GLO SEAL™

SPECTROLINE®
LEAK DETECTION

FLUORESCENT DYE WITH SEALANT

2 IN 1 Solution

Q&A

1 What is GLO Seal?

GLO Seal™ combines **high quality fluorescent dye** with **AC&R system leak sealant** Cool Seal™, for a powerful and safe system additive. GLO Seal™ pinpoints the exact location of all leaks and micro-leak areas with one quick installation for a 2-in-1 leak solution.

2 Why use a dye & A/C leak sealant product?

A leaking system can have many detrimental effects including cost of lost refrigerant, food spoilage, environmental impact, increased energy consumption and potential system failure. The best practice remains a “find it, fix it, or replace it” policy. However, using a **Dye + A/C sealant** product can often assist between when a defective component is discovered until the point where it is repaired or replaced.

3 Why is dye concentration important?

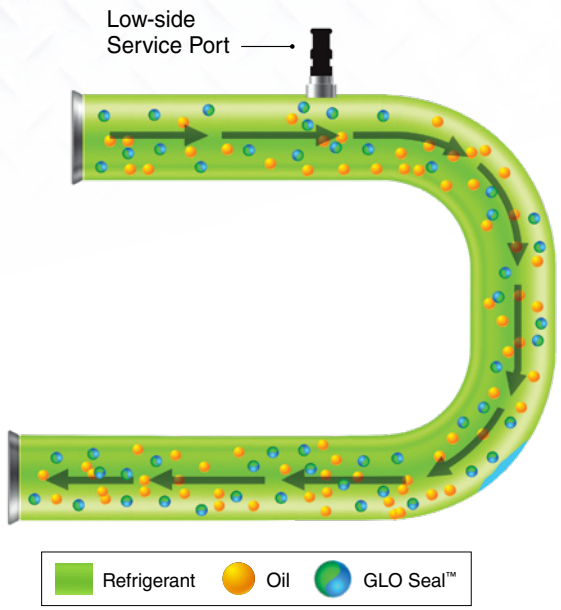
Dye fluorescence is dependent on the ratio of fluorescent material to carrier oil. Poor performing dyes typically have low levels of fluorescent material. Simply put, poor dyes lack the concentration necessary to provide an effective fluorescent response. **Spectroline® dyes are concentrated and co-solvent free**, which means they can fluoresce all leak areas brightly and not create internal damage to components.

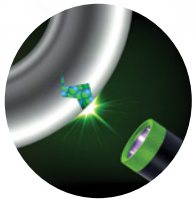
4 What does it mean to be non-polymer?

Non-polymer sealants form a seal **without the activation of moisture or oxygen**. Making it safer to use and less risk of compromising the integrity of the system. Whereas the risk of polymer sealant products is that they react with moisture and/or air which can cause plugged hoses, coils, or expansion devices. Several of these products are also highly flammable, toxic and have shipping and handling concerns.

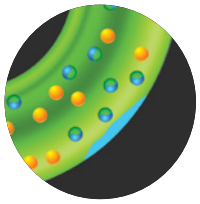
5 How does GLO Seal work?

When **GLO Seal™** is added to a leaking system, the sealant coagulates at a leak site where there is a pressure or temperature differential. GLO Seal™ forms a pliable web-like seal, then continues to collect around the outer perimeter of the leak site until it is fully sealed. At the same time, the dye is circulating with the refrigerant and will escape through larger leak sites.

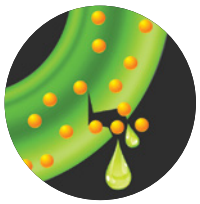




1 Find & Fix Immediate Leaks



2 Seal Difficult to Find Leaks



3 24/7 Leak Detect + Ongoing Sealant

When the system is scanned with a **UV leak detection lamp** the leak will glow brightly. Scan the system periodically to find new leaks. Small, hard-to-find leaks hurt system performance and will eventually lead to total compressor burnout. Both dye and sealant can remain safely indefinitely, for **24/7 continual leak detection and ongoing sealing.**

6 Will GLO Seal harm the system?

No, GLO Seal is formulated with **co-solvent free** dye and a **non-polymer**, oil-soluble sealant formula that **will not form clogs or create buildup while circulating the system**. It is compatible with all popular refrigerants and oils and **can remain safely in the system to help protect against future leaks.** It has been proven safe for cooling systems, recovery units, technician equipment, valves, manifolds, access ports, etc.

7 Does GLO Seal perform in the liquid or vapor phase of the refrigeration cycle?

GLO Seal is effective in both the high and low side of liquid and vapor lines. The mechanism of how it works in either the liquid or vapor line is essentially identical. Temperature changes from expansion cause the paraffinic portion of the sealant to fall out of solution, which then collects around the leak site.

8 How does GLO Seal travel to the leak site?

LIQUID LINES: In refrigerants where the GLO Seal is ***miscible*** (HCFCs or HCs) **the sealant travels as a homogeneous mixture until it leaks out,** whereupon the liquid refrigerant flashes off, leaving the GLO Seal-oil mixture at the leak site. GLO Seal will not cause problems in the capillaries because of high flow rates that prevent it from collecting at the expansion. However, the lower flow rates from micro-sized leaks allow GLO Seal to effectively treat the leak. The cooling effect from the pressure drop across the micro leaks allows the sealant to floc out and collect. This is the longest seal time, due to the amount of sealant flowing into the leak is minimal as it is dissolved all throughout the entire liquid line.

In refrigerants where the GLO Seal is ***immiscible*** (HFCs) **the sealant travels as individual droplets, or as a thin coating on the interior of the line until it leaks out**. At that time, it acts exactly like it would in the miscible case. Sealing time will be shorter in these systems, due to the fact that the amount of sealant flowing into the leak is maximized.

VAPOR LINES: The sealant miscibility has little effect now that the liquid refrigerant boiled off and the sealant-oil mixture is traveling on the interior surfaces of the lines and evaporator. As is the case with the immiscible refrigerants, the sealant-oil mixture will already be at the leak site, and as the flow is significantly cooler with less pressure, the sealant should floc out faster and seal more quickly.

9 After a leak is sealed, will fluorescent dye show through with a UV flashlight?

The sealant part of GLO Seal will stop micro leaks. The small amount of dye that may escape along with the sealant would be insufficient to become visible. Technicians can spray GLO-AWAY Plus on a leak site in question to remove dye and rescan after some time to see if it was left over residue or not.

If there are leaks that are found due to the visible fluorescence around them, that is because they are too large for the sealant to be effective and should be repaired using other means. **If the leaks are small enough for the sealant to be effective, the dye will never accumulate enough to become visible.**

10 What are the injection methods?

Typically, a variety of injection methods are used for sealants such as; plastic syringes, direct injection, and aerosol cans. These offer disadvantages that may require overcoming internal pressures, employing the use of manifolds, additional refrigerant, or expensive disposable hardware.

GLO Seal is available in several easy injection options engineered for use with high pressure systems.

Conclusion:

GLO Seal is a 2-in-1 hassle-free way to seal refrigerant leaks in condensers, evaporators, O-rings, and hoses. It's an economical alternative to expensive replacement parts and can add years to older, out-of-warranty AC&R systems leaking small amounts of refrigerant. As an added benefit, **both the UV dye and the sealant can remain safely in the system to guard against future leaks.**

GLO Seal is a non-polymer, oil-soluble formula safe for all AC&R system components and recovery equipment. It works in all popular AC&R systems, including high-pressure R-410A systems – and can be injected with the unit off or running. Unlike aerosol can-type leak sealers, GLO Seal is non-flammable, has no storage-related safety issues, and no need for system pump down.

EZ-Ject™ Injection

GLO Seal™
Fluorescent Dye + Sealant EZ-Ject™ Dye Injection Kit

SPE-EZDSK-CS

- **SPE-EZDS** (2) 0.5 oz (15 ml) EZ-Ject™ cartridges prefilled with GLO Seal™ Fluorescent Dye + Sealant
- **RP-EZ-50** EZ-Ject™ dye injector assembly
- **RP-EZ-25** 8 in (20 cm) EZ-Ject™ hose assembly
- **RP-AD-410A** R-410A adapter/purge fitting
- Service labels

Treats a **TOTAL** of up to:
- **7 tons** (24.6 kW) of cooling

GLO Seal™
Fluorescent Dye + Sealant EZ-Ject™ Cartridge

SPE-EZDS-CS

- 0.5 oz (15 ml) EZ-Ject™ cartridge prefilled with GLO Seal™ Fluorescent Dye + Sealant

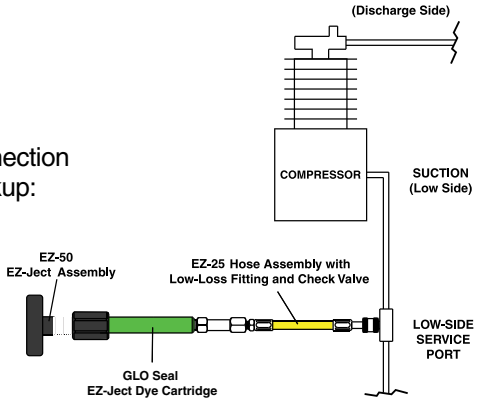
Treats up to:
- **3.5 tons** (12.3 kW) of cooling

UP TO 450 PSI

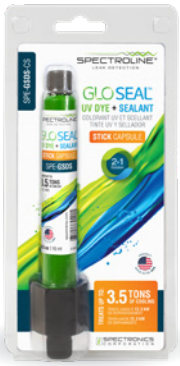
Works in all AC&R systems, overcomes system pressure

Reusable Injector Assembly: Save money on unnecessary hardware with each application!

Connection Hookup:



Stick Capsule Injection



GLO Seal™
Fluorescent Dye + Sealant Stick Capsule

SPE-GSDS-CS

- 0.5 oz (15 ml) stick capsule prefilled with GLO Seal™ Fluorescent Dye + Sealant
- Requires bleed valves for injection

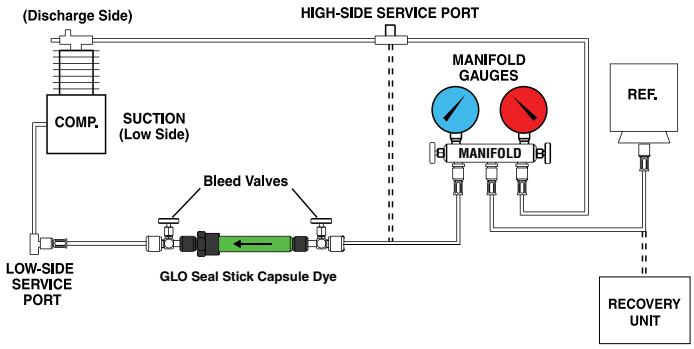
Treats up to:
- **3.5 tons** (12.3 kW) of cooling

Bleed Valve

RP-BV-50

- Requires two (not included)

Connection Hookup:



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SPECTRONICS CORPORATION
Long Island, New York | (516) 333-4840
Orders@Spectroline.com
CustomerService@Spectroline.com
www.Spectroline.com

DISTRIBUTED BY:

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