



**Technical
Reference
Guide**

**Solberg Rehealing Foam™
and ATC™ Class B Agents**

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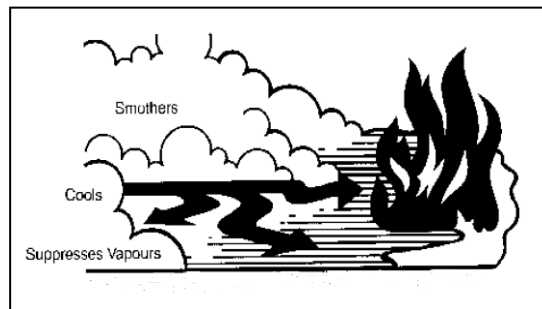
I. Introduction

A. Rehealing Foam™ RF Concentrates

Rehealing Foam™ Concentrates are synthetic, foaming liquids designed for use with fresh, sea or brackish water. When mixed as recommended with water, Rehealing Foam™ RF Concentrates are excellent in control and extinguishment of hydrocarbon fuel fires. They are a pseudo plastic due to the resin used in the concentrate which assists the foam stability and long drain time.

RF foam on non-polar, water insoluble flammable liquids (hydrocarbons), form a rapidly flowing foam blanket that floats over the fuel surface. The foam blanket is stable and free flowing, giving its rehealing properties. This action is achieved without the use of fluorochemicals which is unique to RF agents, providing an effective vapour seal which rapidly extinguishes and prevents re-ignition. It is important to replenish the foam blanket to maintain good cover.

HYDROCARBON FLAMMABLE LIQUID (WATER INSOLUBLE)

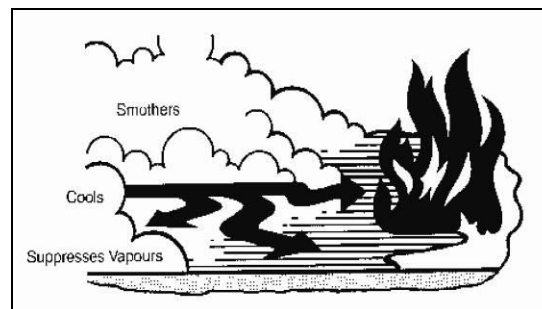


B. Rehealing Foam™ ATC™ Concentrates

Rehealing Foam™ ATC™ and RF are synthetic multipurpose foam-forming liquids designed for protection of water soluble solvents and water insoluble hydrocarbon flammable liquids. The effectiveness of Rehealing Foam™ ATC™ foam on a wide range of flammable liquids and ordinary combustibles eliminates the need to stock a variety of firefighting agents.

On water soluble polar solvents, Rehealing Foam ATC forms a cohesive polymeric layer on the fuel surface. This thin layer protects the foam and from breakdown by polar solvents. If the protective layer should become disrupted, more of the polymeric layer is produced by means of a regenerative action known as rehealing. This unique action enables the foam to extinguish and secure effectively; thus providing superior burn back protection.

POLAR SOLVENT FLAMMABLE LIQUID (WATER SOLUBLE)



C. Rehealing Foam™ RF Systems

System designs are available for optimum effectiveness of Rehealing Foam™ RF and ATC™ agents. These system designs are based on listings and approvals by the recognized fire protection laboratories and the recommendations of applicable NFPA codes. Since each fire protection problem can involve unique considerations, please contact a representative from Solberg Scandinavian, Solberg Asia Pacific or their assistance in design, equipment procurement and system installation.

II. Performance

A. General

This section identifies the advantages of using Rehealing Foam™ Agents and performance data that demonstrate their effectiveness on a broad range of flammable liquid hazards, as well as Class A type fires.

B. Advantages of Rehealing Foam™ Agents

1. Rehealing Foam™ Agents are more effective at controlling and extinguishing a flammable liquid fire.
2. Rehealing Foam™ Foam is useful for securing non-burning surfaces of hydrocarbon fuel or polar solvent spills against ignition.
4. Storage tank protection systems can be used to suppress fuel tank fires (with resultant cooling of hot metal) and to seal against the tank shell area without great depths of foam. Utility has been demonstrated in subsurface application on storage tanks as well as conventional topside foam application systems. Rehealing Foam™ Agents for tank protection.
5. In addition to their use in aspirating foam equipment, Rehealing Foam™ RF Agents can be dispensed effectively through non-aspirating equipment including fog/ss nozzles, fog-foam nozzles.
6. Rehealing Foam™ Agents can limit 3-dimensional spill fire spread to the area of the 3-D spill. This allows the use of supplemental agents, such as dry chemicals, for extinguishment.
7. Rehealing Foam™ Agents may be applied to fires simultaneously with dry chemical firefighting agents because the agents are mutually effective and compatible. Compatibility with other aqueous foamed agents is satisfactory when applied in separate foam streams.
8. Rehealing Foam™ Agents possess excellent Class A fire suppressing abilities. They can effectively extinguish deep seated fires in wood, paper, cotton and other ordinary combustibles. Additionally, they are very effective on the combination Class A and Class B fires resulting from burning rubber, plastic and other polymeric materials.
9. Rehealing Foam™ Agents are the most cost-effective agents for the protection of flammable liquid hazards since they exhibit excellent fire extinguishment, re-flash securing and long shelf life.

C. Performance of Rehealing Foam™ RF on Solvent Spill Fires (Handline Application)

Product(% conc)	Fire Size	Fuel	Nozzle	Application Density	Control Time	Exting.	Comments
RF6@ 6%	0.28 m ²	Avtur/FW	Def.Aust.	2.42 lpm/m ²	27 s (3/4)	59 s	33% Burn Back = 10:00
		Avgas/SW	Def.Aust.	2.42 lpm/m ²	29 s (3/4)	52 s	33% Burn Back = 9:18
		Avtur/FW	Def.Aust.	2.42 lpm/m ²	26 s (3/4)	70 s	33% Burn Back = 11:18
		Avgas/SW	Def.Aust.	2.42 lpm/m ²	33 s (3/4)	67 s	33% Burn Back = 10:24
		91 Octane	Def.Aust	2.42 lpm/m ²	38 s (3/4)	73 s	33% Burn Back = 9:54
		96 Octane	Def.Aust	2.42 lpm/m ²	34 s (3/4)	59 s	33% Burn Back =10:42
		Light Tops	Def.Aust	2.42 lpm/m ²	32 s (3/4)	78 s	33% Burn Back = 13:24
		91 Octane/10% Ethanol	Def.Aust	2.42 lpm/m ²	29 s (3/4)	212 s	
		91 Octane/15% Ethanol	Def.Aust	2.42 lpm/m ²	26 s (3/4)	200 s	
		91 Octane/20% Ethanol	Def.Aust	2.42 lpm/m ²	26 s (3/4)	201 s	
	28 ft ²	Unleaded/FW	US Mil	2.92 lpm/m ²	NR	50 s	25% Burn Back = 7:55
	4.5 m ²	AVTUR/FW	ICAO	2.56 lpm/m ²	30 s (90%)	46 s	25% Burn Back = >15:00
		AVTUR/FW	ICAO	2.56 lpm/m ²	35 s (90%)	45 s	25% Burn Back = 8:05
	100 m ²	Light Crude Oil	225 lpm	2.25 lpm/m ²	NR	1:03	60 gpm (225 lpm) fog/ss with inline inductor
	150 m ²	AVTUR (1000L)	4775 lpm	31.83 lpm/m ²	NR	10 s	Milles Tui Triton crash rescue
	150 m ²	96 Octane	570 lpm	3.8 lpm/m ²	NR	45 s	Foam Cart with LW 150 fog/ss
		Condensate	570 lpm	3.8 lpm/m ²	NR	1:05	Foam Cart with LW 150 fog/ss

Product (% conc)	Fire Size	Fuel	Nozzle	Application Density	Control Time	Exting Time	Comments
RF3 @ 3%	0.28 m ²	Avtur/FW	Def.Aust.	2.42 lpm/m ²	27 s (3/4)	59 s	33% Burn Back = 10:00
		Avgas/SW	Def.Aust.	2.42 lpm/m ²	29 s (3/4)	52 s	33% Burn Back = 9:18
		Avtur/FW	Def.Aust.	2.42 lpm/m ²	26 s (3/4)	70 s	33% Burn Back = 11:18
		Avgas/SW	Def.Aust.	2.42 lpm/m ²	33 s (3/4)	67 s	33% Burn Back = 10:24
		91 Octane	Def.Aust	2.42 lpm/m ²	38 s (3/4)	73 s	33% Burn Back = 9:54
		96 Octane	Def.Aust	2.42 lpm/m ²	34 s (3/4)	59 s	33% Burn Back =10:42
		Light Tops	Def.Aust	2.42 lpm/m ²	32 s (3/4)	78 s	33% Burn Back = 13:24
		Shell Optimax	Def.Aust	2.42 lpm/m ²	42 s (3/4)	63 s	33% Burn Back = 9:24
	28 ft ²	Unleaded/FW	US Mil	2.92 lpm/m ²	NR	50 s	25% Burn Back = 7:55
	4.5 m ²	AVTUR/FW	ICAO	2.56 lpm/m ²	30 s (90%)	46 s	25% Burn Back = >15:00
		AVTUR/FW	ICAO	2.56 lpm/m ²	35 s (90%)	45 s	25% Burn Back = 8:05
	100 m ²	Light Crude Oil	562 lpm	5.62 lpm/m ²	NR	1:51	LW150 562 lpm fog/ss s.i.nozzle
		Light Crude Oil	225 lpm	2.25 lpm/m ²	NR	1:05	Angus 225 foam branch
	150 m2	96 Octane	570 lpm	3.8 lpm/m ²	NR	45 s	Foam Cart with LW 150 fog/ss
		Condensate	570 lpm	3.8 lpm/m ²	NR	1:05	Foam Cart with LW 150 fog/ss

Typical Rehealing Foam™ ATC™ Foam Fire Test Data – Handline Application

Fire Conditions: EN 1568 (Parts 3 & 4)

Flammable Liquid	Solution Concentration (%)	Pan Size	Application Density (lpm/m. ²)	Extinguishing Time (min:sec)	Burn Back Time (min:sec)
Methanol	6	1 m ²	6.5	2:50	9:05
Ethanol (EtOH)	6	1 m ²	6.5	2:42	10:35
Acetone	6	1 m ²	6.5	2:00	15:30
Heptane	3	4.5 m ²	4.1	2:06	17:40

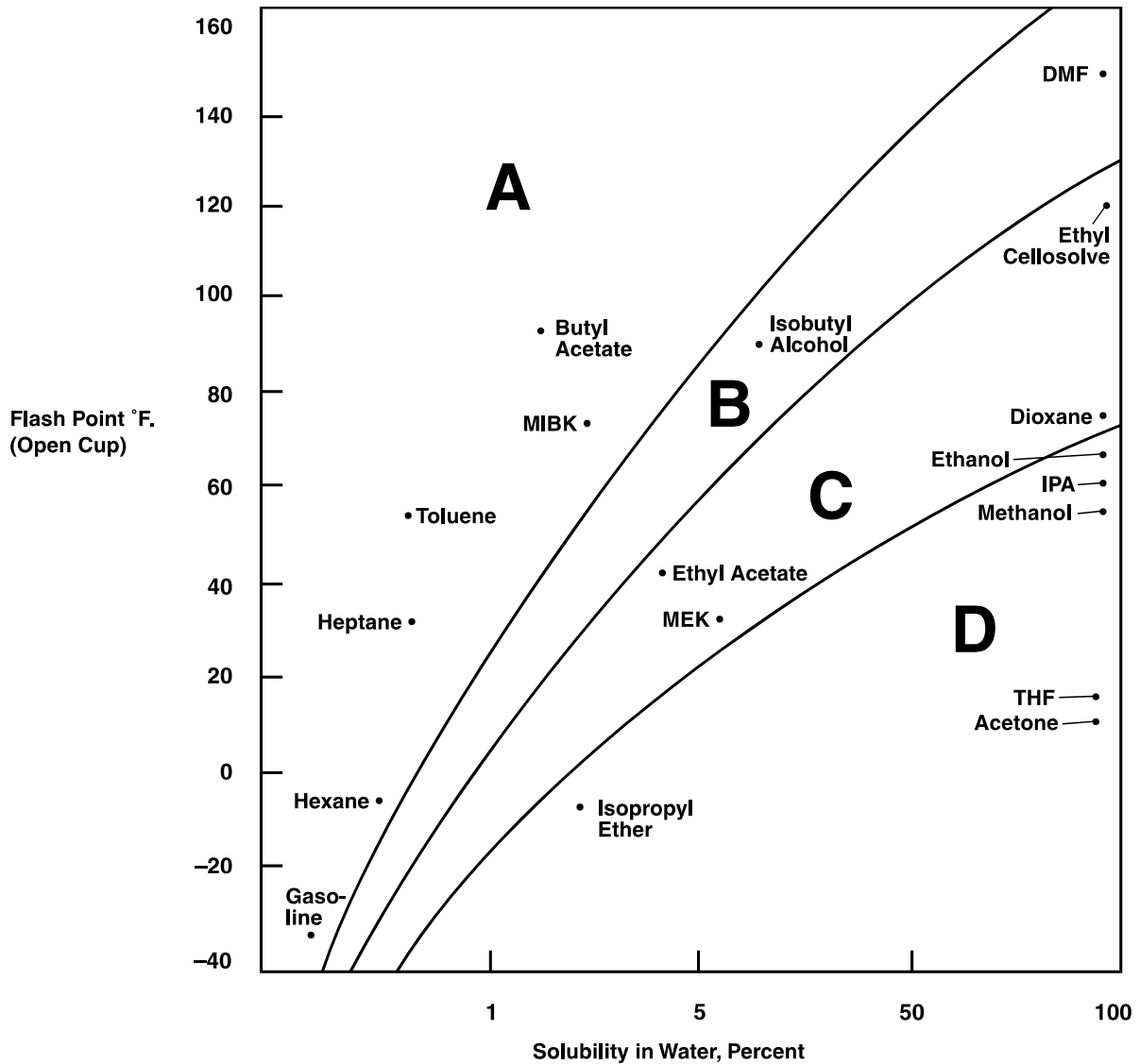
Typical Rehealing Foam™ ATC™ Foam – Tank and Dike Protection Guidelines (Recommended Application Rates are in lpm/m²)

Graph Category	Flammable Liquid	Tank Protection NFPA Type II		Spill and Dike Protection	
		3% ATC™ Solution	6% ATC™ Solution	3% ATC™ Solution	6% ATC™ Solution
A	Gasoline, Hexane, Heptane, VMP Naptha, n-Butanol, Butyl Acetate, MIBK, Methyl Methacrylate, Acetic Acid, Gasohol (0-20% alcohol)	4.1	–	4.1	–
B	Benzene, DMF, Methyl Acrylate, Isobutyl Alcohol, Morpholine	4.1	–	4.1	–
C	Dioxane, Ethyl Acetate, Ethyl Cellosolve, Acrylonitrile, Methanol, MEK, Ethanol, Isopropyl Ether, Ethylendiamine	–	6.5	–	6.5
D	Acetone, Isopropanol, Ethyl Ether, Tetrahydrofuran, t-Butyl Alcohol	–	9.8	–	9.8

Application Rate Guidelines for Rehealing Foam™ ATC™ Foam

For those flammable liquids not included in the above table, the following graph can be used as a guideline determining application rates.

To use this chart, first look up the liquid's flash point and its water solubility. Determine their point of intersection and zone on the chart. Then refer to the graph category in the above table to determine the correct application rate. (Examples of common flammable liquids are listed in each category.) Flash point and solubility data on various flammable liquids may be found in the NFPA Hazardous Materials Handbook and in other similar sources. There are some variances on category boundaries.



III. Rehealing Foam™ Concentrates

A. Physical Properties

Rehealing Foam™ Concentrate	Nominal Use Concentration	Specific Gravity	Viscosity, CPs.	Minimum Use Temp. °F (°C)	pH 77°F (25°C)
		77°F (25°C)	77°F (25°C)		
RF6	6%	1.02	2500	35 (1.7)	8
			Pseudoplastic Liquid		
RF3	3%	1.03	3500	35 (1.7)	8
			Pseudoplastic Liquid		
RF 3x6 ATC	3%/6%	1.06	4500	35 (1.7)	8
			Pseudoplastic Liquid		

B. Storage and Stability

Rehealing Foam™ Concentrates may be stored in their shipping containers without change in their original physical or chemical characteristics. Freezing and thawing have no adverse effect on product performance, though slight stratification may result, in which case moderate agitation before use is advised.

Long-term thermal ageing of the *concentrates* at 150°F (65°C) has shown no adverse effect in performance. Therefore, a lifetime of at least 10 years could be expected when stored in suitable containers. Storage of *premises* is not generally recommended for periods beyond 5 years.

C. Agent Testing

As recommended by NFPA 11 A-6-1. 1-5, the foam concentrate and premix quality should be assessed annually. Assessment includes tests to determine expansion, solution strength, 25% drain time, and fire performance.

D. Water Considerations

Rehealing Foam™ Concentrates are designed for use with fresh or sea water. No problem has been encountered using brackish water or water containing a high concentration of minerals or organics.

E. Compatibility With Other Class “B” Extinguishing Agents

Occasionally Rehealing Foam™ Agents must be applied to a fire simultaneously with protein or fluoroprotein foam. Tests have shown that Rehealing Foam™ Agent can be used with either in any sequence of operation. Their use in combination detracts from the efficiency of Rehealing Foam™ Agents, but enhances the performance of protein or fluoroprotein foams

Rehealing Foam™ Concentrates should not be mixed with any type of concentrates from other manufacturers.

Rehealing Foam™ Agent’s compatibility with dry chemical agents has popularized twin unit systems. Both types of agents contribute superior knockdown; Rehealing Foam™ Agent secures against reflash while dry chemical suppresses three-dimensional fires.

F. Environmental Compatibility

Products manufactured by Solberg Scandinavian AS and its subsidiary, Solberg Asia Pacific Pty Ltd, including 3M Rehealing Foam™ brand foam concentrates, undergo a program of ongoing testing using internationally recognized test methods. These tests assess the impact of Solberg fire fighting foam on the natural environment. Data indicate that:

1. Solberg RF products are low in toxicity to tested aquatic organisms. (Toxicity information is available from Product Environmental Data Sheets, Material Safety Data Sheets and toxicity summary sheets for individual products.)
2. Aquatic life is not adversely affected when Solberg RF products are used and disposed of properly.
3. Solberg RF products do not contain organohalides (fluorochemicals). Product Environmental Data Sheets and MSDS are available from your Solberg Representative.

In addition, Rehealing Foam™ brand products have been *proven* effective, through tests and actual use, in *rapidly* extinguishing flammable liquid fires. Because of this proven performance, we believe Solberg foam extinguishing agents can provide the best available RF technology for controlling a flammable liquid fire, reducing its combustion by-products, and minimizing the negative environmental impact of a fire on the air, soil and water.

An evaluation of your specific situation should be based on the particular circumstances and factors involved and should include consultation with the appropriate pollution control agencies.

For further environmental properties of the Rehealing Foam™ Concentrates are needed, contact Solberg Scandinavian AS or Solberg Asia Pacific Pty Ltd.

IV. Materials of Construction

Rehealing Foam™ Concentrates have a near neutral pH and show corrosion rates similar to those of water on common metals of construction. For optimum long term storage, selection of materials for the fire protection system components can be made with the aid of test data and recommendations given in this section. Specific selection of materials should be based on their function in the system. For storage tanks, involving large quantities of concentrates, the superior-rated (Code A) materials shown on page 12 are preferred. For less material exposure or areas involving smaller amounts of agent, such as lines and valves, Code B materials are quite suitable.

These data are based on laboratory tests which may not always exactly reproduce actual field usage conditions. Where possible, the user should perform his own in-service tests. Dissimilar metals should be used with care, especially if aluminium components are being considered. Galvanized steel should not be used in concentrate storage service.

Rehealing Foam™ Concentrates will remove some paints easily. Spills should be flushed immediately with water. For high spillage areas certain resistant paints are identified on Page 14. Rinsing of spills is still recommended.

Recommendations for use in Rehealing Foam™ Agent Systems are listed in the table on the next page in the order of serviceability (#1 through #4). Economic factors are a variable which will also influence the choice of materials for any specific application and location.

Recommended Materials of Construction for Equipment Handling Rehealing Foam™ RF

A. Tanks

Concentrate or Premix

- #1 – 304 Stainless Steel
- #2 – Carbon Steel with Baked Phenolic Lining and certain room temperature cured coatings
- #3 – Fibreglass – Isophthalic Based Polyester with Gelcote
- * #4 – Carbon Steel

B. Piping and Fittings

Concentrate

- #1 – 304 S.S. (small lines – 2” and under)
- * #2 – Carbon Steel (large lines – above 2”)
- #3 – “Transite” (Reg. T.M. of Johns-Mansville)
- #4 – PVC (all sizes)

Premix or solution

- * #1 – Carbon Steel
- #2 – “Transite” (Reg. T.M. of Johns-Mansville)
- #3 – PVC

C. Valves

Concentrate

- O.S. & Y. – Cast iron body with bronze trim and seats (large valves – above 2”)
- Ball Valve – Bronze body with 316 S.S. trim and ball (smaller valves 2” and under)

Premix or Solution

All acceptable fire service valves.

*** D. Pumps**

Concentrate

	Number 1	Number 2
Casing	Cast Iron	Bronze
Impeller	Cast Iron	Bronze
Shaft	Hardened Stainless Steel	Carbon Steel
Seal	Mechanical, Crane #9	Packed

E. Gaskets

Most conventional gasketing materials.

F. Seals and Paints

See Tables on Pages 13 and 14.

***Important:** In certain field situations economics have dictated the use of mild steel storage containers for Rehealing Foam™ ATC™. If this is necessary, the user should recognize that mild carbon steel is not normally recommended for Rehealing Foam™ ATC™ and should increase the frequency of inspection.

Compatibility of Concentrates with Metals of Construction

- A. Superior metal for construction, very little observable corrosion or sedimentation.
- B. Satisfactory metal for construction, agent can withstand exposure for at least one year, some rusting and sedimentation may occur. A yearly agent quality check is suggested when these metals are used in storage tanks.
- C. Not suitable for construction.

Metal(s)	Concentrate	Fresh Water Premix	Sea Water Premix
Aluminium { 6061 T-6 Cast 356	B	B	C (pits)
Brass, CA-260 (C26000)	A	A	B
Bronze, Cast { 80/10/10/ (C93700) 85/5/5/5 (C83600)	B	B	B
Copper, Electrolytic, CA-110 (C11000)	A	A	B
Copper-Nickel, 90/10 (C70600)	A	A	B
Iron, Cast, SAE G-3500	B	B	B
Monel 400	A	A	B
Steel, Mild, 1010	B	B	B
Steel, Stainless { 304 430	A	A	C (pits)
Titanium 6AL-4V	A	A	A

G. Dissimilar Metals

It is recommended that if you have dissimilar metals within your system the interface be insulated with an inner polymeric gasketing material. This gasketing material typically consists of anything from polyethylene to Teflon®.*

* "Teflon" is a registered trademark of E.I. Du Pont.

Fibreglass – Approved Construction

Rehealing Foam™ Concentrates may be stored in fibreglass reinforced plastic tanks properly constructed with approved isophthalic based polyester resins or approved epoxy resin/fibreglass systems. The common orthophthalic polyester/fibreglass composites are not recommended nor are room temperature cured epoxy systems.

Lubricants, Seals and Packing Materials Suitability with Rehealing Foam™ Concentrate

Total immersion for 14 days at 120°F. (49°C.) in Concentrate, fresh and sea water premixes:

Material Type	Material Name	Compatibility with Rehealing Foam™ Concentrate
Lubricants	Lupriplate® 630-2	Good
	Stavis® Aluminium Complex Grease	Good
	Marfack® All-Purpose -2 Grease	Fair
Rubber Seals and O-Rings	EPT Synthetics	Good
	Neoprene	Fair
	Nitrile	Fair
	Butyl	Fair
Packing Materials	Asbestos Crane Style 5810	Good
	Metallic Crane Style 100-M	Good
Pipe Sealants (Dopes)	Fel-Pro® C5A	Good
	3M Sealer #4178	Good

Compatibility of Concentrates with Structural Plastics, Plastic Coatings, Elastomers, Lubricants, Packing Materials and Exterior Paints

Code:

- A – Superior material for equipment construction.
- B – Suitable material for long-term exposure, a yearly spot-check of material is advisable.
- C – Not presently recommended for equipment construction.
- * – Clear plastic samples became opaque after exposure.
- ** – Isophthalic based polyester gel cotes required over fibreglass reinforced base.
- *** – Room temperature cured epoxy systems are not recommended. Some heat cured systems, especially dicyandiamide catalyzed ones, have proven satisfactory.

Material Type	Material Type or Specific Identification	Suitability with:	
		Concentrate	Premix (Fresh or Sea)
Structural Plastics	Acrylonitrile-Butadiene-Styrene (ABS)	C	B
	“Delrin” [®] (acetal) ¹	B	B
	Epoxy, fibreglass-reinforced	B***	B***
	“KYDEX” [®] (acrylic-PVC alloy) ²	C	B
	Polycarbonate	B	A
	Nylon	C	B
	Phenolics, canvas-based	C	C
	Plexigls (acrylic)	B*	A
	Polyester, fibreglass-reinforced	B**	B**
	Polyethylene, high density	B	A
	Polyethylene, low density	C	A
	Polystyrene	C	A
	Polyvinyl Chloride (PVC)	A*	A
Polypropylene	B	A	
Fluorocarbon Plastics	A	A	
Baked or “Cold Set” Plastic Coatings On Mild Steel	Polyester: Flakeline [®] 252 ⁵ (50°–110° F Cure)	A	A
	Phenolic: “Heresite” [®] P-403 ³	A	A
	Phenolic: “Heresite” [®] P-413 ³	C	A
	Phenolic: “Plasite” [®] #3055 or #3066 ⁴ , 9062, 9570	A	A
	Epoxy-Phenolic (cold-set): “Plasite” [®] 7122	B	A
	“Copon” ¹⁰ TL8022, “Aropol” ¹¹ 7241T-15		
Elastomers	Ethylene-Propylene Terpolymer (EPT)	A	A
	Natural Rubber	B	A
	Neoprene	B	B
	Nitrile Rubber	B	A
	Nylon Reinforced Nitrile	A	A
Lubricants	Aluminium Complex Grease [®]	A	A
	“Lubriplast” [®] 630-2 ⁷	A	A
Packing Materials	Asbestos 5810 ⁸	A	A
	Metallic 100-M ⁸	A	A
Exterior Paints	“Plastite” [®] #7122 ⁴	A	A
	“Aquapon” [®] UC42207 ⁹	B	A
	“Imron” [®] Polyurethane Enamel ¹	B	A

Supplier Code:

¹DuPont Company

²Rohm and Hass Company

³Heresite and Chemical Company

⁴Wisconsin Protective Coating Corp.

⁵The Ceilcote Co.

⁶Sta-Vis Oil Co., Lubricants

⁷Fiske Bros. Refining Co.

⁸Crane Packing Co.

⁹PPG Industries

¹⁰Reliance Universal Inc.

¹¹Ashland Chemical Co.

Metals – Typical corrosion Data with Rehealing Foam™ Agents

Metal compatibility with Solberg Rehealing RF foam concentrates and solutions were examined by a third party testing organisation, the University Analytical Laboratory at the University of New South Wales. Testing was done to determine the corrosive effect on 14 different metals in accordance with ASTM G 31, *Laboratory Immersion Corrosion Testing of Metals*.

METHODOLOGY

Duplicate metal coupons of each of the 14 specified metals were cleaned, weighed and immersed in the following solutions for 14 days at 40±1°C. Testing was carried out on RF3, RF6 and RF 3x6 ATC™ foam concentrates and 3% or 6% solutions using distilled water.

Following immersion, the coupons were cleaned in accordance with the method ASTM D1384 *Corrosion Test for Engine Coolants in Glassware* and re-weighed. The mean weight differences in the coupons were reported. Testing was completed by the University Analytical Laboratory, University of New South Wales, Australia.

RESULTS

The mean mass loss expressed in milligrams of metal lost over the 14 day period of the test. The results are as follows:

Typical Corrosion Data with Solberg Rehealing Foams- Mean Mass loss over 14 day

	Refernce	RF3		RF6		RF3x6ATC	
Metal	Distilled Water	Conc.	3% Solution	Conc.	6% Solution	Conc,	3% Solution
Aluminium (60/61)	8.9	0.7	0.8	0.3	0.8	0.7	0.8
Aluminium cast 356	0	1.3	0.8	0	1.5	1.3	0.8
Brass CA 260	1.4	0.5	2.0	1.7	1.6	0.5	2.0
Bronze cast 80/10/10	0	0	1.0	1.0	0	0	1.0
Bronze cast 85/5/5/	0	1.1	0.6	1.1	1.1	1.1	0.6
Copper Elec CA110	3.4	0.5	0.3	0	0.1	0.5	0.3
Copper Nickel 90/10	1.2	0	0	0	0.4	0	0
Cast iron SAE G-3500	76.1	3.4	32.2	0.5	24.9	3.4	32.2
Magnesium alloy AZ31B-H24	7.7	25.3	14.9	54.0	63.2	25.3	14.9
Monel 400	0	0.5	0	0	0.5	0.5	0
Mild Steel 1010CR	51.0	4.6	33.8	3.0	24.0	4.6	33.8
Stainless Steel Grade 304	1.3	0	0.3	1.0	0.15	0	0.3
Stainless Steel Grade 430	0	0.5	0.3	0	0	0.5	0.3
Titanium 6AL-4V	1.5	0.6	0.2	0.1	1.6	0.6	0.2

Compatibility of Elastomers with Rehealing Foam™ Agents

Rubber and Elastomer Material Compatibility Tests On Solberg Rehealing Foam RF3, RF6 and RF 3x6 ATC Technology Fire Fighting Foam Concentrates

Using ASTM Method D2240, *Test method for Rubber Property – Durometer Hardness*, the Rehealing Foam RF3 and RF6 products and their solutions were tested for their effect on rubbers and elastomer materials. The tests represent a total exposure time of 168 hours. The materials were Fluoroelastomer (fluorocarbon AMS3218, ASTM D2000 S6E), Natural latex (MIL-T-36966). Ethylene propylene diene terpolymer (AMS3249), Nitrile rubber (AMS3215), and Neoprene (AMS3208). Testing was completed by the University Analytical Laboratory, of the University of New South Wales, Australia.

Table 1 Summary of Rubber and Elastomer Compatibility Test for Rehealing Foam RF Foam Solutions and Concentrates (168 hours)			
Material Description	Foam Solution or Concentration	% Change in Volume	% Change in Hardness
Fluoroelastomer	3%	-0.10	-1.22
	6%	-0.12	-0.94
	Concentrate	0.05	-2.46
Natural Latex	3%	0.22	-5.06
	6%	0.57	-6.34
	Concentrate	1.27	-4.49
EPDM Terpolymer	3%	-1.81	-1.88
	6%	-0.20	-1.37
	Concentrate	-2.21	0.24
Nitrile Rubber	3%	0.20	-0.54
	6%	0.18	-0.20
	Concentrate	0.08	-0.88
Neoprene	3%	1.88	-0.08
	6%	1.79	-0.27
	Concentrate	1.17	-0.41

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