

# HERCULES HEATING CHEMICALS

Formulated for High Performance



# HEATING CHEMICALS AND ANTI-FREEZE

A well-maintained hydronic heating system provides reliable performance even during the harshest winters. Heating maintenance professionals know that top-quality materials are critical to achieve superior performance. That's why contractors depend on Hercules maintenance and stop-leak products. They are formulated for high performance and developed with both the user and the environment in mind.



## HOW TO MAINTAIN A BOILER SYSTEM\*

**Prior to Use: Read all product labels carefully.**

Keep container closed when not in use. Avoid eye and skin contact. Wear safety glasses with side shields and wear rubber gloves.

1. Turn off the gas and autofeeder, and disconnect from the power supply.
2. Bleed a small amount of fluid from hydronic loop to inspect for rust, sediment or mucus-like sludge to determine if system restorer is required.
3. If sludge and sediment are present, drain system completely until water runs clear.
4. Flush system with Sludgehammer System Restorer by mixing 1 quart System Restorer with 1 gallon of water in a bucket and pumping into the system.
5. Without breaking suction, add enough water to completely fill the system. Close valve. Remove pump. Reconnect the power supply and circulate for 4 hours.

**\*DOES NOT APPLY TO FIRE SYSTEMS**





6. Completely drain and flush the system.
7. Recharge system with Sludgehammer Corrosion Inhibitor and Cryo-Tek.
8. Reconnect power supply and circulate for two hours.
9. Recheck inhibitor and propylene glycol (PG) levels using Cryo-Tek test strips, pH meter, or retractometer.

### For Regular Maintenance

- a. Open drain valve and remove a small amount of liquid (close valve).
- b. Use Cryo-Tek Test Strips to check the corrosion inhibitor and PG levels.
- c. Add Sludgehammer Corrosion Inhibitor if system is low.
  - i. To add Inhibitor: open drain valve and remove 2 gallons of water. Mix one quart of Sludgehammer and two gallons of water.

- ii. Attach pump hose to drain valve, prime the pump, and turn it on.
- iii. Without breaking suction, pump one gallon of water to ensure all Inhibitor gets into the system.
- iv. Close drain valve, and turn pump off.
- v. Reconnect the power supply and circulate for two hours before rechecking the Inhibitor and anti-freeze levels.

10. Add PG if the system is low.
  - a. Properly dilute Anti-Freeze in water.
  - b. Attach pump hose to drain valve, prime the pump, and turn it on.
  - c. Close drain valve, and turn pump off.
  - d. Reconnect the power supply and circulate for two hours before rechecking the inhibitor and anti-freeze levels.



# PRODUCT SELECTION GUIDE

Product Name	Description	Color
<b>SYSTEM REPAIR</b>		
<b>Boiler Liquid</b>	Seals and repairs cracks and leaks in steam and hot water systems. Low odor. No priming or foaming.	Red/Brown
<b>Boiler Solder</b>	Powdered formula stops leaks. Works quick on all steam systems. Low odor, Petroleum free.	Silver
<b>Base Hit™ II</b>	Seals and prevents leaks in ferrous and non-ferrous hydronic systems. Works Fast. Won't clog components.	Blue/Green
<b>High Heat Furnace Cement</b>	Seals and repairs boilers, furnaces, flue pipes, and other furnace and factory applications. Will not shrink, crack or crumble. Meets OSHA requirements.	Tan/Gray

Product Name	Description	Color	Boiler Type	AL	SS	COP	FE	PEX	El. Tube
<b>SYSTEM CLEANERS</b>									
<b>Sludgehammer™ System Restorer</b>	Removes sludge and corrosion. Reduces boiler noise. Restores efficiency to all hydronic systems. For use in servicing older boiler systems or new boilers installed into an existing system.	Clear	Traditional HE	X	X	X	X	X	X
<b>Boiler &amp; Heating System Cleaner</b>	Liquid cleaner and corrosion preventative treatment. Maximize boiler efficiency of steam, hot water & hydronic systems.	Yellow	Cast & Steam						X
<b>Scout™</b>	Steam boiler cleaner. Low odor. Fast acting.	White	Steam		X	X	X	X	
<b>Sludge Treat</b>	Helps eliminate burner breakdown from sludge & water in fuel tanks.	Lt. Brown	Fuel Oil	X	X	X	X		
<b>Sludgehammer™ Corrosion Inhibitor</b>	Multi-purpose formula. Controls scale, corrosion, boiler noise, and hydrogen gassing. Safe for all hydronic heating systems.	Clear	Traditional HE	X	X	X	X	X	X

Product Name	Description	Color
<b>ADDITIONAL HEATING ESSENTIALS</b>		
<b>Blot-O™ Plus</b>	Fuel absorber for cleaning spills. Absorbs 8 times its volume of fuel oil. Eliminates odors.	Clear
<b>Power Flow™</b>	Fuel additive improves combustion efficiency.	Lt. Brown
<b>Flip Stick™</b>	Removes soot deposits and carbon from chimneys, flues, and heat exchangers.	
<b>Haymaker™</b>	Tankless water heater descaler.	

Product Name	Description	Color	Boiler Type	AL	SS	COP	FE	PEX	El. Tube
<b>ANTI-FREEZE</b>									
<b>Cryo-Tek™ Original</b>	Virgin PG 45%. Pre Mixed - Triple protection inhibitor package.	Blue	Cast Iron HE		X	X	X	X	X
<b>Cryo-Tek™ AG</b>	Virgin PG 95%. Concentrated formula triple protection inhibitor package.	Blue	Cast Iron HE		X	X	X	X	X
<b>Cryo-Tek™ -100</b>	Virgin PG 55%. Pre-Mixed. Triple protection inhibitor package.	Red	Cast Iron HE		X	X	X	X	X
<b>Cryo-Tek™ -100/AL</b>	Virgin PG 60%. Specially formulated for aluminum heat exchanger systems.	Orange	Cast Iron HE	X				X	X
<b>Cryo-Tek™ Solar System™</b>	Virgin PG 60%. Specially formulated for use in closed loop- anti-freeze heat exchangers, radiant tub heating, and geo-thermal loops.	Dark. Green	Solar	X	X				
<b>Universal Cryo-Tek™</b>	Virgin PG 96%. Specially formulated for use with all metals.	Purple	Cast Iron HE	X	X	X	X	X	X
<b>Cryo-Tek™ FG</b>	Food Grade PG 96%. Safe for use in water pressure testing of potable water systems, safe for geo-thermal loops, and charging fire systems.	Green	Cast Iron HE		X	X	X	X	X

Product Name	Description
<b>SYSTEM TESTING</b>	
<b>Cryo-Tek™ Strips</b>	Disposable test strips check PG levels in 15 seconds.
<b>pH Test Meter</b>	Checks acidity or alkalinity of heating or potable water systems.
<b>Refractometer</b>	Fastest and easiest method for ensuring accurate ethylene and propyl glycol levels.

Product Name	Description	Color	Steel	SS	COP	Cast Iron	Natural Rubber	CPVC	PEX	SBR Rubber	Black Brass	Black Steel	Bronze	EPDM	Nitrile Rubber
<b>FIRE SYSTEM ANTI-FREEZE</b>															
<b>Cryo-Tek™ PG 38</b>	PG 38 System Freeze Protection	Red	X	X	X	X	X		X	X	X	X	X	X	X
<b>Cryo-Tek™ GL 48</b>	GL 48 System Freeze Protection	Orange	X	X	X	X	X	X	X	X	X	X	X	X	X

# SYSTEM REPAIR PRODUCTS



#30115 shown

## Boiler Liquid

- Seals and repairs cracks or leaks in hot water or steam boilers.\*
- Makes a strong lasting repair on difficult leaks.
- Resists pressure and is not affected by boiler cleaners.
- Prevents surging and will not clog or coat heating coils controls, vents or valves.

Product No.	Size	Description	Ctn. Qty.
30115	1 qt.	Boiler Liquid	12
30120	Gallon	Boiler Liquid	6

\*Hot water portion of steam boiler



#30310 shown

## Boiler Solder

- Makes strong lasting repairs on cracks and leaks in hot water or steam boilers.\*
- Non-metallic powder finds trouble spots and forms a tough seal which expands and contracts with heat.
- Resists high pressure, and temperature, and is not affected by cleaners.
- Will not clog the system or cause odors, will not interfere with normal boiler operation.

Product No.	Size	Description	Ctn. Qty.
30310	1 lb.	Boiler Solder	12
30320	200 lb.	Boiler Solder	1

\*Hot water portion of steam boiler



#30213 shown

## Base Hit™ II Sealant & Lubricant

- Seals and prevents leaks.
- Remedies most squeaking pumps.
- Will not form sludge or precipitates or impede normal operation.

Product No.	Size	Description	Ctn. Qty.
30213	12 oz.	Base Hit II	12
30213R	12 oz.	Base Hit II	6



#35504 shown

## High Heat Furnace Cement

- Can be used on oil, gas, coal, and wood burning heating systems.
- Smooth consistency makes for easy application, and will not crack or crumble.
- Asbestos free.

Product No.	Size	Description	Ctn. Qty.
35503	1/2 pt.	Regular Body	24
35504	1 pt.	Regular Body	12
35515	1/2 gal.	Regular Body	6
35610	Gallon	Regular Body	4
35521	1/2 gal.	Heavy Body	6
35526	Gallon	Heavy Body	4

# SYSTEM CLEANING PRODUCTS



## Sludgehammer™ System Restorer & Noise Reducer

- Combination formula removes sludge and corrosion while reducing boiler noise.
- Helps restore efficiency to hydronic heating systems.
- Compatible with aluminum and stainless steel heat exchangers.
- Flush from system after use.

Product No.	Size	Description	Ctn. Qty.
35298	32 oz.	System Restorer & Noise Reducer	6



#35211 shown

## Boiler and Heating System Cleaner

- Formulated to clean and condition steam and hot water systems.
- Protects pumps by lubricating seals and zone valves.
- Prevents clogging of valves and prevents corrosion.
- Safe and easy to use.

Product No.	Size	Description	Ctn. Qty.
35206	1 qt.	Boiler and Heating System Cleaner	12
35211	Gallon	Boiler and Heating System Cleaner	6
35216	5 gal.	Boiler and Heating System Cleaner	1



## Scout™

- Non-Toxic boiler cleaner that stops priming and surging in minutes.
- Helps eliminate hammering, removes rust, scale, oil, foam and impurities without draining or flushing the system.
- Eliminates boiler shut-downs.

Product No.	Size	Description	Ctn. Qty.
35100	4 oz.	Boiler Cleaner	12



## Sludge Treat

- Prevents fuel related failures by cleaning and conditioning heating system fuel oil.
- Improves combustion efficiency, reduces soot, and conserves energy.
- Prevents fuel oil waxing and gelling, and sludge build up and ice formation in fuel lines.

Product No.	Size	Description	Ctn. Qty.
35310	1 qt.	Sludge Treat	12



## Sludgehammer™ Universal Corrosion Inhibitor

- Multi-purpose formula controls scale, corrosion, boiler noise and hydrogen gassing.
- Helps restore efficiency to hydronic heating systems.
- Safe for all metals including aluminum and stainless steel.
- Compatible and for use with all Cryo-Tek antifreezes.

Product No.	Size	Description	Ctn. Qty.
35297	32 oz.	Universal Corrosion Inhibitor	6

# ADDITIONAL HEATING ESSENTIALS



## Blot-O™ Plus

- Highly absorbent material for cleaning spills of fuel, oil, and gas.
- Unique blend of recycled fibers and specialty clay absorbs up to 8 times its volume.

Product No.	Size	Description	Ctn. Qty.
35155	19 oz.	Shaker Top Can	12



#35302 shown

## Power Flow™

- Fuel additive which improves combustion efficiency, conserves energy, and reduces fuel oil waste in heating systems.
- Cleans strainers, nozzles, pumps and burners.
- Prevents waxing and jelling of oil and inhibits formation of rust in the tank.
- Protects fuel oil during summer storage, and prevents ice formation and freeze up in fuel oil line.

Product No.	Size	Description	Ctn. Qty.
35302	1 pt.	Power Flow	24
35302R	1 pt.	Power Flow – 6 pack	6



## Flip-Stick® Soot Destroyer

- Easy to Use formula cleans away fuel consuming deposits of soot and carbon.
- Keeps heating units operating efficiently and economically.
- Guards against corrosion on metal ducts, flues etc.

Product No.	Size	Description	Ctn. Qty.
35427	85 g.	Soot Destroyer	72



#35235 shown

## Haymaker™ Tankless Water Heater Descaler

- Professional grade formula is non-corrosive and effectively removes scale.
- Clear, citric acid-based formula allows you to see the results of the descaling.
- NSF 60 listed and safe for potable water.
- VOC free and biodegradable — will not harm the environment.
- Users have everything they need to descale a tankless water heater with the descaler kit.

Product No.	Size	Description	Ctn. Qty.
35230	32 oz.	Descaler	6
35231	Gallon	Descaler	6
35235	Gallon	Descaler Kit	1



Certified to NSF/ANSI 60

The Haymaker solution dissolves 3 times the amount of scale as a gallon of white vinegar, without the foul odor! The concentration of acetic acid in vinegar is relatively low (5%), whereas Haymaker™ is a 50% by weight concentrate that is mixed with water before use.

# ANTI-FREEZE



	Original	AG	-100	AL	Solar	Universal	FGPG
<b>PG Ratio</b>	45%	95%	55%	60%	60%	96%	96%
<b>PG Quality</b>	Virgin	Virgin	Virgin	Virgin	Virgin	Virgin	Food Grade
<b>Color</b>	Blue	Blue	Red	Orange	Dk. Green	Purple	Green
<b>Freeze Point</b>	-22	-70	-70	-60	-60	<-60	<-60
<b>Flow Point</b>	-27	-80	-80	-70	-70	<-70	<-70
<b>Burst Point</b>	-80	-100	-100	-100	-100	-100	-100
<b>pH</b>	8.5-100	9.0-10	9.0-100	7.0-8.5	7.0-8.5	7.5-8.5	8.5-10
<b>Viscosity</b> (At 50% - 100°F)	3 cps	18 cps	4 cps	5 cps	5 cps	18 cps	18 cps
<b>Boiling Point</b>	220°F	320°F	225°F	225°F	225°F	320°F	320°F
<b>Temperature Rating</b>	250°F	250°F	250°F	250°F	250°F	250°F	250°F
<b>Heat Transfer</b>	.908	.681	.843	.806	.806	.600	.600



#35260 shown

## Cryo-Tek™ Original

- Pre-Mixed: Ready to use formula with **45% Virgin Propylene Glycol**.
- Triple Protection Inhibitor stabilizes pH to prevent corrosion, chelates, hard water minerals, and inhibits scale and sediment formation.
- Approved for use with **copper, steel, iron, brass, PEX and elastomeric tubing** (not for use with galvanized, CPVC, and aluminum).
- For applications, freeze protection and specific dilutions view submittal sheet at [Oatey.com/Hercules](http://Oatey.com/Hercules).

Product No.	Size	Description	Ctn. Qty.
35253	Gallon	Cryo-Tek Original	6
35260	5 gal.	Cryo-Tek Original	1
35267	55 gal.	Cryo-Tek Original	1



#35285 shown

## Cryo-Tek™ AG

- Concentrated Arctic Grade solution with **95% Virgin Propylene Glycol**.
- Triple Protection Inhibitor stabilizes pH to prevent corrosion, chelates, hard water minerals, and inhibits scale and sediment formation.
- Approved for use with **copper, steel, iron, brass, PEX and elastomeric tubing** (not for use with galvanized, CPVC, and aluminum).
- For application, freeze protection and specific dilutions view submittal sheet at [Oatey.com/Hercules](http://Oatey.com/Hercules).

Product No.	Size	Description	Ctn. Qty.
35282	Gallon	Cryo-Tek AG	6
35285	5 gal.	Cryo-Tek AG	1
35288	30 gal.	Cryo-Tek AG	1
35289	55 gal.	Cryo-Tek AG	1



# Cryo-Tek™ products keep systems clean and operating efficiently, while improving heat transfer and minimizing wear to moving parts.



#35284 shown

## Cryo-Tek™ -100

- Pre-Mixed: Ready to use formula with **55% Virgin Propylene Glycol**.
- Triple Protection Inhibitor stabilizes pH to prevent corrosion, chelates, hard water minerals, and inhibits scale and sediment formation.
- Approved for use with **copper, steel, iron, brass, PEX and elastomeric tubing** (not for use with galvanized, CPVC, and aluminum).
- For application, freeze protection and specific dilutions view submittal sheet at [Oatey.com/Hercules](http://Oatey.com/Hercules).

Product No.	Size	Description	Ctn. Qty.
35281	Gallon	Cryo-Tek-100	6
35284	5 gal.	Cryo-Tek-100	1
35286	30 gal.	Cryo-Tek-100	1
35287	55 gal.	Cryo-Tek-100	1



#35283 shown

## Cryo-Tek™ -100/A<sub>1</sub> for Aluminum

- Unique blend of anti-freeze designed for use with Aluminum Heat Exchangers.
- **60% Virgin Propylene Glycol**.
- Triple Protection Inhibitor package provides protection against acid corrosion, scale, sediment, and mineral deposition.
- For application, freeze protection and specific dilutions view submittal sheet at [Oatey.com/Hercules](http://Oatey.com/Hercules).

Product No.	Size	Description	Ctn. Qty.
35283	5 gal.	Cryo-Tek-100/A <sub>1</sub> for Aluminum	1
35291	55 gal.	Cryo-Tek-100/A <sub>1</sub> for Aluminum	1



#35280 shown

## Cryo-Tek™ Solar System™

- Concentrated **60% Virgin Propylene Glycol**.
- Triple Protection Inhibitor stabilizes pH to prevent corrosion, chelates, hard water minerals, and inhibits scale and sediment formation.
- Approved for use with **radiant tube, geothermal loops, PEX, and commonly used materials for seals and bushings**.
- For application, freeze protection and specific dilutions view submittal sheet at [Oatey.com/Hercules](http://Oatey.com/Hercules).

Product No.	Size	Description	Ctn. Qty.
35280	5 gal.	Cryo-Tek Solar System	1
35292	55 gal.	Cryo-Tek Solar System	1



#35331 shown

## Universal Cryo-Tek™

- Concentrated **97% solution for use on all metals**.
- Triple Protection Inhibitor stabilizes pH to prevent corrosion, chelates, hard water minerals, and inhibits scale and sediment formation.
- Keeps system clean and operating efficiently.
- Meets and exceeds the corrosion protection requirements of ASTM D1384.
- For application, freeze protection and specific dilutions view submittal sheet at [Oatey.com/Hercules](http://Oatey.com/Hercules).

Product No.	Size	Description	Ctn. Qty.
35330	Gallon	Universal Cryo-Tek	6
35331	5 gal.	Universal Cryo-Tek	1
35332	55 gal.	Universal Cryo-Tek	1



#35341 shown

## Cryo-Tek™ FG

- Concentrated solution with **96% Food Grade Propylene Glycol**.
- Safe for use in contact with potable water systems, water testing, geo-thermal loops and DWV systems.
- Approved for use with **copper, steel, iron, brass, PEX and elastomeric tubing (not for use with galvanized, CPVC, and aluminum)**.
- Meets and exceeds the corrosion protection requirements of ASTM D1384.
- For application, freeze protection and specific dilutions view submittal sheet at [Oatey.com/Hercules](http://Oatey.com/Hercules).

Product No.	Size	Description	Ctn. Qty.
35340	Gallon	Cryo-Tek Food Grade	6
35341	5 gal.	Cryo-Tek Food Grade	1
35342	55 gal.	Cryo-Tek Food Grade	1

# SYSTEM TESTING



## Cryo-Tek™ Test Strips

- Contains 10 color-coded disposable test strips.
- Each checks levels of propylene glycol and corrosion protection.
- Check glycol and inhibitor levels annually; add Hercules Sludgehammer Universal Corrosion Inhibitor if level is low.

Product No.	Size	Description	Ctn. Qty.
35271		Test Kit, 6 - 10 Packs	6



## pH Test Meter

- Ideal for checking acidity or alkalinity of heating or potable water systems.

Product No.	Size	Description	Ctn. Qty.
35272		pH Test Meter	1



## Refractometer

- Fastest and easiest method for ensuring accurate ethylene and propylene glycol levels.

Product No.	Size	Description	Ctn. Qty.
35290		Refractometer	1

## HOW TO MAINTAIN A FIRE SYSTEM

**Measure the total capacity of the system using one of the following methods:**

### Direct method

- Fill system completely, making sure all components of system are full.
- Drain fluid into suitable container. Record the number of gallons removed. This is total system fluid capacity.

### Estimation method

- Determine system pipe sizes and amount of linear footage for each size. Calculate the volume of the system piping.
- Add this number to the gallon capacity of the boiler or equipment in the system to determine the total system fluid capacity.

## CHARGING THE SYSTEM

Cryo-tek PG 38 /GL 48 is meant to be used as is. Do not dilute. The entire system should be open to prevent any area of it from being isolated. Add the computed amount of antifreeze.

## CHECKING THE SYSTEM

After filling, purge the system of air. Follow NFPA guidelines for testing antifreeze. Fluid samples should be tested from a minimum of a high point in the system and a low-point. Measurements should be comparable to each other, as well as the pre installation sample.

## TAGGING

NFPA requires a tag to be affixed to the riser indicating the date tested or replaced, the type and concentration by volume of fluid used, system capacity (in volume), contractor name and license number, and a statement indicating if the entire system was drained and replaced with antifreeze.

# FIRE SYSTEM ANTI-FREEZE



## Cryo-Tek™ PG 38 Fire System Anti-Freeze

- Use in any environment where the potential for freezing conditions exists
- Approved for use with all types of wet fire sprinkler systems with the exception of CPVC
- Pre-mixed blend of propylene glycol and water
- Complies with NFPA Requirements for Wet Fire Suppression
- Burst protection to -50°F (-46°C)

### CERTIFIED PERFORMANCE

Freeze Protection Down To	Flowable Down To	Burst Protection Down To
0°F / -18°C	-15°F / -26°C	-50°F / -45°C

Product No.	Size	Description	Ctn. Qty.
35246	5 gal.	Cryo-Tek Fire PG 38 System Freeze Protection	1
35247	55 gal.	Cryo-Tek Fire PG 38 System Freeze Protection	1



## Cryo-Tek™ GL 48 Fire System Anti-Freeze

- Use in any environment where the potential for freezing conditions exists
- Approved for use with CPVC and metal sprinkler systems
- Pre-mixed blend of glycerin and water
- Complies with NFPA Requirements for Wet Fire Suppression
- Burst protection to -50°F (-46°C)

### CERTIFIED PERFORMANCE

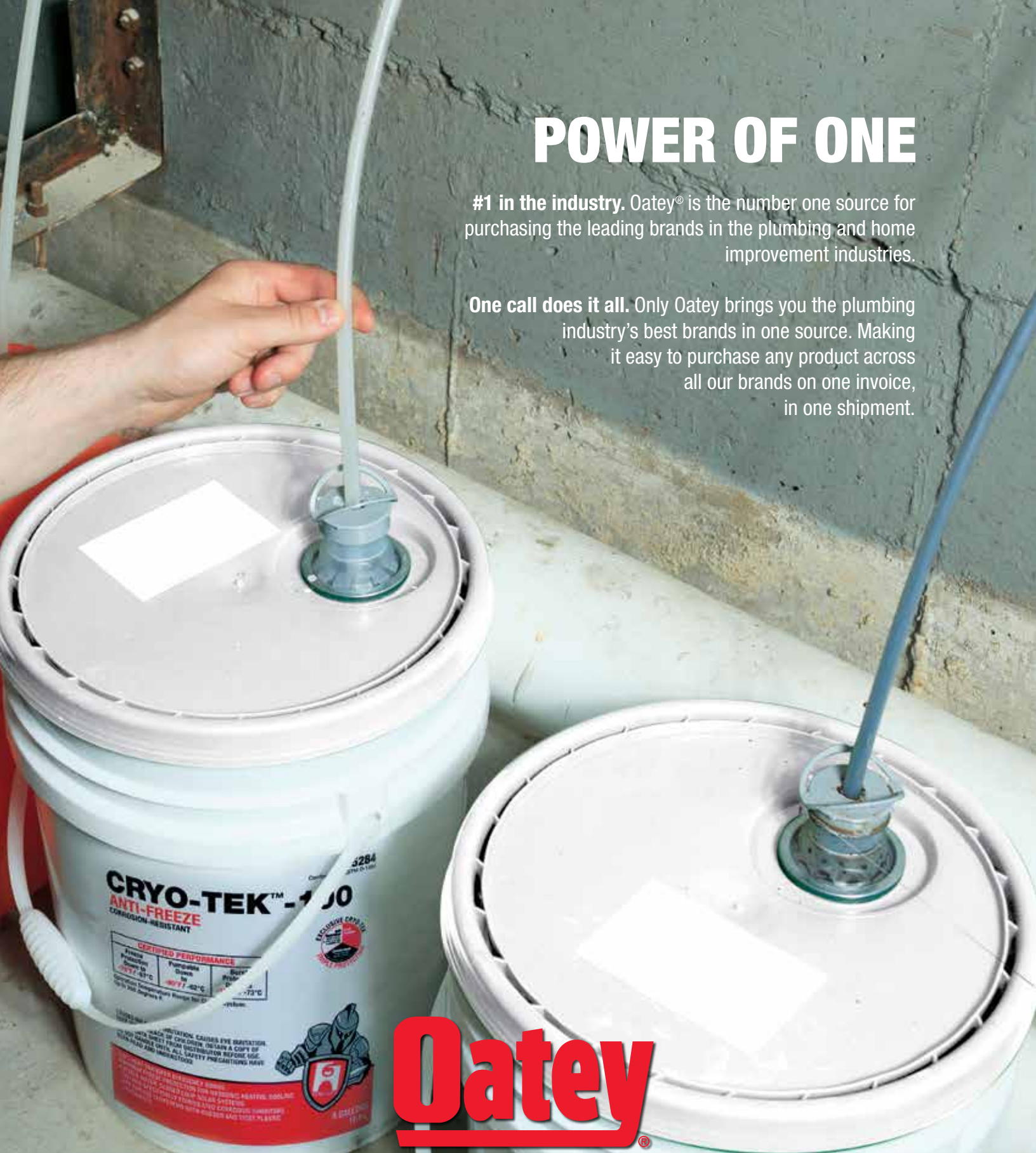
Freeze Protection Down To	Flowable Down To	Burst Protection Down To
-15°F / -26°C	-25°F / -32°C	-50°F / -45°C

Product No.	Size	Description	Ctn. Qty.
35248	5 gal.	Cryo-Tek Fire GL 48 System Freeze Protection	1
35491	55 gal.	Cryo-Tek Fire GL 48 System Freeze Protection	1

# POWER OF ONE

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