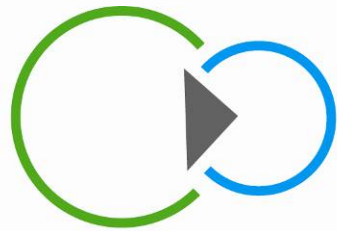


# *Schroeder* BIOfuels

Presents



# ColdClear<sup>TM</sup>

Cold Weather. Clear Biodiesel. The Clear Solution.

*Beginning at 11am Eastern,*  
Please join the audio portion of this call at  
**Toll Free US - 866.939.8416**  
**Int'l - 678.302.3534**

**Participant Code: 5429022**

# *Schroeder* BIOfuels



## ColdClear<sup>TM</sup>

Cold Weather. Clear Biodiesel. The Clear Solution.

*During this webcast, questions will be taken via chat.  
They can be addressed to the Q&A Group over here in your browser →*

*We've got some **really great** technical folks from Schroeder on the webcast  
to help us out with this. So, ask away!*

# Cold Soak Filtration

## - Test Overview

- Part of ASTM D6751, quality standard for biodiesel fuels. Measures the diesel's ability to clog fuel filters after being subjected to cold temperatures
- *Performance based test*, where results are reported in seconds (The lower the number, the faster the fuel flowed during the test)
- ***Every biodiesel producer and blender must pass this (and other) tests after October 1<sup>st</sup>, 2009.***

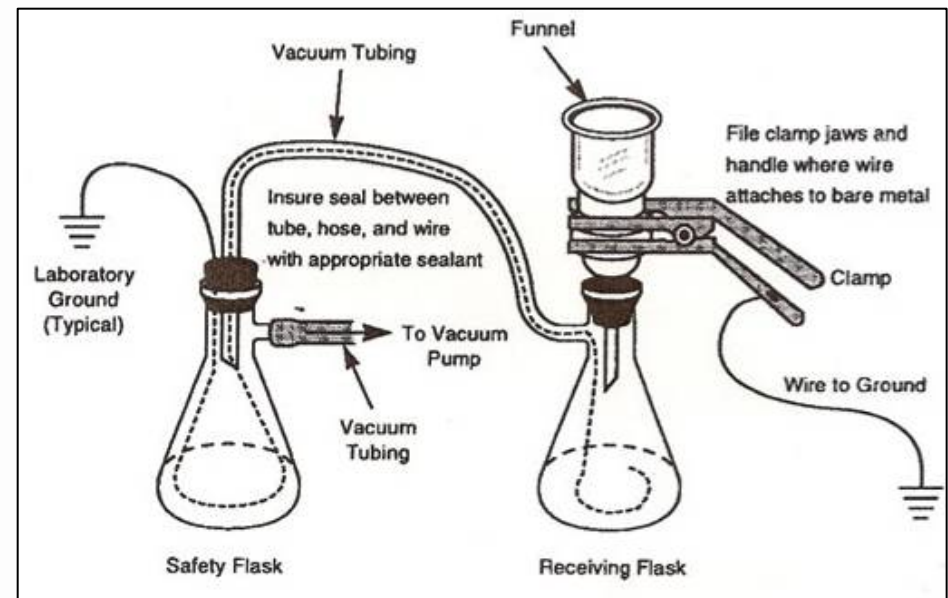


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# Cold Soak Filtration

## - Test Overview

- 300mL of test fuel is chilled to 32F for 24hrs
- After 24hrs, it is allowed to come to room temperature on its own (no heat, no energy)
- Fuel is put into funnel and pulled through a 0.7 $\mu$  (micron) patch using 21 psi of vacuum.
- The amount of time it takes to empty the funnel (in seconds) is recorded
- *Currently, Less than 360 sec. is required to pass*
- *Less than 200 sec. is recommended for -12C or less climates.*



## - Test Setup Example

# ColdClear™

- *Ok. Stop. But, How does it work ?!?*

- To *initiate* a crystal (gel, etc.), a “seed” is required
- When making rock candy, the string (or stick) acts as the seed. Without the string, making the crystal is “difficult”
- In biodiesel and diesel fuels, the *Patent Pending* ColdClear™ technology removes those seeds



- *Rock candy crystallization example*

# ColdClear™

## - Product Overview

- Cartridge based, multi-stage filtration/adsorption system
- *Patent Pending* process removes the impurities that *initiate* fuel crystallization and gelling
- Each cartridge is rated to treat a fixed volume of B100 and blends (volume is scaled for blends)
- Disposable cartridges
- Proven successful across all popular feedstocks



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# ColdClear™

## - Product Specifications

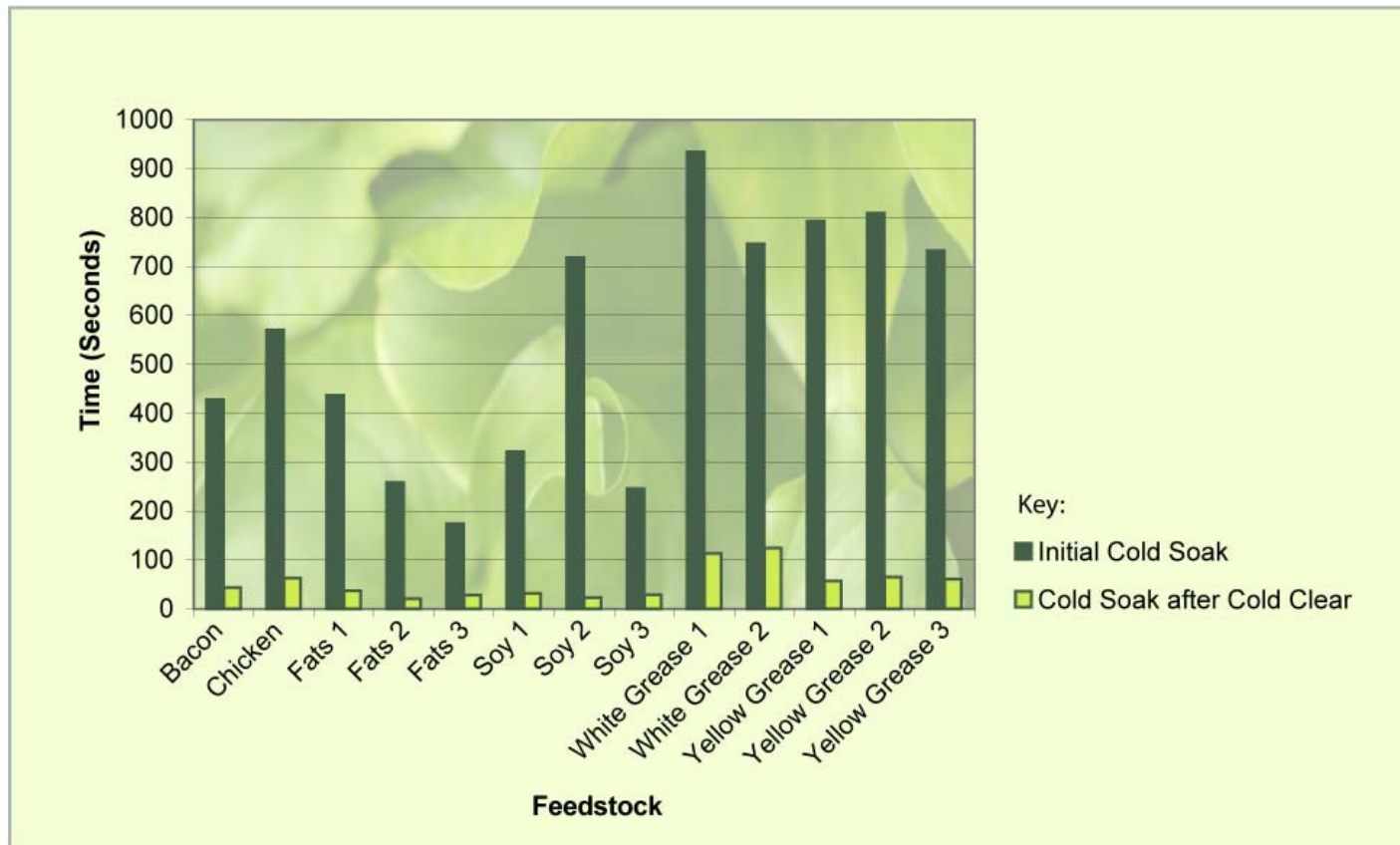
- Each 3 stage BCC100 housing and cartridges can treat an estimated 15k gallons of B100 per complete change
- Stage 1 ~ 3 Micron Pre-filter
- Stages 2 & 3 ~ Cold Clear Polishing Cartridges
- BCC100 Housing sized for 5 gpm of flow, **easily** scaled for higher flow requirements.
- 1" Female NPT or SAE Flange Connection
- Available with test points and multiple Stage 1 indicator options



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# ColdClear™

- Performance sample data



\* Currently, Less than 360 sec. is required to pass. Less than 200 sec. 'is recommended' for -12C or less climates.

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# ColdClear™

## - Advantages

- Negligible yield loss during process
- Low capital investment
- Low operating costs (< 4 cents on the gallon)
- Drop-in system. User only has to provide flow and fuel totalizer.



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# ColdClear™

## - Application Overview

### Potential installation sites

- Biodiesel Producers
- Bio/Diesel Blenders
- Bio/Diesel Distributors
- Fleet Consumers
- Bulk fuel users, etc.

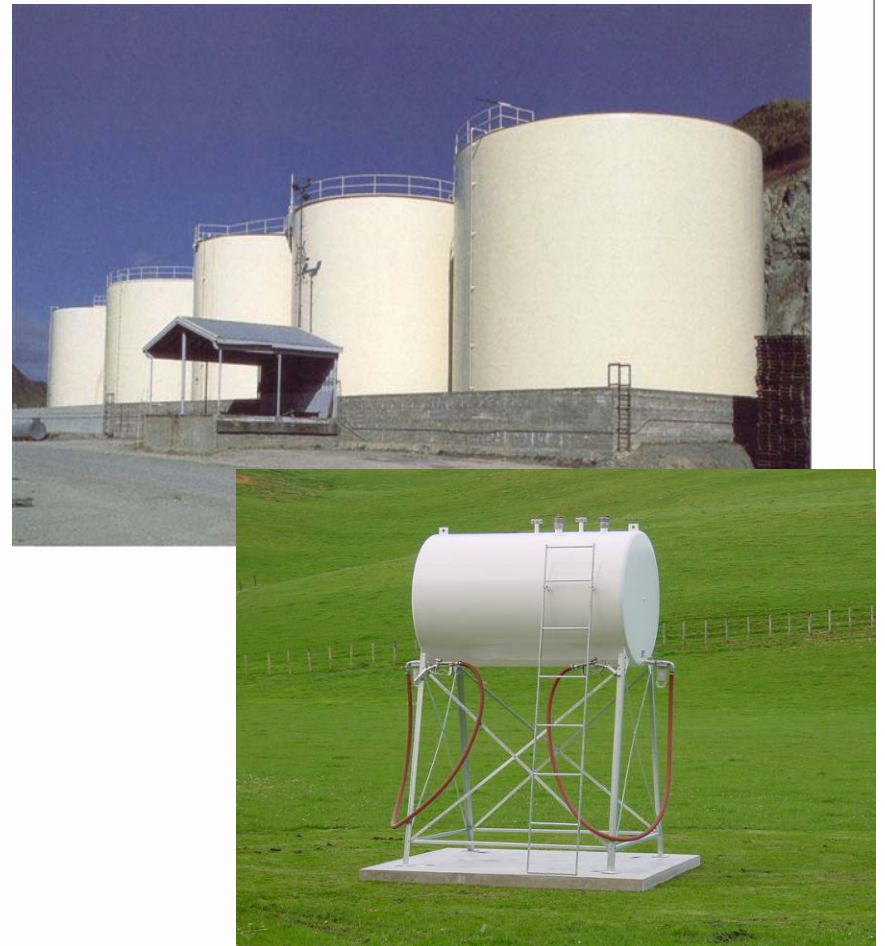


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# ColdClear™

- *Application Overview, where to apply it*

- Producers - After production, where the fuel meets spec with the exception of Cold Soak
- Diesel Blenders/Distributors – in/out bound fuel lines and transfer lines



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- How often should I change cartridges?



Influent Cold Soak (in seconds)	Expected cartridge usage per 20,000 gallons	Comments
200 seconds or less	<6 cartridges or one complete change out per ColdClear™ Series 100 unit	Even though 200 is in spec, we do recommend using ColdClear™ to drop the Cold Soak result to below 50, which will ensure proper cold weather properties
200-300 seconds	6-12 cartridges, one to two complete change-out per ColdClear™ Series 100 unit	Toward the lower end, often 6 cartridges will provide adequate protection but as the cold soak number rises over 250 we recommend a change out every 10K gallons
300-500 seconds	12 cartridges or two complete change outs per ColdClear™ Series 100 unit	Rigorous testing at these levels indicate changing every 10K gallons brings cold soak results well within specification
> 500 seconds	12-18 cartridges or two to three complete change outs per ColdClear™ Series 100 unit	If the cold soak results are within this range, we recommend very close monitoring



- 5gpm Housing Model Code

<u>Model</u>	<u>Seals</u>	<u>Inlet Porting</u>	<u>Outlet Porting</u>	<u>Stage 1 Indicator</u>	<u>Test Ports</u>
BCC100	V (Viton, standard)	P16 F16	P16 F16	None (omit) D5C Others	None (omit) UU

**Key**

P16 – 1” NPT Female

F16 – 1” SAE Code 61 Flange

D5C – Visual Indicator (installed in the cap)

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*- Replacement Cartridge Part Numbers*

Stage 1

Stage 2 & 3

BCCPREFILTER

BCCPOLISH

*- Each stage holds 3 cartridges*

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- *Lead times & Recommended List Pricing*

- Product Lead time: 6 weeks to start
- Housing
  - BCC100 Housing (no options) - \$2,550
- Elements
  - BCCPREFILTER - \$54.50
  - BCCPOLISH - \$77.50
- *Cold Clear is only available through the network of authorized Schroeder Biofuels distributors and representatives.*

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- *Getting product*

- A list of Schroeder Biofuels' specialty distributors can be found at:  
<http://www.schroederbiofuels.com/dsign.php>
- Schroeder Industries' full line distributors can be found at: <http://www.schroederindustries.com/find-distributor.php>



*- Training and consultation*

- SchroederSchool
  - Training on filtration, fuel cleanliness and meeting the new ASTM cold soak requirements.
  - 3 day course, scheduled for Mid-August in Pittsburgh, PA
  - \$2,500 per person.
- Consultation
  - Onsite consultation at \$800 per day + expenses

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- Thank you

***Any questions?***  
*Thank you for your time!*

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*More information at [www.schroederbiofuels.com](http://www.schroederbiofuels.com)*  
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