





STEP TO THE SAFER FUTURE!

Belgrade, Republic of Serbia



WWW.GIM.RS

The philosophy of the company is that by providing products that are minimizing threats of any kind our future becomes more predictable and safer.

Company, specializes in innovative engineering, development and manufacture of personal protective equipment for a wide range of uses.

Product range includes:

- Ballistic product;
- Uniforms and overalls;
- Footwear, headwear;
- Rainwear, gloves,
- Accessories.

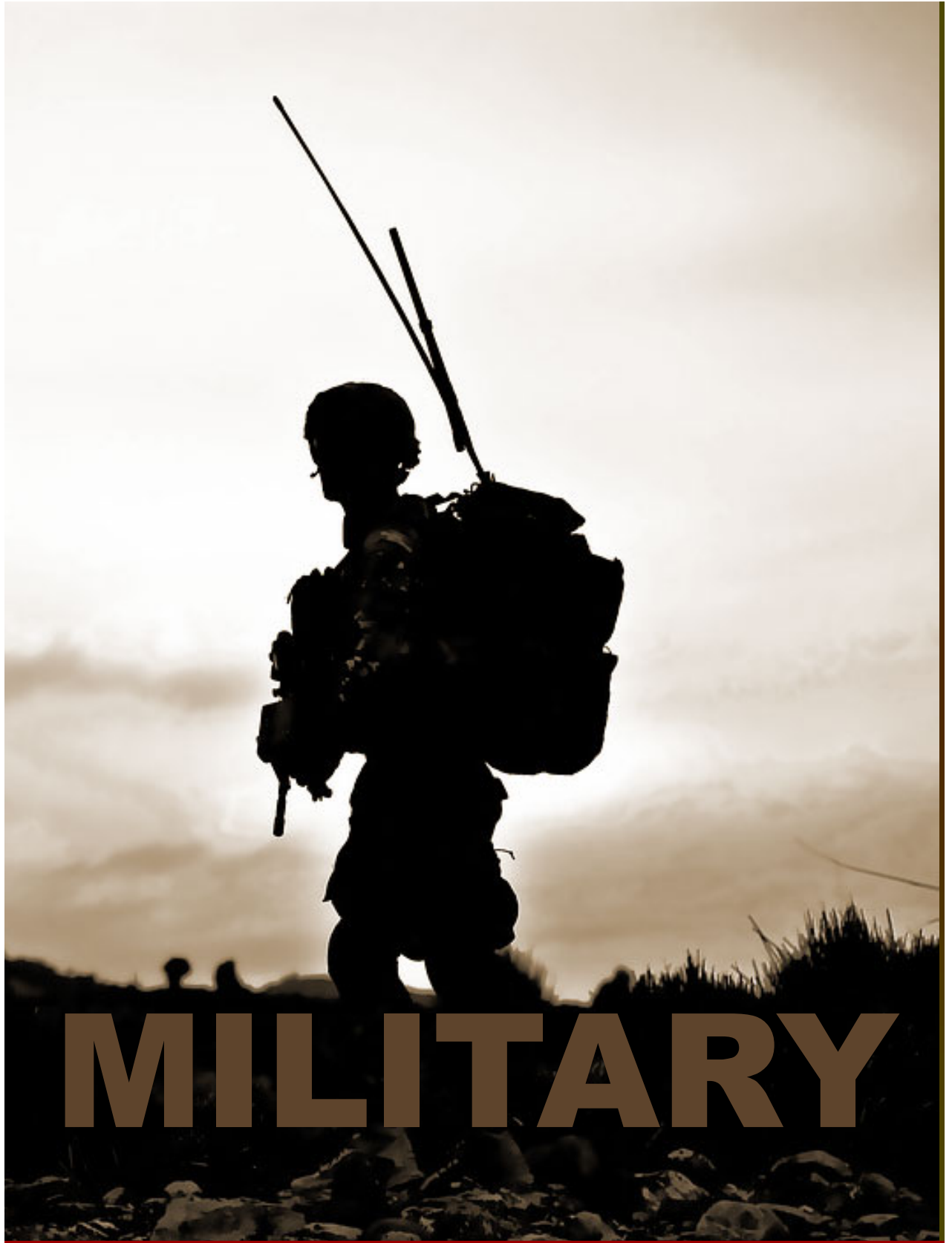
Company is divided in the following divisions:

- Raw materials;
- Engineering and development;
- Semi finished products;
- Finished products.

Company operates under strict quality policy validated by NIJ, ISO and SRB



STEP TO THE SAFER FUTURE

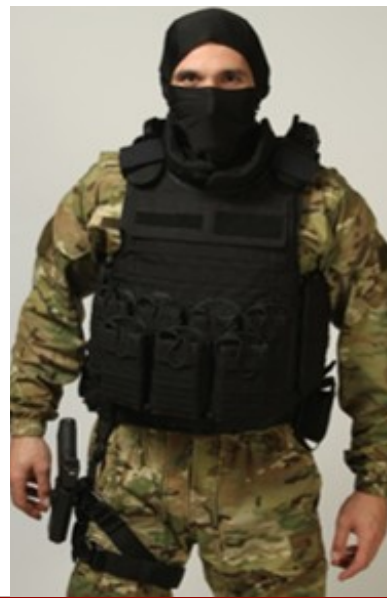


MILITARY



















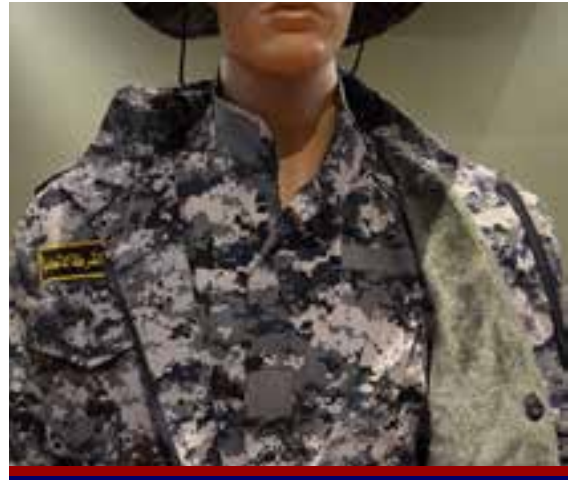




















MICH TYPE



SAR TYPE



Full cut MILCH helmet



Mesh type



Foam pad type



Air vacuumed plastic tubes



PASGT type



STEEL PASGT type

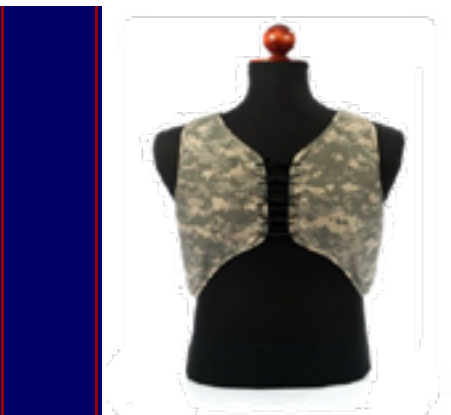


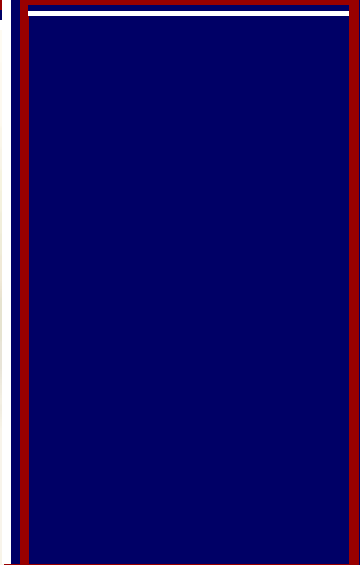




POLICE



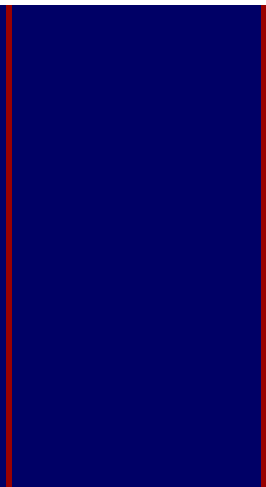




























PROTECTIVE MASK HORIZONT

INTENDED USE

- HORIZONT protective mask complete with a filter is intended specifically for efficient protection of respiratory organs, face and eyes against toxic gases, vapors, dust particles, smoke and mist depending upon the kind of a threaded filter.
- It must be used only in the atmosphere containing at least 17 % oxygen by volume.
- Mask satisfy demands from EN 136, for masks class 2.

TECHNICAL DATA

- The HORIZONT protective mask covers face and give complete protection of user without disturbing free movement of the head.
- The mask has a large field of vision.
- The facepiece is made of chlorobutyl rubber.
- Visor of the mask is made of polycarbonate glass and covers whole face,
- The standard filter connection, Rd 40 in accordance to EN 148-1, is designed on the left and right side of facepiece
- Position of the mask on the face can be adjusted by the 6 elastic head harnesses easily
- The mask has a speech membranu that gives index of voice clearness over 0,85.
- The mask is available in one size.
- Mask weight: max 600g.
- Each element of the mask is easy for maintenance.
- Storage conditions: Relative humidity 60 ± 10 %, temperatures from 5 to 25 °C.
- Individual packaging: Aluminized plastic bag and cardboard box.
- Packaging for transportation: Cardboard box.
- Shelf life of original packaging in the prohibited conditions of storage is 15 years.



The GOM logo is displayed in a stylized, gold-colored font. The letters are bold and blocky, with a white outline. The logo is set against a white circular background with a gold swoosh underneath.

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PROTECTIVE MASK M3

INTENDED USE

- The M3 protective mask together with the M3 filter is specifically intended for efficient protection of respiratory organs, face and eyes against toxic gases, vapours, dust particles, smoke and mist depending upon the kind of a threaded filter.
- It should be used only in the atmosphere containing at least 17 % oxygen in volume.

TECHNICAL DATA

The mask is available in one size.

Facepiece

- Protection factor is > 10 000.
- The colour of the mask is black and facepiece repels NBC agents > 24h.
- Filter connector Rd 40x1/7, in accordance with EN 148-1.
- Possibility of filter assembling left or right.
- Field of vision is > 80 %. The eyepiece is transparent and made of polycarbonate.
- Position of the mask on the face is easily adjusted by means of elastic head harness (in 6 points).
- There is a phonic unit, index of voice clearness is > 0,85.
- Exhalation resistance (at flow rate of 30 l/min.) is < 0,7 mbar.
- Inhalation resistance (at flow rate of 30 l/min.) is < 1,7 mbar
- The mask is made of bromo butyl rubber so it can be worn in all weather conditions at temperatures ranging from -30°C to 50 °C.
- The mask is made of the materials which are neither dangerous to health nor irritant to the skin.
- Liquid flow rate is > 200 ml/min.
- Possibility of assembling the correction glasses.
- Shelf life of original packaging in the prohibited conditions of storage is 15 years.

Filter M3

- Connection thread: Rd 40x 1/7" according to EN 148-1.
- Total weight (without covers): max.310 g.
- Pressure drop at flow of 30 lpm: max 140 Pa. Filter is airtight at positive pressure of 5300 Pa.
- Filter efficiency: 99,997%
- Sorption ability against
 - chloropicrin: *min 1,6x 10⁵ mg.min/m³ (at challenge conc. 2.200 ppm)*,
 - hydrogen cyanide: *min 1,6x 10⁵ mg.min/m³ (at challenge conc. 5.000 ppm)*,
 - cyanogen chloride: *min 1,6x 10⁵ mg.min/m³ (at challenge conc. 785 ppm)*,
 - phosgene: *min 25 minutes (at challenge concentration 5.000 ppm)*.

Bag for M3 Protective Mask :

- Material: 100 % Polyamide coated with polyurethane, camouflage in visual and near IR (from 650 nm to 1000 nm). Color stability against light: minimum 4.
- Wearing: The bag is to be fixed to the belt or worn under the arm.

Water canteen

Material is high quality HDPE. Capacity is up to 1 liter. Weight of the canteen is less than 200 grams.

Packaging: Bag for water canteen.



PROTECTIVE MASK M2F

INTENDED USE

- The M2F protective mask together with NBC M2 filter is specifically intended for efficient protection of the eyes, face and respiratory organs against NBC contaminants in the form of gases, vapors, solid and liquid aerosols and dust particles.
- It can also be used against other toxic gases, vapors and particles with a proper filter. Depending upon the type and concentrations of contaminants in the working atmosphere, a proper filter should be screwed onto the standard filter connector (EN 148).
- The M2F protective mask can be used in any atmosphere except in the atmosphere containing less than 17 % oxygen.
- It can be used alone and in connection with other personal protective equipment in regard to the type of contaminants and the activity of the wearer.

TECHNICAL DATA

The M2F protective mask consists of the facepiece, NBC M2 filter, bag and the cleaning kit.

Facepiece

- It is available in three sizes (small, medium, large).
- Position of the mask on the face is easily adjusted by means of elastic head harness.
- The M2F protective mask contours comfortably to fit face without disturbing free movement of head.
- The field of vision no less than 70% of the normal. The transparency of the glasses is more than 87%.
- The transparency of the glasses is more than 87%.
- The resistance of exhalation valve subassembly is max. 70 Pa at the flow of 0,5dm³/s.
- Static leakage of an exhalation valve is not more than 20 Pa when exposed to negative pressure of 100 Pa for 120s.
- Total resistance of the M2F protective mask at inhalation is not more than 230 Pa at the flow of 0,5dm³/s.
- Facepiece is airtight at positive pressure of 3000 Pa for 60 seconds.
- There is a phonic unit, index of voice clearness is > 0,85.
- The M2F protective mask is made of synthetic rubber so it can be used for all weather conditions at the temperature ranging from -30° C to +50° C.
- It is neither dangerous to health nor irritant to the skin.
- Each element of the mask is easy to disinfect.
- The weight of the M2F protective mask is not more than 500g, with the NBC M2 filter it weighs about 800 g. The weight of the bag containing both the mask and the filter is 1300g.
- Shelf life of original packaging in the prohibited conditions of storage is 10 years.

Filter M2

- Sorption capacity of filter (at challenge concentration 5.000 ppm) is:

- chloropicrin:	min. 26 g
- phosgene:	min. 15 g
- hydrogen cyanide:	min. 3 g
- Filter weight without plug and cover: max. 310 g,
- Pressure drop at flow of 30 lpm: max 140 Pa,
- Filter is airtight at positive pressure of 5300 Pa,
- Filter efficiency: 99,995 % and
- Shelf life: more than 5 years if stored in original packing at the appropriate warehouse (5 °C to 25 °C, RH less than 70%)

M2 Bag for Protective Mask:

- Material: 100 % Polyamide coated with polyurethane,
- Camouflage in visual and near IR (from 650 nm to 1000 nm),
- Color stability against light: minimum 4 and
- Wearing: The bag is to be fixed to the belt or worn under the arm.



PROTECTIVE MASK PANORAMA B2G

INTENDED USE

- Panorama B2G protective mask (type: class 2 in accordance with SRPS EN 136) together with the filter is specifically intended for efficient protection of respiratory organs, face and eyes against toxic gases, vapours, dust particles, smoke and mist depending upon the kind of a threaded filter.
- It should be used only in the atmosphere containing at least 17 % oxygen in volume.
- Different types of filters are screwed onto the standard connectors (EN 148) to suit various kinds and concentrations of contaminants and operating conditions.

TECHNICAL DATA

- The B2G Panorama protective mask covers face and eyes, comfortably fitting the face without disturbing free movement of the head.
- Position of the mask on the face is easily adjusted by means of elastic head harness.
- The mask has a small "dead space", but a wide field of vision.
- There is a phonic unit in the filter connector allowing normal communication of the wearer with the surroundings.
- Resistance of the exhalation valve subassembly is only 75 Pa.
- The mask is made of natural/synthetic rubber so as to be worn in all kinds of weather conditions at temperatures ranging from - 30 to 50 °C.
- The mask is made of materials which are neither dangerous to health nor irritant to the skin.
- The colour of the mask is black and the facepiece is resistant to chemicals.
- The weight of the mask without the filter is 650 g.
- Type of the Panorama glasses is polycarbonate.
- The mask is available in one size.
- Each element of the mask is easy to disinfect thus allowing very simple maintenance.
- Shelf life of original packaging in the prohibited conditions of storage is 10 years.



INDIVIDUAL PROTECTION HALF MASK PM1

PERSONAL
PROTECTION

INTENDED USE

The PM1 half mask together with a filter is specifically intended for efficient protection of respiratory organs against toxic gases, vapours, dust particles, smoke and mist depending upon the kind of a threaded filter.

It should be used only in the atmosphere containing at least 17 % oxygen in volume.
Different types of filters are screwed onto the standard connector (EN 148) to suit various kinds and concentrations of contaminants and operating conditions.

TECHNICAL DATA

- Position of the half mask on the face is easily adjusted elastic head harness.
- Half mask is made of bromo-butyl rubber.
- Mask is made of the materials which are neither dangerous to health nor irritant to the skin.
- Filter connector Rd 40x1/7, in accordance with EN 148-1.
- Half mask is available in one size.
- Each element of the mask is easy to disinfect thus allowing very simple maintenance.
- Shelf life: 10 years.
- Storage conditions: To be stored at a maximum of 75 % relative humidity, at temperatures ranging from 5 °C to 25 °C.
- Shelf life of original packaging in the prohibited conditions of storage is 10 years.



CBRN FILTERS

CBRN FILTER

INTENDED USE

The CBRN combined filter, together with the appropriate full face mask, is intended for protection of the respiratory organs against harmful effects of toxic gases and vapours: Ammonia, Cyanogens Chloride, Cyclohexane, Formaldehyde, Hydrogen Cyanide, Hydrogen Sulfide, Nitric dioxide NO, NO₂, N₂O₅, Phosgene, Phosphine, Sulfur dioxide and particles. The filter has special application in accidental situations of different types.

TECHNICAL DATA

- The filter connector is according to EN 148-1.
- Connection thread: Rd 40x 1/7" according to EN 148-1
- Filter weight with both plug and cover: max.500 g
- Pressure drop at flow of 30 lpm: max 200 Pa
- Filter is hermetic at positive pressure of 5300 Pa
- Filter efficiency: 99,98 %

CO CBRN

INTENDED USE

The CO CBRN combined filter, together with the appropriate full face mask, is intended for protection of the respiratory organs against harmful effects of toxic gases and vapours: Carbon monoxide, Ammonia, Cyanogens Chloride, Cyclohexane, Formaldehyde, Hydrogen Cyanide, Hydrogen Sulfide, Nitric dioxide NO, NO₂, N₂O₅, Phosgene, Phosphine, Sulfur dioxide and particles.

The filter has special application in accidental situations of different types.

TECHNICAL DATA

- The filter connector is according to EN 148-1.
- Connection thread: Rd 40x 1/7" according to EN 148-1
- Filter mass with both plug and cover: max.500 g
- Pressure drop at flow of 85 lpm is max. 800 Pa.
- Filter efficiency at flow of 30 lpm is minimum 99,98 %.
- Filter is air-tight at positive pressure of 5300 Pa



NBC FILTERS M2 AND M3

M2 FILTER

INTENDED USE

NBC M2 combined filter is intended for protection of respiratory organs against NBC toxic agents in the form of drops, aerosols vapors and gases.

TECHNICAL DATA

- Connection thread: *Rd 40x 1/7"* in accordance with *EN 148-1*
- Filter weight without both plug and cover: *max. 310 g*
- Pressure drop at flow 30 lpm: *max 140 Pa*
- Filter is hermetic at overpressure 5300 Pa
- Filter efficiency: *min 99,995 %*
- Sorption capacity of filter (at challenge concentration 5.000 ppm) is:

- chloropicrin:	<i>min. 26 g</i>
- phosgene:	<i>min. 15 g</i>
- hydrogen cyanide:	<i>min. 3 g</i>

M3 FILTER

INTENDED USE

NBC M3 combined filter is intended for protection of respiratory organs against NBC toxic agents in the form of drops, aerosols vapors and gases.

TECHNICAL DATA

- Connection thread: *Rd 40x 1/7"* according to *EN 148-1*
- Total weight (without covers): *max.310 g*
- Pressure drop at flow 30 lpm: *max 140 Pa*
- Filter is hermetic at positive pressure of 5300 Pa
- Filter efficiency: *min 99,997%*
- Protective capacity against
 - phosgene: *minimum 25 minutes*
(at challenge concentration 5.000 ppm)
- Sorption ability against
 - chloropicrin: *min 1,6x 10⁵ mg.min/m³*
(at challenge conc. 2.200 ppm)
 - hydrogen cyanide: *min 1,6x 10⁵ mg.min/m³*
(at challenge conc. 5.000 ppm)
 - cyanogen chloride: *min 1,6x 10⁵ mg.min/m³*
(at challenge conc. 785 ppm)



PARTICLE FILTERS P2 R AND P3 R

INTENDED USE

Particle filters, together with the appropriate half-mask or full face mask, are intended for respiratory protection against harmful effects of toxic particles of aerosols and dust.

TECHNICAL DATA

- The filter connector is in accordance with EN 148-1.
- P2 – Protection against harmful particles of aerosols and dust (a minimum of 94 % efficiency).
- P3 – Protection against harmful fine particles of aerosols and dust (a minimum of 99.95 % high efficiency).
- R – Reusable (marking means that they can be used for more than one work shift).

The casing of the filter is made from aluminium sheet, which is specially varnish coated (protected) against corrosion. The filter is filled with a specially prepared filter paper.

The filter is used in different branches of industry: chemical industry, pharmaceutical industry, textile industry, food industry, in civil engineering and in mining.

The quality of the filter is in accordance with SRPS EN 143.



GAS FILTERS

INTENDED USE

Gas filters, together with the appropriate half-mask or full face mask, are intended for protection of the respiratory organs against harmful effects of toxic gases.

TECHNICAL DATA

Depending on the gas, there are several types:

- A2 - organic gases and vapours with boiling point higher than 65 °C,
- B2- inorganic gases and vapours (Cl₂, HCN, H₂S),
- E2- inorganic gases and vapours (SO₂),
- K2- NH₃ and its derivatives and
- A2B2, B2E2, A2B2E2K2 - combinations of several types of protection

The filter is used in different branches of industry: chemical industry, pharmaceutical industry, textile industry, food industry, in mining, etc.

The filter connector is according to EN 148-1.

The quality of the filter is in accordance with SRPS EN 14387.

Table: **Quality requirements for the filter according to EN 14387:2004 + A1:2008 a**

Type of filters	Max. weight	Breathing resistance (mbar)		Capacity GAS (minute)
		30 l/min	95 l/min	
250 A2	300	max 1,4	max 5,6	C6H12 min 35
250 B2	300	max 1,4	max 5,6	H2S min 40 CL2 min 20 HCN min 25
250 E2	300	max 1,4	max 5,6	SO2 min 20
250 2K	300	max 1,4	max 5,6	NH3 min 40
250 A2B2	300	max 1,4	max 5,6	C6H12 min 35 H2S min 40 CL2 min 20 HCN min25
250 B2E2	300	max 1,4	max 5,6	H2S min 40 CL2 min 20 HCN min 25 SO2 min 20
400 A2B2E2K2	500	max 1,4	max 5,6	C6H12 min 35 H2S min 40 HCN min 25 SO2 min 20 NH3 min 40 CL2 min 20

NOTE: The following quality requirements apply in laboratory tests under standard conditions.



COMBINED FILTERS

INTENDED USE

Combined filters, together with the appropriate half-mask or full face mask, intended for protection of the respiratory organs against harmful effects of toxic gases, vapours and particles.

TECHNICAL DATA

Depending on the gas, there are several types of combined filters:

- A2P3 R - organic gases and vapours whose boiling point is higher than 65 °C,
- B2P3 R- inorganic gases and vapours (Cl₂, HCN, H₂S),
- E2P3 R- inorganic gases and vapours (SO₂),
- K2P3 R- NH₃ and its derivatives and combinations of several types of protection A2B2P3 R, B2E2P3R, A2B2E2K2P3 R.

R – Reusable (marking means that they can be used for more than one work shift).

The filter is used in different branches of industry: chemical industry, pharmaceutical industry, textile industry, food industry, in mining, etc.

The filter connector is according to the EN 148-1.

The quality of the filter is in accordance with the SRPS EN 14387 and the SRPS EN 143.

Table: **Quality requirements for the filter according to standards EN 14387:2004 + A1:2008 and EN 143:2000 + A1:2006**

Types of filters	Max. weight	Breathing resistance (mbar)		Permeability (%)		Capacity GAS (minute)
		30 l/min	95 l/min	NaCl (95 l/min)	Parafine fog (95 l/min)	
250 A2P3 R	300	max 2,6	max 9,8	max 0,05%	max 0,05%	C6H12 min 35
250 B2P3 R	300	max 2,6	max 9,8	max 0,05%	max 0,05%	H ₂ S min 40 CL ₂ min 20 HCN min 25
250 E2P3 R	300	max 2,6	max 9,8	max 0,05%	max 0,05%	SO ₂ min 20
250 K2P3 R	300	max 2,6	max 9,8	max 0,05%	max 0,05%	NH ₃ min 40
250 A2B2P3 R	300	max 2,6	max 9,8	max 0,05%	max 0,05%	C6H12 min 35 H ₂ S min 40 CL ₂ min 20 HCN min 25
250 B2E2P3 R	300	Max 2,6	max 9,8	max 0,05%	max 0,05%	H ₂ S min 40 CL ₂ min 20 HCN min 25 SO ₂ min 20
400 A2B2E2K2P3 R	500	max 2,6	max 9,8	max 0,05%	max 0,05%	C6H12 min 35 H ₂ S min 40 HCN min 25 SO ₂ min 20 NH ₃ min 40 CL ₂ min 20

NOTE: The following quality requirements apply in laboratory tests under standard conditions.



FILTERS FOR SPECIAL PURPOSES

SX(CO)P3 COMBINED FILTER

The SX(CO)P3 combined filter, together with the appropriate full face mask, is intended for protection of the respiratory organs against harmful effects of carbon monoxide, vapours and particles.

The filter is used in different branches of industry, in mining and in fire protection.

The filter connector is according to EN 148-1.

The quality of the filter is in accordance with SRPS EN 14387 and with SRPS EN 143.

A1B1E1K1SX(CO)P3 R3 COMBINED FILTER

The A1B1E1K1SX(CO)P3 R combined filter, together with the full face mask, is intended for protection of the respiratory organs against harmful effects of toxic gases, carbon monoxide, vapours and particles.

The filter is used in different branches of industry: chemical industry, pharmaceutical industry, textile industry, food industry, in mining and in fire protection.

The filter connector is according to EN 148-1.

The quality of the filter is in accordance with SRPS EN 14387 and with SRPS EN 143.

FILTER CS

The CS filter has been specially designed so that, when screwed onto the protective mask or the Panorama mask, it does not prevent the use of the protective eyepiece of various types of the police helmets.

Filter dimensions: Ø 110x77 mm

Connection thread: Rd 40x 1/7" according to EN 148-1

Filter weight without plug and cover: max.250 g

Pressure drop at flow of 30 l/min.: max 140 Pa

Filter efficiency: min. 99,99 % Intended use: The CS filter is intended only for protection against chloracetophenone (HAF) and O-chlorobenzyliden malononitrile (CS) and is not to be used in the unknown accidental situations.

FILTER CS 00

The CS 00 filter has been specially designed so that, when screwed onto the protective mask or the Panorama mask, it does not prevent the use of the protective eyepiece of various types of the police helmets.

Filter dimensions: Ø 110x63 mm

Connection thread: Rd 40x 1/7" according EN 148-1

Filter mas without both plug and cover: max.170 g

Pressure drop at flow of 30 l/min.: max 100 Pa

Filter efficiency: min. 99,99 %

Intended use: The CS 00 filter is intended only for protection against chloracetophenone (HAF) and O-chlorobenzyliden malononitrile (CS) and is not to be used in the unknown accidental situations.



PROTECTIVE FILTRATING SUIT M2

INTENDED USE

The M2 protective filtering suit is intended for efficient multiple protection of the wearer against the effects of gases/vapors and for single protection against the effects of droplets/aerosols. It also provides protection against burning thermal radiation impulse of nuclear explosion and napalm composition droplets.

TECHNICAL DATA

The M2 protective filtering suit consists of the inner and outer layer. The inner is made from NBC filtering material, the outer is made of Polyeste/Cotton mixture camouflage fabric, for visual and near IR area (650-1000nm). The suit is oil and water resistant.

The protective suit is available in three sizes :

- Small (S), medium (M) and large (L) size. The weight of the suit is not more than 3 kg.

The protection capacity against S-lost, vapors, in concentration 20 mg/m³, is minimum 6 hours. The protection capacity against S-lost, drops, in concentrations of 10 g/m², is minimum 24 hours. The suit can be washed 6 times without changing its characteristics.

The suit should not burn on impact of burning thermal radiation impulse of nuclear explosion, strength 3 kt and energy 60 J/cm², in 1 second lasting and on impact napalm composition droplets do not burn for at least 15 seconds.

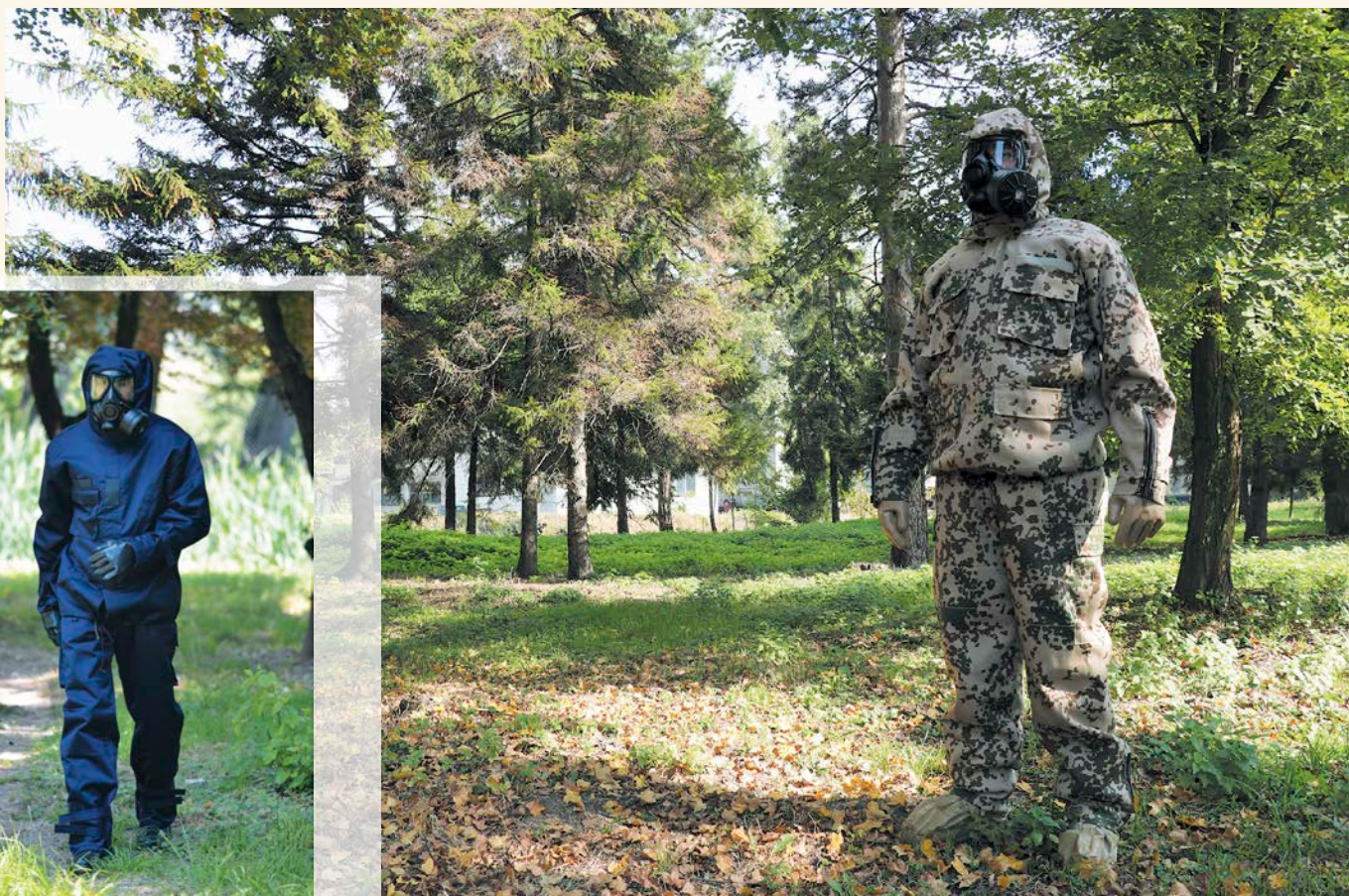
Air permeability of fabrics that the M2 suit is made from under $\Delta P = 100$ Pa is minimum 6 m³/m²*min.

The M2 protective suit can be used at temperatures ranging from -30°C to +50°C. It is compatible with protective mask, gloves, overcoat (over garment), socks boots and helmet.

The M2 protective suit unit packaged in PE/Al/PA-bag contains separately packed pants and blouse. The same five sizes of the suit are packaged in water resistant cardboards of 600mm x 400 mm x 400mm in dimension.

The M2 protective suit in its original packing is to be stored in dark areas at temperatures ranging from +5°C to 25°C and at relative humidity of 60 ± 10% .

Shelf life of original packaging in the prohibited conditions of storage is 15 years.



PROTECTIVE FILTERING OVERALL

INTENDED USE

Protective filtering overalls are intended for efficient multiple protection of the wearer against the effects of gases/vapors and for single protection against effects of droplets/aerosols as well as of burning thermal radiation impulse of nuclear explosion and napalm composition droplets.

TECHNICAL DATA

Protective filtering overalls consist of inner and outer layer. The inner layer is made from NBC filtering material, the outer is made of polyester/cotton mixture camouflage fabric, for visual and near IR area (650-1000nm). The overalls are resistant to oil and water.

Protective filtering overalls are available in three sizes :

- Small(S), medium (M) and large (L) size. The weight of the overalls is not more than 3 kg.

The protection capacity against S-lost, vapors, in concentrations of 20 mg/m³, is minimum 6 hours. The protection capacity against S-lost, drops, in concentrations of 10 g/m², is minimum 24 hours. The overalls can be washed for 6 times without changing their characteristics.

The overalls should not burn on impact of burning thermal radiation impulse of nuclear explosion, strength 3 kt and energy 60 J/cm², in 1 second lasting and on impact napalm composition droplets do not burn for at least 15 seconds.

Air permeability of fabrics that the overalls are made from under $\Delta P = 100$ Pa is minimum 6 m³/m²*min.

The protective overalls are to be used at temperatures ranging -30°C to +50°C. They are compatible with protective masks, gloves, overcoat (over garment), socks, boots and helmet.

The protective overalls unit packaged in PE/Al/PA-bag contains respective pants and blouse. The same five sizes of overalls are packaged in the 600mm x 400 mm x 400mm water resistant carton cardboards.

The protective overalls in their original packing are to be stored in dark areas at temperatures ranging +5°C to 25°C and at relative humidity of 60 ± 10% .

Shelf life of original packaging in the prohibited conditions of storage is 15 years.



PROTECTIVE OVERALL M5

INTENDED USE

Protective overalls are intended for protection of the body against chemical and other toxic agents in the form of gases, vapours, liquid and solid aerosols, including radiological, biological, and chemical contamination.

TECHNICAL DATA

Protective overalls are intended for protection against thermal impulse of nuclear explosion and drops of burning napalm mixture. They provide protection during the observation in the visible and near infrared range of the electromagnetic spectrum.

Protection capacity of protective overalls (material, seam) against drops of toxic agents (S-iperite) is not less than 150 minutes. After five alternative contaminations and decontaminations it is not less than 105 minutes.

Also, the overalls are used for protection of the body of the user in industry and in accidents.

The weight of the overalls is less than 3 kg.

Combined with the protective mask, protective gloves and protective overboots, it completely protects the wearer.

This is one-piece clothing.

Protective overalls are zipped up by means of a special gas-proof rubberized zipper. The ends of the hood, sleeves and trouser legs have special rubber extensions used to achieve complete sealing of the joints with protective mask, protective gloves and protective boots. They are made from fabric rubberized on both sides in a variety of colours, on demand, and are available in three sizes.

All the sewn up seams are sealed on the outer side with straps of the same material.

Shelf life of original packaging in the prohibited conditions of storage is 10 years.



PROTECTIVE OVERGARMENT M4

INTENDED USE

M4 protective overgarment is intended for single protection against the effects of the toxic agent droplets (S-lost droplets have been tested), and for multiple protection against radioactive and atmospheric precipitations on the contaminated field.

TECHNICAL DATA

M4 protective overgarment is made of camouflage polyamide material. It is oil resistant, coated with special rubber layer, and strengthened with special rubber layer. It is used in visual and near IR area (650-1000nm). The M4 protective overgarment is available in three sizes and is compatible with the M2 filtering suit, protective mask, M4 protective gloves and M2 protective socks.

- Weight of the overgarment is not more than 650 g.
- Tensile strength of the coated fabric is:
 - over 500 N/5cm in longitudinal direction, and
 - over 400 N/5cm in transversal direction.
- Tearing resistance of the coated fabric is over 30 N/epr in both longitudinal and transversal direction.
- Protection capacity against S-lost droplets is more than 120 minutes (drop by drop method, at the test temperature of up to $23 \pm 1^\circ\text{C}$). M4 protective overgarment can be used at temperatures ranging from -30°C to $+50^\circ\text{C}$.

Shelf life of original packaging in the prohibited conditions of storage is 15 years.



PROTECTIVE SOCKS M2

INTENDED USE

M2 protective socks are to be worn over the shoes and are intended to provide single protection of the legs against the effects of drops of toxic agents (S-lost drops are tested). They are also used for multiple protection against radioactive and atmospheric precipitations.

TECHNICAL DATA

M2 protective socks are made of camouflage polyamide material. They are oil resistant, coated with special rubber layer, and strengthened with special rubber sole. They are used in visual and near IR area (650-1000nm). The socks are available in one size and they are compatible with M2 protective filtering suit and with protective M4 overgarment.

Weight of one pair of socks is not more than 400 g.

Protection capacity of protective socks against S-lost drops is more than 120 minutes. The M2 protective socks can be used at temperatures ranging from -30°C to +50°C.

Shelf life of original packaging in the prohibited conditions of storage is 15 years.



PERSONAL DECONTAMINATION SET LPD M-3

NBC
PROTECTION

INTENDED USE

The LPD M-3 personal decontamination set is intended for efficient chemical decontamination of bare body parts, clothing equipment and weapons.

TECHNICAL DATA

The set is in the form of a special fingerless glove, which is made of rubberized net fabric padded with powdered clay on one side and a soft fabric on the other.

It is packaged in the waterproof bag of Al foil covered with polyethylene and it contains a short instruction for use. It is simply to be discarded after one use.

Toxic agents of yperite, soman and VX kind are absorbed and adsorbed by powdered clay.

- Dimensions: 170mm x 120mm x 35mm
- Weight, LPD-M3: approx. 150g
- Clay weight: approx. 100g
- The glove is made of permeable fabric, it allows at least 90 g of clay to drop out during decontamination for the period of 10 minutes.
- Time necessary to prepare the set for use: maximum 1 minute.

Shelf life of original packaging in the prohibited conditions of storage is 5 years.



PROTECTIVE GLOVES M4

INTENDED USE

M4 protective gloves are primarily used for absolute and multiple protection of hands against chemical contaminants and other harmful or toxic substances. They are also used in labs, storages and in areas with the effect of chemical, toxic and other harmful substances.

TECHNICAL DATA

- Protective gloves are available in three sizes: S, M, L.
- Components of protective gloves: They consist of 2 pieces (outer and inner).
- Outer gloves are made of butyl rubber compound. Besides their protective function, protective gloves are anatomically shaped so that they are comfortable to wear during work.
- Inner gloves are made of 100 % cotton. They are five-fingered.
- Weight of a gloves is not more than 250 grams.
- Protection capacity against S-lost drops is more than 150 minutes.
- Protection capacity against S-lost drops, after 5 x contamination / decontamination is more than 100 minutes.
- Protective gloves M4 can be used at temperatures ranging from -30°C to +50°C.
- Shelf life of original packaging in the prohibited conditions of storage is 10 years.



PROTECTIVE GLOVES

PROTECTIVE GLOVES "BEST"

INTENDED USE

BEST protective gloves are intended for multiple protection of hands and fingers against mechanical effects of sharp and rough surfaces.

They are used in: civil engineering, mining, wood and timber industry, forestry, brick plants, agriculture, public utility service, etc.

TECHNICAL DATA

The gloves have been manufactured by "dipping" of cotton jersey inserts into the latex mixture based on natural latex.

The gloves are five-fingered, anatomically shaped.

They are available in two sizes: 10 and 11.

The gloves are in accordance with the SRPS EN 420 and SRPS EN 388 standards.

PROTECTIVE GLOVES FOR SAND BLASTING

INTENDED USE

Protective gloves are intended for surface metal processing by sand blasting, for sheet metal processing, for work in glass manufacturing etc.

TECHNICAL DATA

They are made from natural latex coated onto the cotton insert in the hand area. They can also be made from natural rubber, i.e. rubber-coated fabric in the hand area. The gloves are five-fingered and are available in one, universal size.



GLOVES FOR ELECTRICIANS

INTENDED USE

Gloves are made from insulating materials and which are used for work under high voltage.

TECHNICAL DATA

Gloves are intended for work under the voltage of up to 17 kV.
They are made from rubber compound based on natural rubber by means of injection pressing.
Gloves are five-fingered, anatomically shaped.
Gloves are of Class 2, and are available in size 10, in accordance with SRPS EN 60903.

ELECTRO INSULATING MAT, TYPE 3000

INTENDED USE

Electro-insulating mat, type 3000 (hereafter called "The mat") is used as a protective device at the electric plants where nominal voltage exceeds 1000 V.

TECHNICAL DATA

Mat has been made from a mix of natural and synthetic rubber.
Color of the mat is light brown, the upper surface of the mat is smooth to the touch.
Mat is highly resistant to wear and tear.
Dimensions of the mat are: 1250 mm wide, 4 mm thick and 10 m long as a standard, although the length can be shorter, as required.
Quality of the mat is in accordance with the SRPS Z.B1.304 standard.

ELECTRO INSULATING MAT, TYPE 1000

INTENDED USE

Electro-insulating mat, type 1000 (hereafter called "The mat") is used as a protective device at the electric plants whose nominal voltage not exceeds 1000 V.

TECHNICAL DATA

Mat has been made from a mix of natural and synthetic rubber.
Color of the mat is light brown, the upper surface of the mat is smooth to the touch.
Mat is highly resistant to wear and tear.
Dimensions of the mat are: 1250 mm wide, 3 mm thick and 10 m long as a standard, although the length can be shorter, as required.
Quality of the mat is in accordance with the SRPS Z.B1.304 standard.



FPT-100 M TANK FILTERS

INTENDED USE

These filters are intended to be built into the filter-ventilation device for the NBC protection of the M-84 tank. They provide protection of the crew and of devices against NBC aerosols, gases and vapors of BOt, against radioactive dust and other types of dust.

Table: **Type of FPT-100 M**

Type	Dimensions (mm)	Nominal Airflow (m ³ /h)	Efficiency Against Paraffin Fog (%)	Weight (kg)	Item Code
FPT-100 M	Ø243x346	100	99,995	11±1	71225
FPT-100 M „ Niš 10 ”	Ø243x346	100	99,995	11±1	119842
FPT-100 M/AB	Ø243x346	100	99,995	11±1	424150

TECHNICAL DATA

- The filter capacity is 100 m³/h of purified air.
- The initial filter resistance: 1000±100 Pa at flow rate of 100 m³/h.
- Airtightness: The filter is to be airtight at the pressure of 20 kPa.
- The filter is to provide protection capacity against phosgene for a minimum of 14 minutes at flow rate of 100 m³/h, protection capacity against phosgene is to be minimum 12 minutes after exposure to vibrational stress and impact at flow rate of 100 m³/h.



NBC FILTERS FKZ 63, FKZ 125, FKZ 250

COLLECTIVE
PROTECTION

INTENDED USE

TRAYAL Corporation manufactures collective protection filters, which are intended for protection of people and equipment in stationary facilities.

They are fitted into filter-ventilation systems of the facilities, especially in shelters. Depending on the shelter capacity and number of people, there are several types of filters: FKZ-63, FKZ-125, FKZ-250.

TECHNICAL DATA

The Table shows the number of persons in a shelter which may be supplied with purified air by means of a suitable filter type in case of contaminated atmosphere, in accordance with current regulations in force as well as aerodynamic characteristics, overall dimensions, connections and weight of the said filters.

In accordance with "The Regulations on Technical Characteristics for Constructions of Shelters Intended for Basic Protection", filters for collective protection are installed in specific shelter rooms which are separated from other shelter rooms.

Table: NBC filters

Filter Type	FKZ 63			FKZ 125			FKZ 250			
Number of persons in the shelter	25			50			100			
Rated flow (m ³ /h)	63			125			250			
Max. resistance at rated flow (Pa)	350			480			600			
Max diameter D (mm)	500			600			700			
Height C (mm)	410			490			560			
Weight (kg)	35			50			85			
Variant	A	B	C	A	B	C	A	B	C	
Connection	Entrance	Rd	/	Rd	Rd	flanges	Rd	Rd	flanges	Rd
	Exit	Rd	/	flanges	Rd	flanges	flanges	Rd	flanges	flanges
Catalogue No.	NBC - 310.010			NBC - 310.020			NBC - 310.030			

Airtightness : The filter is to be airtight under the pressure of 20 kPa;

Filter efficiency: 99,99%, tested on paraffin oils. Testing shall be performed on complete filters.

Protection against gases: There are microtests of the activated carbon.

- Phosgene (COCl₂): 5000 ppm concentration, protection capacity is 45 minutes.

- Chloropicrin (CCl₃NO₂): 5000 ppm concentration, protection capacity is 50 minutes.

- Chlorine (Cl₂): 5000 ppm concentration, protection capacity is 50 minutes.

- Tetra chloromethane (CCl₄): 5000 ppm concentration, protection capacity is 50 minutes.



WATER TANKS AND VESSELS

Water Vessel, 20 dm³

This water vessel is to be carried on the back and is intended for individual transportation of water to waterless areas. It holds water in the quantity of up to 20 liters.

Water Vessel, 100 dm³

It is intended for the storage of drinking water in the quantity of up to 100 liters. It takes two persons to carry the vessel since it has fitted handles.

The vessel is filled up by means of water supply devices or accessories.

Water Tanks, 300 dm³ and 500 dm³

They are intended for temporary storage and transport of drinking water. The set of straps allows the handling and carriage of the tanks by motor vehicle or by helicopter.

Water Tanks, 1500 dm³

The RVN-1500 water tanks are used for supplying water to building sites, ships and other floating objects, mountainous and inaccessible terrains, as well as for extinguishing small-scale fires.

As soon as the tanks are filled up with water, they are to be transported by motor vehicle or by helicopter.

Water Tanks, 4500 dm³

The RVN-4500 water tanks are intended for the storage of high quantities of raw or filtered water in the areas lacking in water.

They are mainly used in building sites which are far away from the water source, or in the areas with insufficient water capacity.

These water tanks are open type and stationary.

Shelf life of original packaging in the prohibited conditions of storage is 10 years.



METAL AMMUNITION BOX

INTENDED USE

The M2A1- Ammunition Box is intended for the packing of firing ammunition of various calibres (e.g. 7.62 mm, 5.56 mm etc.)

TECHNICAL DATA

COMPONENT PARTS OF THE AMMUNITION BOX

Name of the component part	Material	Min. Thickness mm
Casing	Steel sheet	0.8
Cover with the handle	Steel sheet	1.2

EXTERNAL DIMENSIONS OF THE AMMUNITION BOX –according to standard MIL-B-3060E

length, mm	width, mm	height, mm
305.6	154.8	190.5

- **MASS OF THE BOX**

- empty - 2.7 kg,
- max. Gross weight - 22kg

- **SURFACE PROTECTION OF THE AMMUNITION BOX**

- Two-component polyurethane paint (shade at the request of the Buyer), matte finish.

- **CERTIFICATION –**

- IBE- BVI – BALGISH VERPAKKINGSINSTITUT bvba

- **CERTIFICATION OF TESTING -**

- according to MIL-B-3060E N° P-17.09.4H
- date of certification : 29/05/2017

- **ATTRIBUTION UN - NUMBER -**

- UN NUMBER - 4A/Y22/S/*
- B/2089-170102

Date of attribution of UN - number : 26/06/2017



ADSORPTION FILTERS

INTENDED USE

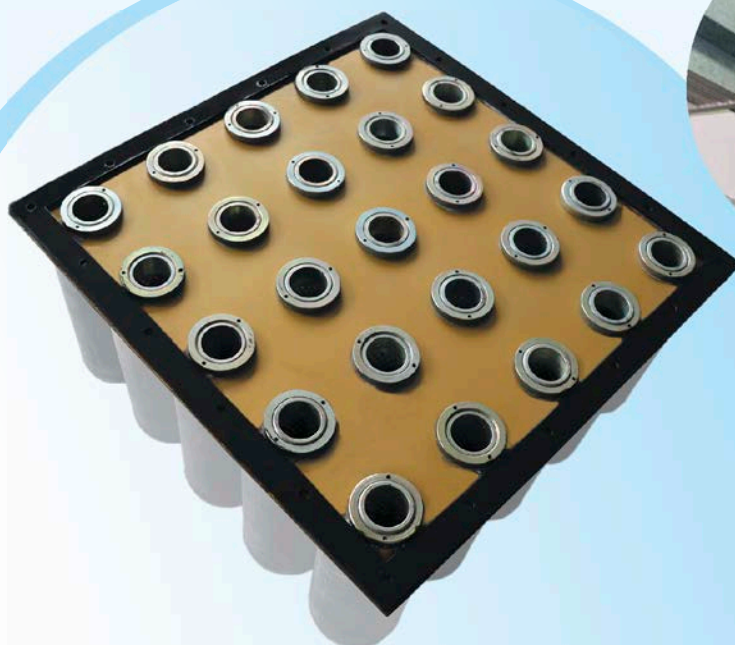
Adsorption filters are intended for the purification of air from acidic gases, organic vapours and solvents, from ammonia and ammonia derivatives, and are mainly used in the food industry (restaurants), chemical industry, etc.

TECHNICAL DATA

- Adsorption filters are available in standard dimensions or at the request of the buyer.
- Filter cartridges filled with activated carbon for purpose of multiple protection.
- AF-1000 filter is primarily used for the concentrations of the aforementioned gases and vapours of up to 0.1 of volume concentration or lower.
- For the purpose of extension of shelf life of the adsorption filter, it is recommended that the AF-1000 filter be used together with the absolute filter of 610x610x150 mm in dimension, which retains dust particles, liquid particles, aerosols, bacilli, bacteria and viruses.
- AF-1000 adsorption filter has been designed in such a way that the carrier plate, the insert and the active filler can be replaced.
- Filter capacity is 1000m³/h of purified air.

Table: **Adsorption filters**

Type	Dimensions (mm)	Nominal flow (m ³ /h)	Weight (kg)	Item Code
AF-1000/A	610x610x286	1000	63±5	136372
AF-1000/B	610x610x286	1000	63±5	67637
AF-1000/K	610x610x286	1000	63±5	460170
AF-1000/ABEK	610x610x286	1000	63±5	459925
A1-600	752x1100x600	600	150±10	106799



AIR PURIFICATION FILTERS

PREFILTERS

For the purpose of rough air filtration in hospitals, pharmaceutical industry, food industry, electronic industry and other industries, we offer the following:

- **Prefilter plates**
- **Filter tubes**
- **Prefilter bags**
- **Pocket filters.**

Prefilter plates, tubes and bags are mainly manufactured at the buyer's demand. Pocket filters are manufactured in standard dimensions or on request. They are G-3, 4, 5 and F-5 efficiency class according to EN 779.

ABSOLUTE FILTERS

For fine air filtration the following absolute filters of efficiency classes F-6, 7, 8, 9 (EN 779) and H-10, 11, 12, 13, 14 (SRPS EN-1822) are used, such as:

- **V4 Filters**

They are used for general aeration or as prefilters before absolute filters of higher class H-10 through H-14. The efficiency classes are F-6,7 and 8.

- **Dyader Filters**

They are intended for purification of air from aerosols, solids and liquid particles, germs, bacteria, viruses, spores and dust. They are manufactured in H-10 class (efficiency $\geq 95\%$) and H-13 class (efficiency $\geq 99,99\%$) against (DOP i NaCl) according to the SRPS EN 1822.

- **Cellular Filters**

TRAYAL Corporation offers cellular filters intended for air filtration and air conditioning in pharmaceutical industry, electronics, food industry etc. They are manufactured in H-10, 12, 13 efficiency classes (SRPS EN 1822).

- **Frame Filters**

Frame filters are intended for air filtration in pharmaceutical industry, medicine, computer technology etc. They are placed in water-proof frames and are manufactured in the following efficiency classes: H-10, H-13 and H-13(SC) which have been tested in regard to all parameters (SRPS EN 1822).

- **SC Filter Plates**

Filter plates are used for furnishing of facilities with laminated flux. They are manufactured in H-13 efficiency class (SRPS EN 1822).

- **Cylindrical filters**

TRAYAL Corporation offers cylindrical filters of H-13 efficiency class (EN 1822), which are intended for furnishing of air closets with laminated flux.



INTENDED USE

Flexible ventilation tubes are used for the ventilation of underground rooms in mine shafts, industrial halls, tunnels, in shipbuilding and for other similar facilities where the reduction of emission of harmful substances is required, both from the stationary sources and from the movable sources –t contaminants of working environment.

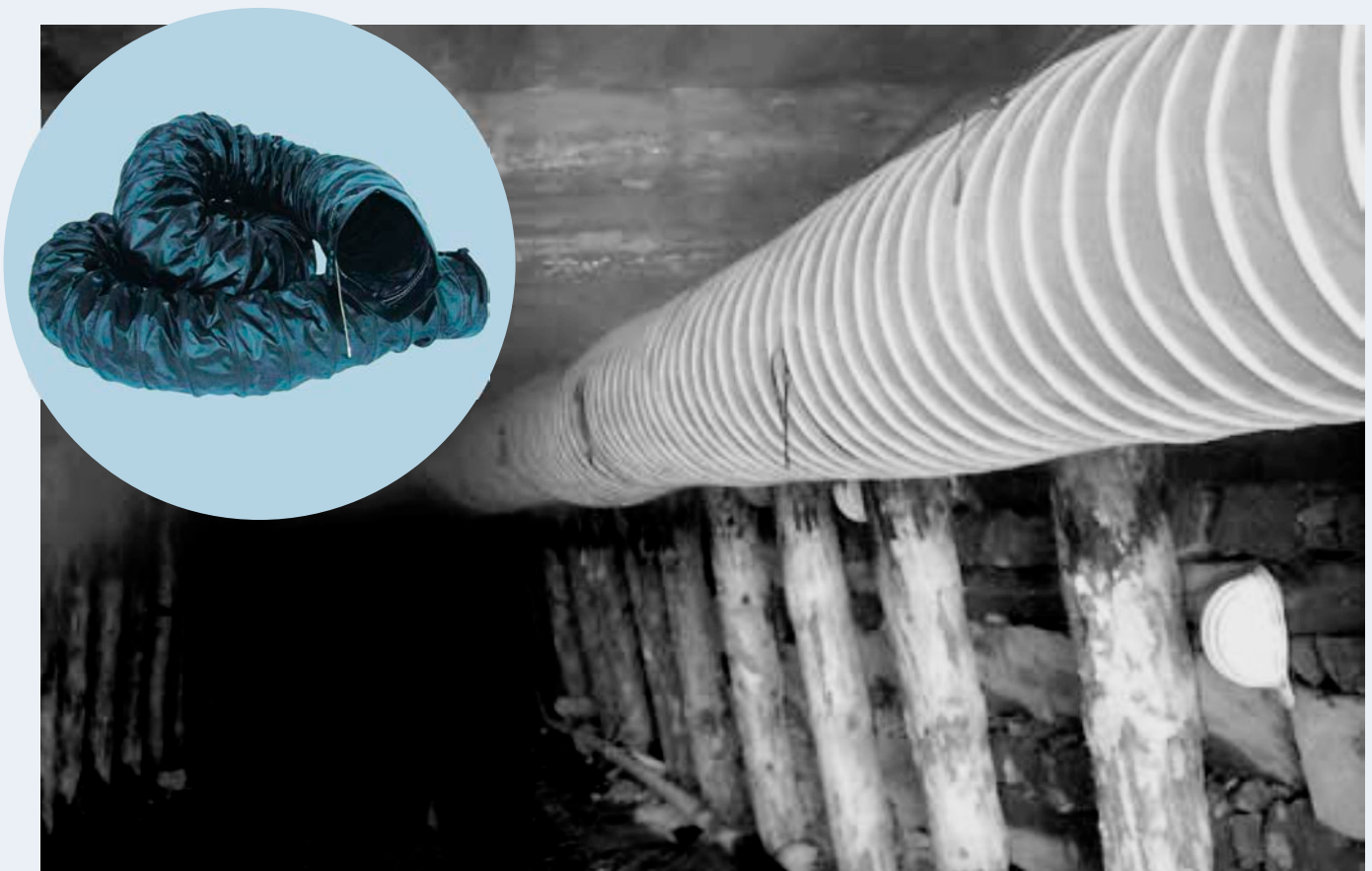
TECHNICAL DATA

Flexible ventilation tubes are manufactured the cured fabric which is rubberized on both sides. This fabric is made of 100% synthetic polyester fabric rubberized on both sides by using a special type of rubber, which has self-extinguishing and antistatic properties. Depending on the requirements of the buyer, the range of ventilation tubes being manufactured is as follows:

1. Flexible ventilation tubes without reinforcement (compression tubes) for supplying fresh air enriched with oxygen, and
2. Flexible ventilation tubes with reinforcement (depression tubes) for sucking out polluted air.

Depending on specific requirements of the buyer, dimensions of flexible ventilation tubes may vary. The standard length is 5 meters and 10 meters, and standard diameters for compression tubes range from 200 mm, 300 mm.....up to 1,200 mm, and for depression tubes from 200 mm, 300 mm.....up to 800 mm. Depending on the diameter and design (compression tubes or depression tubes), the installation of ventilation tubes and of connecting elements is done as follows:

1. "Suspension" system by means of rubber bands fitted into the very tube, and
2. "Suspension" system by means of metal elements for hanging.



ACTIVATED CARBONS

1. ACTIVATED CARBONS FOR WATER TREATMENT AND FOR THE TREATMENT OF OTHER LIQUIDS

The application of pesticides and other chemical agents for plant protection and weed control, as well as the expansion of industrial production has led to the pollution of land and direct threat to groundwater, rivers and lakes which are the source of drinking water. Most of the toxic contaminants present in the water are inorganic substances, heavy metals (such as arsenic, lead and mercury), ions (fluoride and cyanides), organic substances (such as phenol and trichlorethylene) and microbiological contaminants. Adsorption is one of the most effective and most economical techniques in water treatment. Activated carbon has been proven as an effective adsorbent for the removal of a wide variety of contaminants. All produced types of activated carbon quality are according to the EN 12915 European Standard.

Activated carbons for drinking water

Activated carbon is used in water treatment for removing free chlorine and organic materials from potable water. This contributes to better quality of water related to taste, odor, color, which is very important for water plants, production of juice, ice cream and other products.

The activated carbons that can be used for that purpose are as follows:

- Powdered activated carbons (K/B powder or ACP 900/10)
- Granulated activated carbons (KZ-81/C, KCS, K-81/B, KRF)

Both types of activated carbons are made from selected high quality carbonized coconut shell activated with water steam. That assures high quality of activated carbon in regard to its activity and mechanical strength, which is the main condition for its application.

Activated carbons for waste water

The color and the odor that are present in the waste water after many industrial processes represent one of the most dangerous contaminants that directly affect the environment.

Most often such waters with a very low purification process are directly discharged into the sewage system or what is even more dangerous into the rivers or lakes. From an environmental standpoint, that is completely unacceptable. The economic part is also very important.

Sometimes purified waste water can be reused in the process that significantly saves one of the most important natural resources. Pollutants from the water adsorbed on charcoal may also have a secondary application or be made inactive, which would be environmentally acceptable or even applicable.

The examples of treated waste water can be found in the wood-processing industry, in metal-processing industry (the surface protection of metals), and in other branches of industry.



ACTIVATED CARBONS

2. ACTIVATED CARBONS FOR AIR TREATMENT AND PROTECTION AGAINST AIR POLLUTION

Air pollution is the result of industrial development and modern life (restaurants, fast food production etc). On the other side, accidents like fires or explosions are some of the significant sources of pollution that are harmful to human life. Using the filters for individual and collective industrial protection is imperative for protection of the people and environment. Air treatment in industrial areas demand different filter designs with different types of carbon, depends of pollution source. As the manufacturer of activated carbons with long history, TRAYAL Corporation is able to give all the necessary engineering support in construction of filters and in quality inspection.

The filters made with carbon are for:

- Industrial protection (classification according EN 14387)
- Special group consists of filters designed for accidents thus providing protection against carbon monoxide CO and other acidic and base gases.
- Special (NBC) individual or collective protection.
- Recovery of steam and gases of organic solvents, and for the purification of compressed air.

3. ACTIVATED CARBONS FOR INDUSTRIAL USAGE

The most significant users of activated carbons are as follows :

- Food industry- for water treatment, in production of juice, alcohol, milk, ice cream, etc.
- Used types: KZ-81/C, KCS, K-81/B, KRF or K/B powder i ACP 900/10.
- For treatment of juice and wine -S2A/S(4.5-5.5), S2A(6-8).
- For moving colors of starchy foods -S2A/S(4.5-5.5), S2A(6-8).
- Pharmaceutical industry- SX, MEKS-95,
- Chemical industry-KZ-81/C, KCS, K-81/B, KRF or K/B powder i ACP 900/10
- Nuclear power production – Kne.

4. ACTIVATED CARBON FOR MEDICAL APPLICATION

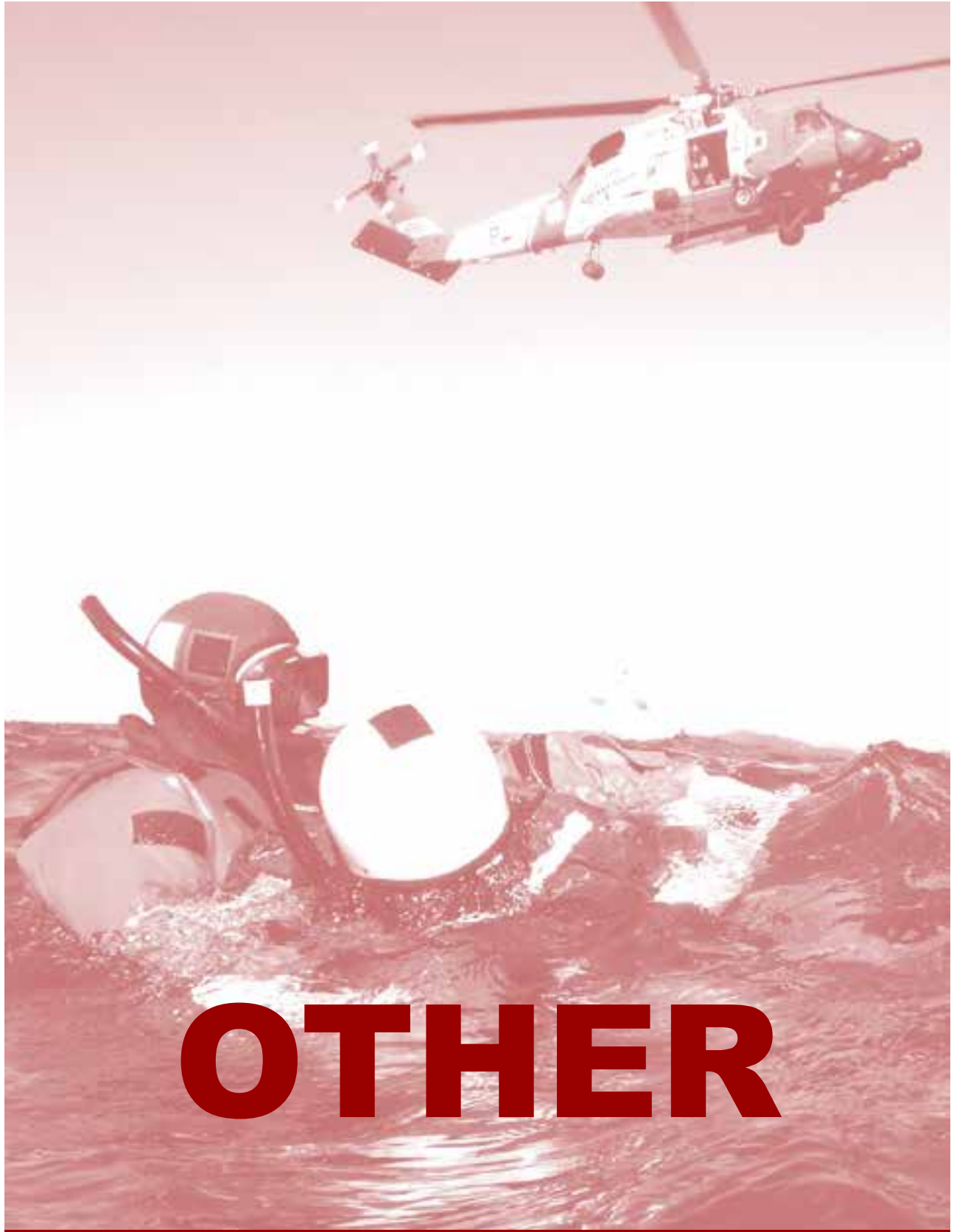
Due to its high adsorption surface of the non-selective adsorption capability (adsorbing a wide range of contaminants, toxic substances and poisons that encourage metabolism, bacteria or the inflammation of gastrointestinal tract), activated carbon can be used in human and veterinary medicine.

Produced and certified according to the standards to meet European Pharmacopoeia Ph.Eur.6.0.

Activated carbon MEKS-95 was used to prepare tablets (compact) and the capsule, for human use.

Activated carbon MEKS-95/V is used in veterinary medicine as an auxiliary agent.





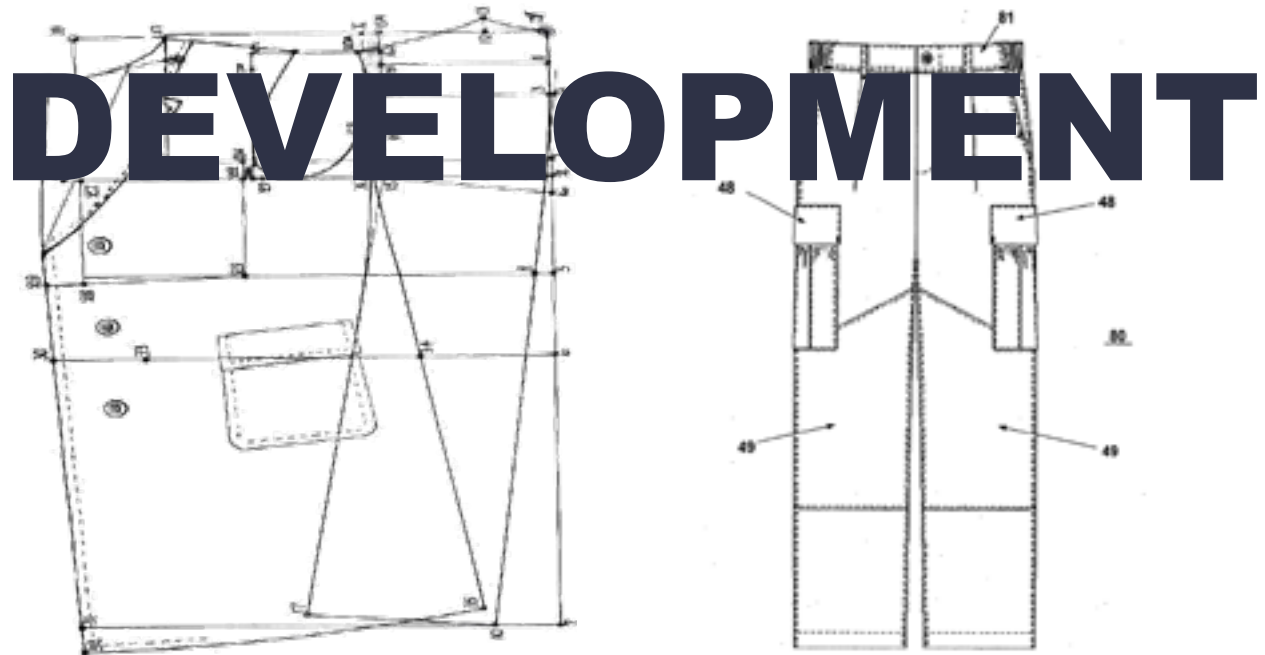
OTHER





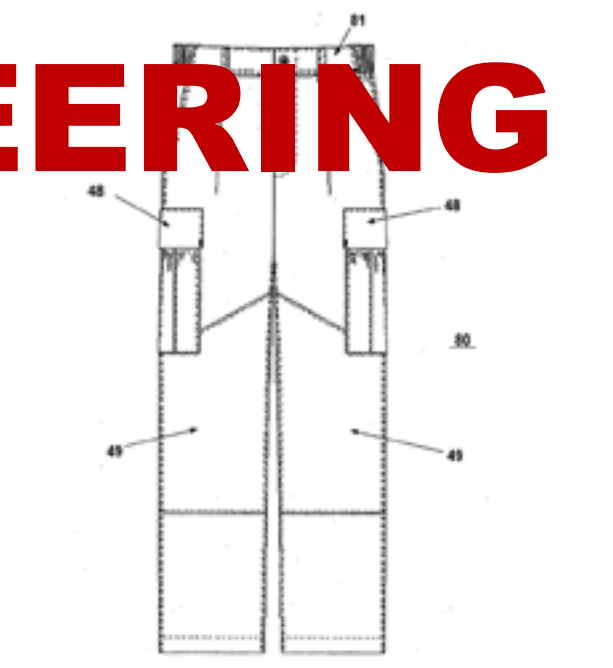








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