14 days a fire occurs in a hospital and every 7 days in a care home – killing 25 patients / residents and injuring 232 further people*.

* Study from Hr. Klaus Wichert

Österreichischer Bundesfeuerwehrverband	Die österreichischen Brandverhütungsstellen	TRVB
TECHNISCHE RICHTLINIEN VORBEUGENDER BRANDSCHUTZ		N 133

Es sind mindestens 40 Stück Fluchtfiltermasken zur Verwendung durch die Feuerwehr auf einer sofort TRVB N 133 05

...

1.) Fire escape → Patient / Personnel rescue

Wall placement/nurses stations/ stocked

Mainly CO-P fire escape © Drägerwerk AG & Co. KGaA, 2022

Target Markets & Applications for Escape Hoods

Administrative (Financial institutions/ Insurance / Public Sector)

Key Application(s):



1.) Administrative buildings \rightarrow Fire escape.

Wall-mounted or desk placement



Escape hood potential applications in High-rise buildings





University Buildings and Accommodation

Hospitals



Administration/Office Buildings



Residential High-Rise Flats



Hotels*



Airport Traffic Control Towers



Power Stations



Government Buildings

* Use of Escape Hoods in Hotels is regulated in China.

PARAT[®] Escape Hoods -When every second counts

Drager PARAT Excape Houses

04_____ Questions & Discussion



Visit our stand for further information

Many thanks

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