Technical Data Sheet
Dräger PARAT 5500 Fire Escape Hood

1.0	**General Data**	
1.1	Manufacturer	Dräger Safety AG & Co. KGaA, Revalstraße 1, D – 23560 Lübeck, Germany
1.2	Designation & Dräger part no.	1. PARAT 5510, Single pack R 59 415 (GTIN: 4026056008049) 2. PARAT 5520, Soft Pack R 59 425 (GTIN: 4026056008056) 3. PARAT 5530, Hard Case R 59 435 (GTIN: 4026056008063)
1.3	Intended use	Fire escape / respiratory protection (incl. eye protection) against carbon monoxide, fire related gases, toxic particles and smoke. For single use.
1.4	Useage Duration	At least 15 minutes in order for the user to escape to a safe area.
1.5	Certification	EN 403:2004(M) EC type test certificate, granted by accredited and notified Certification Body DEKRA EXAM GmbH, Dinnendahlstraße 9, 44809, Bochum, Germany
1.6	Further relevant standards	Environmental simulations (IP- protection category test) acc. to EN 60529 Soft Pack: IP 5X Hard Case: IP 54 Additionally tested against H_2S according to DIN 58647-7:1997
1.7	Export approval	No classification → no sales restrictions

2.0	**Design & Construction (complete device)**	
2.1	Design & material	The PARAT 5500 consists of: 1. hood with large visor 2. inner half-mask (integrated in hood) with filter assembly 3. fire escape filter CO-P2 4. different packaging options (Single Pack, Soft Pack, Hard Case)
2.1.1	Hood	The hood fits different sizes. The at one-side PU coated material has got the signal-colour neon yellow. The neck collar, made of polyester and elastane, seals at the neck. The large visor enables a wide field of view. Hood material: polyamide 6.6 with polyurethane coating Visor: cellulose propionate Neck collar: polyester and elastane Straps: polyamide 6.6 and elastane Exhalation valve: silicone (age-resistant)
2.1.2	Inner half mask	The telescope-mechanism of the inner-half mask allows the hood to be packaged in a space-saving manner. It is very comfortable to wear and ensures a good fit for different head sizes and shapes. Half-mask: ethylene propylene diene M-class rubber

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2.1.3 Filter	The filter housing has a round shape and consists of the filter pot and the filter cover. The filter cover has a round inlet opening, the filter pot has a round outlet opening. The filter bed consists of hopcalite. It is fixed by the housing and internal sieves. The particle filter with ring fold geometry is positioned in front of the gas filtration part and is made of one part. A tight connection between the particle filter and the housing is performed by butyl glue. Both openings are closed by plugs, which will detach automatically (except of the Single Pack) when the escape hood is removed through the pull string. Pull string (Soft Pack, Hard Case) polyurethane Pull string (Single Pack) cotton/ polyurethane/ stainless steel

2.2 Working principle	Fire-related gases and vapours, especially carbon monoxide (CO) are converted from the ambient air by the carbon catalyser (hopcalite) into CO_2 and heat. Particles are filtered by the glass fibre filter. The hood protects the entire head, including the eyes up to a certain extent from dust, gases, vapours, and splashes of liquid chemicals as well as heat, sparks and flames. It enables a clear view through the large visor.
2.3 Service life	16 years in total, provided the filter is exchanged after 8 years The filter exchange is easy to be done, so the filter can be exchanged by trained personnel.

3.0 Performance Data
(minimum data in accordance with EN 403:2004 / DIN 58647-7:1997)

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3.1 Mechanical resistance

Shock proofed
10,000 impacts for entire device

Drop test
6 x 1.5m on smooth concrete surface (from different starting positions)

Packaging Stability
Firing pin test acc. to EN 403:2004

Flame resistance
The unit does not contain easily flammable parts. At 800 ± 50°C the device is pulled through an open flame at 6 ± 0.5 cm/sec. – when removed from the flame, the device stops burning (self-extinguishing).

Temperature changing resistance
Performing in the listed order:
(70 ± 3) °C, rel. humidity < 20 %, (72 ± 3) h
(70 ± 3) °C, rel. humidity ≥ 95 %, (72 ± 3) h
(-30 ± 3) °C, (24 ± 1) h

Pressure changing
2 compressed air cycles with (-400 ±10) mbar for 60 sec
pressure compensation after < 20 sec.
3000 compressed air cycles with (-300 ± 10) mbar for 60 sec.
pressure compensation after < 10 sec.

3.2 Particle filtration efficiency (according to EN 143:2007 (P2))

Test Aerosols: sodium chloride, paraffin oil
minimum efficiency at a flow of 95 L/min: 94 % NaCl, 94 % paraffin oil

3.3 Gas filtration capacity

Test conditions (EN 403:2004):
20x1,5 L sinus, 90 % rel. humidity, 25°C (CO)
30 L/min, 70 % rel. humidity, 20°C (Acrolein,HCl, HCN)

Test Gas	**Concentration** / ppm	**Breakthrough** / ppm	**Minimum breakthrough time** / min
CO	2,500 [1)]	200 [2)]	15
Acrolein	100	0.5	15
HCl	1,000	5	15
HCN	400	10	15

[1)] Additional tests with 5,000, 7,500 and 10,000 ppm
[2)] temporal weighted arithmetic mean during every 5 minutes

Test conditions (according to DIN 58647-7:1997):
30 L/min, 70% rel. humidity, 20°C

Test Gas	**Concentration** / ppm	**Breakthrough** / ppm	**Minimum breakthrough time** / min
H_2S	2,500	10	15

3.4 Breathing resistance (in acc. with EN 403:2004)

inhalation resistance: < 8 mbar
exhalation resistance: < 3 mbar

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3.5	Inside directed leakage without filter outlet (dead space volume of the hood)	< 2 %

4.0	**Documentation**	
4.1	Markings	Package: date of manufacture, expire date, batch number, classification, storage condition, marking, standard number, QR code, notified body number, and indication on the instruction for use. Notified Body number: CE 0158
4.2	Instructions for use	Standard Languages: English, French, German, Italian, Dutch, Norwegian, Russian, Arabic Country specific Languages: Brazilian Portuguese, Chinese, Danish, Finnish, Polish, Romanian, Swedish, Spanish, Czech, Turkish Print on Demand Languages: Bulgarian, Estonian, Greek, Croatian, Lettish, Lithuanian, Slovak, Slovenian, Hungarian

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5.0 Packing & Packaging

5.1 Package:

dimension (HxLxW) / mm	weight (approx.) / g	part name	material (main components)
90x190x135	590	PARAT 5510, Single Pack	cardboard packaging
105x215x155	660	PARAT 5520, Soft Pack	Polyester/ polyurethane cellulose propionate, poly-ethylene
107x241x143	720	PARAT 5530, Hard Case	Acrylester-styrol-acrylntrile, polycarbonate

5.2 Packaged units: One hood each

6.0 Accessories and Training

For carrying and fixing the PARAT Escape Hoods, Dräger offers various possibilities:

Soft Pack:

Waist Belt, Shoulder Strap, Belt Clip, Grip Clip

Hard Case:

Waist Belt, Shoulder Belt, Belt Clip, Grip Clip, D-Ring, Wallholder

Training hoods:

To enable a fast donning of the hoods in case of an emergency, training hoods are available. The hoods have a filter dummy and were offered in the different packagings.

Videos:

There is a video for every kind of packaging, which shows the donning as well as the filter replacement step by step.

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7.0	**User notes and limitations**	The performance of the filter is according to EN 403. The oxygen content of the ambient air must be at least 17 Vol.- % to 19.5 Vol.- %. Observe the respective national regulations. The storage temperature must be between -20°C and +55°C. The devices conform to the minimum requirements of the standard indicated by the class and type of the filter it is marked with. It must be noted that laboratory values can differ from those measured in practice. This may result in longer or shorter break through times. The user must read and understand the instructions for use. Additionally the knowledge of all relevant application rules is mandatory (see in particular the limitations in use). Further information on request.

Dräger Safety AG & Co. KGaA