LAST CHANCE®
RESCUE FILTER
An Essex Industries Innovation
4150 Carr Lane Ct. • St. Louis, MO 63119
(314) 351-6116 • (800) 296-7587 • Fax (314) 351-7181

Frequently Asked Questions

At what point do you actually don the LCRF?

Don the filter in an emergency when you can no longer get air to your mask, whether this is due to a cut hose line, SCBA failure, depleted tank or any other emergency situation.

Will the Last Chance Rescue Filter fit onto my SCBA mask?

Currently, Essex manufactures Last Chance Rescue Filters to fit the following SCBA masks: Scott AV-2000, AV-3000 and Scott-O-Vista; MSA Firehawk push to connect and slide to connect; Sperian/Survivair Twenty Twenty Plus; Draeger Panorama Nova P, Futura P, F2 P, FSP 7000; ISI RDV facemask. The adapter is designed identical to the secondary regulator of the SCBA.

What about the availability of oxygen in a structural fire?

In 2005, documented instances of smoke inhalation and respiratory distress accounted for 3,390 injuries in the U.S. fire service. (Source NFPA) A 2006. In all of these cases there was enough oxygen to support life; we feel these injuries could be greatly reduced utilizing the technology.

A study conducted by Yale University and published in a peer review journal (and presented at the National Conference of Emergency Physicians in FL) found in residential structure fires, carbon monoxide poses a greater threat to life than do either oxygen deprivation or heat. The most recent Yale Study published tested five fires, four in a residential building and one in a commercial structure. The data on oxygen was consistent with earlier studies. The lowest oxygen reading on the floor for all five fires was 19% while at the ceiling the lowest reading was 8.7%.

Data collected from an old Boston study indicated that out of 72 structural fires, only 6 fires recorded oxygen levels that dropped below 18%, with the lowest reading at 15½% for just a fraction of a minute. Oxygen levels between 15% and 19% result in a decreased ability to work strenuously, and coordination becomes impaired. Without breathing protection, smoke inhalation brings on cognitive dysfunction and drowsiness. Even in an oxygen-deficient atmosphere a reduction in CO in the bloodstream improves survivability. It should be noted that in all 72 fires examined in the Boston study, the Last Chance respirator would have aided in reducing injury and death. But as described previously, even in an extreme (and statistically rare) case where no oxygen was present, a firefighter who deploys the device poses no significant additional hazard to himself, because in that situation death would be the outcome whether it was used or not.

Will the unit protect the user from the heat?

No the unit will not protect the firefighter from heat; note that your present SCBA cannot protect you from Flashover. Smoke inhalation has been our leading non heart attack cause of death inside structure fires while burns and crushing injuries have remained low (*source NFPA*).

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How does moisture affect the Filter once it's out of the vacuum-sealed bag?

The LCRF was tested at 90% relative humidity with high concentrations of CO. Its performance exceeds the EN403 standards (lasting 24 minutes before dangerous breakthrough concentrations of CO are measured). Obviously, it must be understood that the filter should remain inside the moisture resistant barrier pouch until the time it is removed for an out-of-air emergency as well as undergo inspection as often as the SCBA is inspected. Inspection is important because if the vacuum seal on the foil barrier pouch is compromised exposure to humidity after a long period of time (many days) will compromise the ability of the LCRF to perform as needed. When in doubt, the customer is instructed to, turn it in for warranty repair/replacement.

Will the LCRF stand up to the rigors of the fire service?

Internal and external testing around the EN 403 rough handling requirements of drop and vibration and practical performance fully satisfy the performance criteria established for an escape respirator.

Although robust, we recommend the unit be treated with the same respect as you would treat any piece of safety equipment such as the regulator of your SCBA.

The unit must be regularly inspected to make sure it has maintained its vacuum tight seal. If it is found that there is a tear or lose of vacuum, you must assume it has been exposed to moisture therefore it should not be used. Hand it in to the proper department personnel.

What is the best approach to address cost issues with departments where firefighters are being laid off?

Being low on staff brings up many more issues, most importantly safety of the firefighters. When a Fire Department is short staffed it is more difficult to ensure there will be relief when needed. In these situations across the nation, an escape filter is even more necessary than ever before.

Do you have any "saves" you can point to? Has there been a case where a firefighter has used the LCRF in an actual fire?

Other than the numerous successful live burn tests that have taken place where firefighters have used the Last Chance (http://mylcrf.com/liveburn.html), we have not yet received a report that a firefighter has been in an out-of-air emergency while wearing the filter. There were two firefighters whose lives were saved from the first version of this escape concept in LA. It is very important that the fire service is aware of the emergency replacement program (http://www.lastchancefilter.com/replacement.html) offered by Essex. If used to save a firefighters life, the filter with be replaced free of charge.

What is the “Shelf-Life” of the Last Chance Rescue Filter Unit?

5 years. Each unit is clearly marked with the date the unit’s shelf life expires.

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How have the early adopters of this product gotten approval for their purchase?

Fire Departments who see the importance of safety for their firefighters and understand how to include the filter with their air management training are able to get approval for this device and make room for the filter in their budgets.

Has anyone been successful going through the grant process for funding?

Absolutely! We have record of several Fire Departments who have received grants for the filter. Some are written specifically around the filter and others the filter was included with SCBA. Contact the manufacturer for specifics.

Does the Last Chance Rescue Filter Unit have an air supply?

The Last Chance Rescue Filter Unit is an air-purifying respirator that does not contain an air supply. It is designed to connect to the facemask of a Self-Contained Breathing Apparatus (SCBA) in the event of an out of air emergency or equipment malfunction. It protects an individual's respiratory system from the effects of smoke and toxic gases for up to 15 minutes during an escape from an emergency situation. When breathing through the filter, the incoming air is cleansed. Toxic gases typically found in smoke from fires, are absorbed or converted.

How long does the Last Chance Rescue Filter Unit last?

The filter is rated at 15 minutes. The Last Chance Rescue Filter Unit is intended to provide emergency breathing assistance to allow you to escape from a fire. Depending on the density of smoke and the breathing rate of the user, the Last Chance Rescue Filter Unit will filter the toxic chemicals from the air for up to 15 minutes.

Are there any environmental considerations for safe disposal of the Last Chance Rescue Filter Unit?

No, the Last Chance Rescue Filter Unit may be disposed of as non-hazardous waste.

What toxic gases does the Last Chance Rescue Filter Unit protect me from?

The Last Chance Rescue Filter Unit has been tested against the required gases as specified in EN 403, namely carbon monoxide, hydrogen cyanide, propenal/acrolein, hydrogen chloride, hydrogen sulfide as well as Sulfur Dioxide.

How heavy is the unit?

The unit is light and about the size and weight of a soda can.

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I was told that carbon monoxide couldn't be filtered, how does the Last Chance Rescue Filter Unit protect against this?

The Last Chance Rescue Filter Unit actually converts carbon monoxide to carbon dioxide and absorbs the other toxic gases.

If a confirmed victim is trapped can the unit be used to extend our chance to make a rescue?

No. The unit is the firefighter's last chance to escape, when there is no other option but to breathe an IDLH atmosphere.

Won't firefighters abuse the unit?

No. Fire Departments such as LA City have proven that with simple controls, misuse can be prevented. The manufacturer recommends that the device be implemented in the department's respiratory protection plan (RPP). If a unit is used, the officer and firefighter should be required to write a report describing the circumstances surrounding the out of air emergency on an official department form (see the manufacturers Replacement Program for details).

What happens after 15 minutes of use? Does it just stop working?

The LCRF is to be used for self-rescue only! A firefighter trying to save his life should never consider taking more time in the fire than what it would take to get out.

The filter is built to the EN 403 Standards (a European set of standards for an escape filter in structural smoke and fire situations). It's designed for up to 15 minutes and does not immediately stop working after that length of time. Two indicators the filter's benefits have been exhausted are:

- After 15 minutes, as the particulate bed becomes blocked with solid matter, breathing resistance increases
- After 15 minutes, as the carbon bed loads up with toxic gases, the allowable breakthrough is slowly exceeded. The length of time to complete breakthrough is dependant upon the toxic load of the inhaled air.

Can we drop the rest of our pack when a firefighter is out of air and is changed over to the Last Chance?

Only in an extreme case should a firefighter ever drop their pack. If a firefighter removes his or her pack they will no longer have a PASS device.

Can we carry these units in a RIT bag?

Once a lost firefighter that is out of air is found, that firefighter needs to be put back on supplied air.

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How do you see the LCRF being deployed?

-Ideally it should be a personal issue piece of equipment. Generally people take more care of personal issue items, than common equipment.

-Next best is per air pack basis. Inspection must be performed during daily SCBA inspection.

-In addition, an extra few could be carried in the RIT/RIC kits for multiple downed firefighters. Nothing beats supplied air, but with multiple firefighters down and only one RIT pack, the others can be placed on the LCRF until another RIT arrives or everyone can get out.

-The LCRF is specifically for self-rescue and life maintenance until RIT intervention or escape is achieved. Having a LCRF on the firefighter is the best way to ensure its use if needed.