

Granqvists[®]

FIRE FIGHTING GLOVES CARE PROGRAM



In collaboration with:

Lejon Kemi AB

Soot and smoke, a health hazard

According to several scientific studies, soot and smoke can contain hundreds of different types of toxic, carcinogenic and other health-damaging substances depending on what is burning and the conditions under which it is burned. Soot consists mainly of organic particles which can be very small and penetrate deep into the lungs and can be absorbed by the body. Soot particles can also carry very harmful substances that can be absorbed through the skin, lungs or orally. Examples of substances that may be present in soot and fire smoke are polycyclic aromatic hydrocarbons (PAHs), dioxins, benzene, cyanide, isocyanates, PCBs, VOCs, 1,3 butadiene, asbestos, hydrogen fluoride, etc. Several scientific studies show that exposure to soot and harmful substances from fires can cause various types of serious diseases such as cancer. The health risks increase with repeated exposure over time.

PAH is the abbreviation for a group of chemical substances, "Polycyclic Aromatic Hydrocarbons". The group includes more than 500 different substances. Many of these substances are harmful to health and carcinogenic and are formed in fires. Sixteen PAHs have been selected from the group because they are commonly formed in fires and are harmful to health, some of which are carcinogenic. These are the substances most often analysed.

Handle with care

Contaminated equipment used by firefighters should be handled with great care in order to minimise the risk of exposure to any hazardous substances that may be present on the equipment and should therefore be stored in e.g. tightly sealed bags or containers during transport and appropriate protective gloves, protective clothing and good ventilation or breathing mask should be worn during handling. It is important to avoid inhalation and skin contact throughout the chain from the scene of the fire until the equipment has been adequately cleaned and is ready for re-use.

General guidelines for washing PPE:

- Alkaline (basic) cleaners are good at washing away oil, grease and soot, for example. Increased alkalinity (higher pH) increases cleaning power.
- Solvent-based cleaners (degreasers) are usually very effective at dissolving and washing away oil, grease, soot, tar, asphalt, etc. Increasing the content of so-called aromatic hydrocarbons (solvents) increases the dissolving power.
- Acidic cleaners are best at dissolving and washing away limescale, rust, oxides, peat, etc. The more acidic (lower pH) the better the effect.
- Increasing the cleaning temperature normally leads to better cleaning effect especially on oil- and fat-soluble dirt (exceptions are e.g. egg white substances that coagulate and are found in blood, among others)
- Increasing cleaning time leads to better cleaning effect but the relative cleaning effect decreases with time, i.e. the effect increases most at the beginning but the improvement becomes less and less as time goes by.
- Increased mechanical processing increases the cleaning effect.
- Bleaching agents (oxidising agents such as hydrogen peroxide, peroxyacetic acid, sodium hypochlorite (chlorine), sodium percarbonate, sodium perborate, etc.) are often good at dissolving and removing coloured stains of e.g. red wine, grass, ketchup, etc. These agents can also act as biocides and break down substances that give rise to e.g. bad odours.
- Enzymes of various types can help break down and wash away e.g. egg whites (proteins), starch, animal and vegetable fats and oils, etc. Enzymes are often included in detergents for both consumer and professional use. NOTE! As leather is made up of different types of proteins, detergents containing protein-degrading enzymes must not be used on leather garments.

GENERAL CARE INSTRUCTIONS

All Granqvists® gloves need to be used according to their designed purpose which is extinguishing fires. In other situations, the product will not guarantee high level of protection which can lead to a compromised product and personal injuries

Storage and transport: keep away from direct sunlight, store in a cool and dry place and keep in original packaging.

Inspection before use: Before every action inspection must be performed in order to check if there is any visible damage.

Never use a damaged product

LEATHER GLOVES



GENTLE WASH AT 40°C, DO NOT BLEACH
DRIP-DRY (OR DRYING CABINET) , DO NOT IRON,
DO NOT DRY CLEAN

GENERAL

Use slow and gentle program in 40°C.

WASHING PROCEDURE

1. Put gloves into machine. Note the maximum weight of the machine and calculate that 1 pair weights ca 400gram.

2. Apply Detergent in the tray for main-wash. Usually this is marked with "II".

- Recommended dose: 20-30ml/kg dry clothing.
(Depending water hardness)

- Use mild alkaline detergent (pH <11).

3. Apply softener. (Recommended dose: 15-30ml/kg)

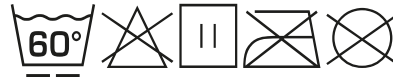
4. Turn the machine on and set to delicate-wash. This program is gentler to the leather thanks to less mechanical abrasion on the gloves. The gloves are cleaned thanks to the detergent and temperature.

DRYING

Dry the gloves in a drying-cabinet 40°C for 240 minutes or until dry or in a warm-room over longer time.
DO NOT TUMBLE DRY.

If possible, add some uncoloured leather wax to the gloves after drying. This adds dexterity and water repellence.

TEXTILE GLOVES



GENTLE WASH AT 60°C, DO NOT BLEACH,
DRIP-DRY (OR DRYING CABINET), DO NOT IRON
DO NOT DRY CLEAN

GENERAL

Use similar program as used for fire suits 60°C

DETERGENT

Use common detergents. Avoid bleach and special detergents with high alkalinity intended for e.g. stain removal. We recommend low to medium alkalinity and a pH of < 10.5.

WASHING PROCEDURE

1. Put gloves into machine. Note the maximum weight of the machine and calculate that 1 pair weights ca 300gram.

2. Apply Detergent in the tray for main-wash. Usually this is marked with "II".

3. Washing temperatures should be 60°C/ 140° F, using the 'permanent press' (or similar) setting, and rinse at least twice.

DRYING

Dry the gloves in a drying-cabinet 60°C for 240 minutes or in a warm-room over longer time.

Cleaning power = Detergent + Cleaning time + Cleaning temperature + Mechanical treatment

In collaboration with:

Lejon Kemi AB

Lejon Kemi AB is a Swedish company specializing in product development and manufacturing of effective and highly environmentally friendly chemical products for degreasing, cleaning and de-contamination in industry and rescue services (fire brigades).

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QUALITY AND ENVIRONMENT:

ISO 9001
ISO 14001
AQAP 2110

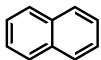
Please visit our website to read more about our corporate social responsibility:
<https://granqvists.se/corporate-social-responsibility/>

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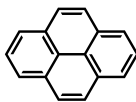
Benzene



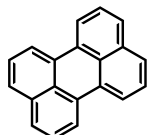
Naphthalene



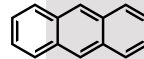
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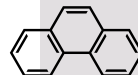
Perylene



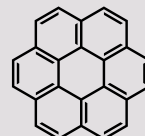
Anthracene



Phenanthrene



Coronene



The molecular structures of some of the most common PAH-particles