

Parat C

Draeger Safety's Fire Escape Hood



What is a Fire Escape Hood?



- Fire Escape Hoods are protective head coverings that prevent wearers from breathing the smoke, particulates and toxic gases generated in a fire
- Fire Escape Hoods filter the contaminated air and provide the wearer with a clear field of vision and precious time required to perform a successful emergency evacuation

Parat C - Design Concept

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- Provides protection against carbon monoxide, smoke particles and toxic gases such as:

- Hydrogen Sulfide
- Hydrogen Cyanide
- Sulfur Dioxide
- Ammonia
- Others

- Fits adults as well as small children
- Permits user to speak, hear and breathe normally during escape

PRIMARY CONCERN: PRESERVATION OF HUMAN LIFE!

Parat C - Aircraft Cabin Fire Background

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Nearly all aircraft accident fatalities that are not the result of crash/impact injuries are the result of post-crash fires and the inability to exit the aircraft quickly, which in most cases is attributed to incapacitation caused by:

Carbon monoxide

Smoke inhalation

Toxic fumes and gases

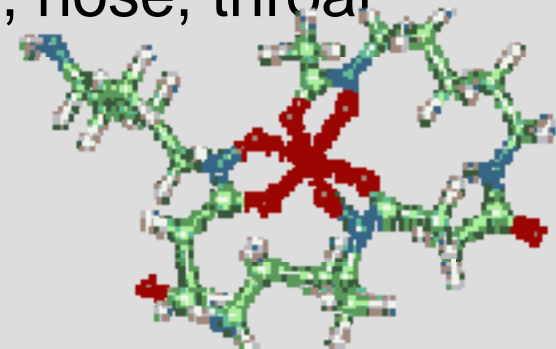
Thermal injuries

Parat C - Toxic Fumes and Gases

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- Products of combustion and accelerants such as aircraft fuel can fill aircraft cabins with dense, acrid smoke and hot, highly toxic gases (in addition to ash and debris)
- Smoke, fumes and gases affect the nervous and cardiovascular systems, which can cause loss of consciousness followed by death from asphyxiation
- Irritant products of combustion cause immediate painful sensory stimulation of the eyes, nose, throat and lungs



PARAT C - Carbon Monoxide

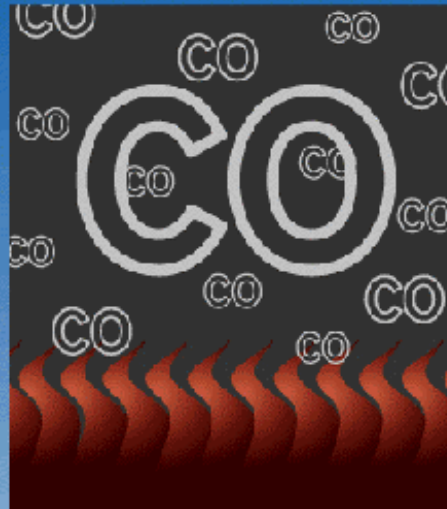
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Carbon Monoxide: The Silent Killer



CO • no color
• no taste
• no smell



CO is produced by
all kinds of fires



85% of all victims of fire
accidents die of smoke
inhalation

Carbon monoxide is the cause of smoke inhalation injuries/deaths

Parat C - Timeline of an Aircraft Cabin Fire

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10 Seconds - Minute 2

Levels of toxic gases, acrid smoke and fumes are severely irritating to the eyes and the respiratory tract and field of vision is severely limited

Parat C - Timeline of an Aircraft Cabin Fire

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Beginning of Minute 3

The concentrations of toxic gases and fumes such as hydrogen cyanide, hydrogen sulfide and acrid smoke exceed the limit for sensory irritancy and severely inhibit escape

End of Minute 3

The average air temperature would be 631 degrees F (333 degrees C) and heat would be accumulated in the skin surface to cause skin burns (resulting in incapacitation)

Parat C - Timeline of an Aircraft Cabin Fire

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After Minute 3

Victims rescued or escaping would suffer severe post-exposure effects:

- skin burns
- laryngeal burns with accompanying oedema (swelling)
- danger of obstructive asphyxia, pulmonary oedema and inflammation (due to combined effects of inhaled hot gases and pulmonary secondary effects of skin burns)

Parat C - Timeline of an Aircraft Cabin Fire

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Beginning of Minute 4

A victim is likely to lose consciousness due to the combined effects of the accumulated doses of narcotic gases and asphyxiation is likely to ensue

End of Minute 4

The limit for visual obscuration is reached, resulting in an inability to escape

Parat C - Timeline of an Aircraft Cabin Fire

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After Minute 4

it is likely that a victim would die at some time between a few minutes and one hour later because of the effects of narcosis, circulatory shock and possibly hyperthermia.

WHY PARAT C?



Passengers and crew members in emergency evacuations from aircraft cabins will be more likely to survive with appropriate respiratory protection that buys them

TIME

The Parat C provides the user a **minimum of 15 minutes** protection against toxic gases, carbon monoxide and smoke particles

Parat C - Features and Benefits

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- PVC hood is flame retardant & self-extinguishing, flash flame tested at 1200 ° F
- Bright orange hood with high visibility & excellent reflective properties
- Elastic collar provides excellent neck seal, eliminating guess work in adjustments
- Large visor with wide range of vision treated with anti-mist agent to prevent fogging
- One universal size, can be worn with glasses, beards or long hair
- Pictures on outside of luminescent vinyl packaging serve as donning instructions
- Units have a 6 year shelf life with no annual maintenance required

Parat C - Specifications

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Dimensions: 5.5" x 3" x 7.5"

Weight: 1.3 lbs.

Shelf Life: 6 years, providing filter seal is maintained*

Approvals: Approved to European Standard EN403, for Escape Hoods

* Expiration date is printed on label on the outside of the vinyl packaging

Parat C - Warnings and Limitations for Use

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- Do not remove the Parat C hood from its protective packaging unless it is to be used in an emergency. The filter seal must remain intact until intended use so that the Parat C will offer the best protection
- Read the instructions for use for the Parat C
- The Parat C is not intended for use in atmospheres with less than 19.5 % oxygen (per NIOSH requirements)

Parat C -Toxic Gas Test Results

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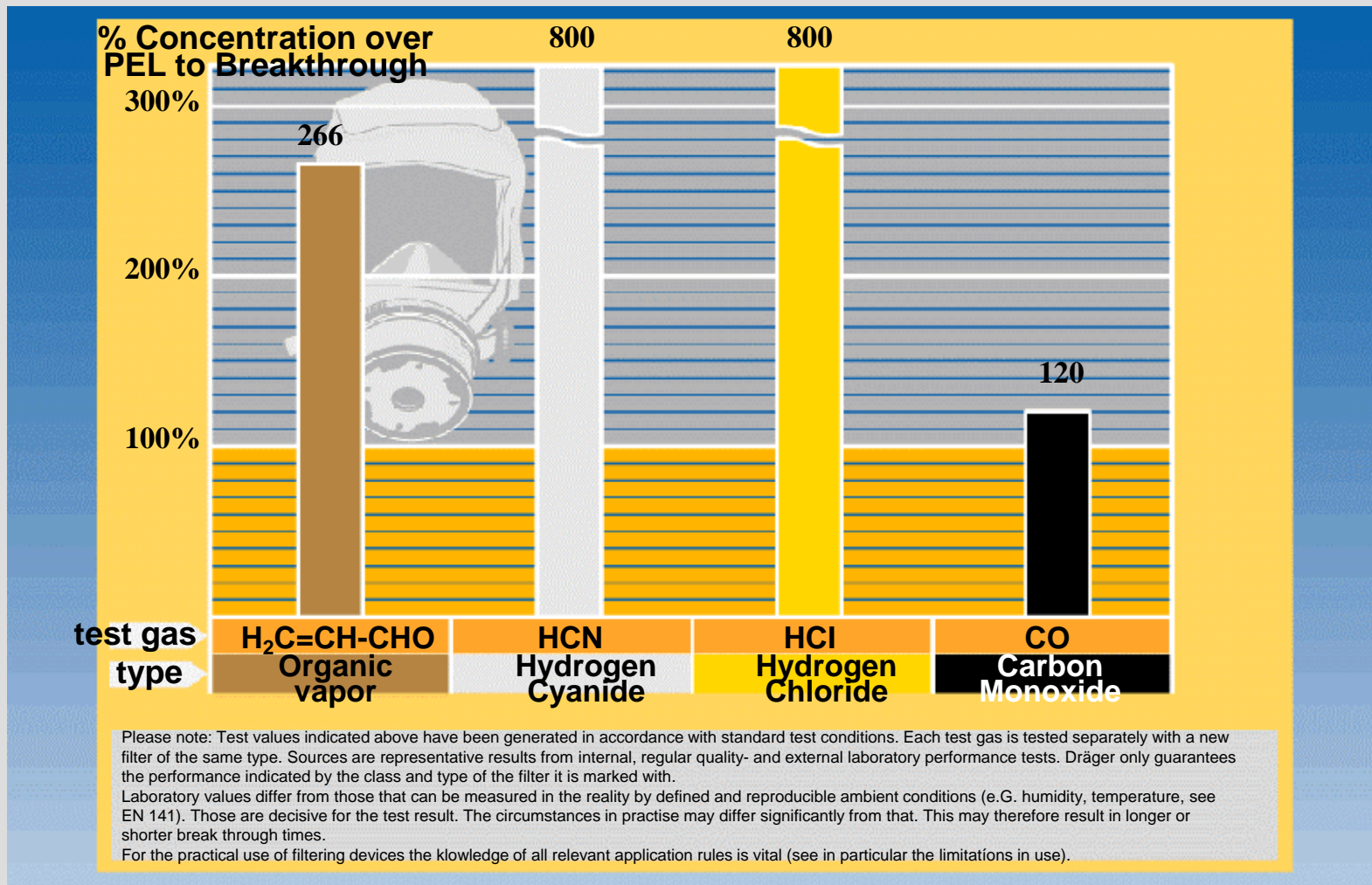


Test Gas	Breakthrough Criterion (ppm)	Test Gas Concentration (ppm)	Minutes to Breakthrough
Hydrogen Cyanide	10	2000	>120
Hydrogen Chloride	5	2000	>120
Hydrogen Sulfide	10	1000	>120
Ammonia	25	2000	>45
Acrolein	0.5	500	>40
Sulfur Dioxide	5	1000	30
Carbon Monoxide	200	2500	>15
Nitrogen Oxides	5	1200	>15
Carbon Tetrachloride	0.1	1000	5
Chlorine	0.5	1000	5

Testing performed at 30 liters per minute, constant flow at 73 degrees F and 70% relative humidity. CO tested at 30 liters per minute (20 breathing cycles at 1.5 liters) and at humidity of 20.7 g/cubic meter water.

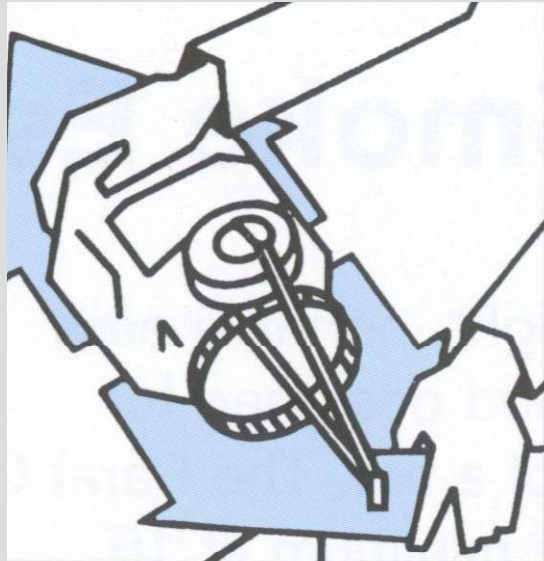
PARAT C - Toxic Gas Performance

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Parat C - Donning Instructions

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Step 1: Unzip vinyl case, take out the hood, unfold the hood.

Step 2: Pull the two plugs from the filter (front and back).



Parat C - Donning Instructions

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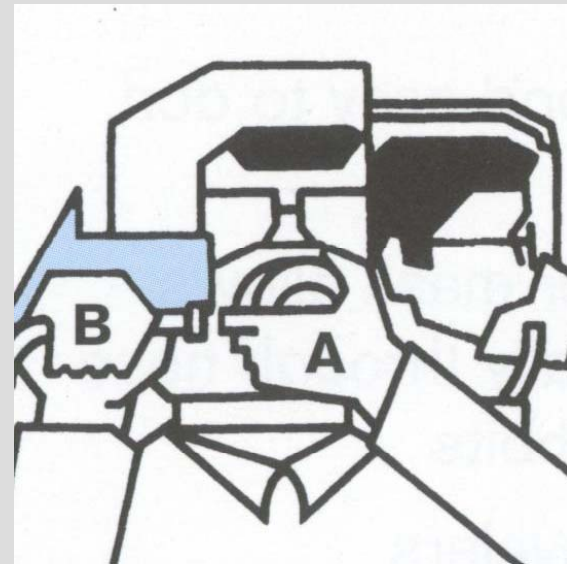
Step 3: Push the filter out of the hood with both thumbs.

Step 4: Spread the hood and pull it over the head. Push long hair under the hood.

Step 5:

A) Position the mask over the mouth and nose.

B) Tighten the strap by pulling the tab on the right.



Get Out Quickly and Safely with Parat C Fire Escape Hoods

