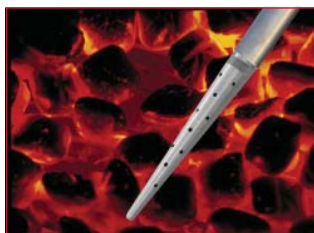


Piercing Rods and Accessories



Hazard Control Technologies, Inc.



Mitigating Deep-Seated Fires, Five Feet at a Time

With a Piercing Rod System from Hazard Control Technologies, you can locate deep-seated fires with pinpoint accuracy and extinguish them using a minimal amount of water. A Piercing Rod System is excellent for eliminating hot spots before serious damage to equipment or harm to personnel can occur. This technology can be used on virtually any explosive, combustible, dry-bulk solid, whether in a silo, bunker or mound.

- Sub-bituminous coal
- Wood chips
- Rubber crumb
- Dry chemicals
- Sugar
- Cotton
- Landfills
- Metal flakes
- Grain
- Hay bales
- Sawdust
- Plastics

Silo Explosion

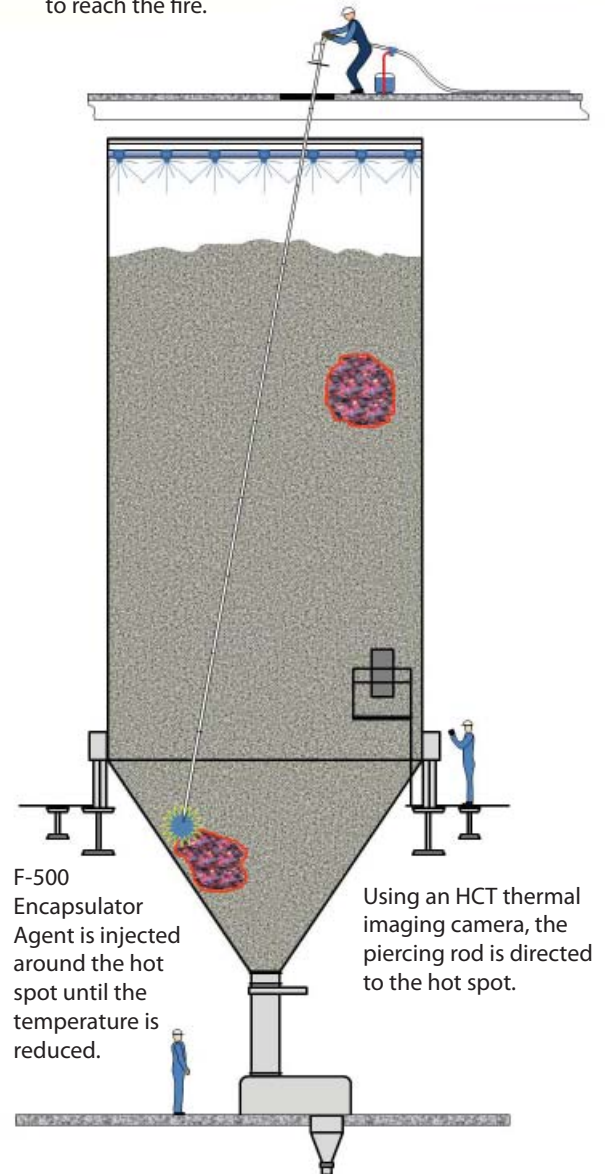
The confined space of silos makes hot spots more dangerous. Hot spots usually begin near the silo wall from spontaneous combustion. As the coal or other dry bulk material is consumed, temperatures increase and there is sometimes a burning smell. The hot spot continues to grow often discoloring the silo wall. Eventually, the hot spot collapses, releasing dangerous, combustible dust in the silo.

- Extinguish silo or bunker fires before explosions occur
- Piercing Rod Systems contain all necessary hardware
- Proper training and preparation are key to preventing a catastrophe

Silo Fire Suppression

Proper training of plant personnel and local firefighters is critical before attempting to extinguish a silo fire. Preparations must be made including dust clean-up above and inside the silo. A rotating spray nozzle is included for cleaning the silo and the 2000, 3000 and 4000 Series include an extra hose and washdown nozzle. Under no circumstances should streaming water be sprayed in the silo, which would stir up dust. HCT Piercing Rod Systems include an infrared camera to assist the ground team with locating the hot spot and enable them to radio directions to the piercing rod team. The team inserts the piercing rod and aims towards the hot spot, adding sections, five feet at a time. A 1% solution of F-500 Encapsulator Agent and water is injected as the rod is inserted. The rods are then removed and another insertion is begun in order to surround the hot spot. The ground team gives temperature readings until the temperature has dropped to a safe level.

Piercing Rod sections are added, five feet at a time to reach the fire.



F-500 Encapsulator Agent reduces the surface tension of the water, making it more effective at penetrating any solid or bulk granular fuel. As an Encapsulator Agent, F-500 EA is well known for its ability to cool, reducing the chance of reignition. The free radical chain reaction is quickly interrupted by F-500 EA reducing the amount of smoke and increasing visibility. Tests show a 97% reduction of airborne particulates and a 68% increase in visibility.

F-500 EA and a Piercing Rod System deal with a hot spot quickly and safely without the threat of explosion. A little investment can prevent a catastrophic loss of equipment, structures and downtime and reduce the threat to personnel.

HCT Piercing Rod Systems

All Piercing Rod Systems include the basic equipment to inject F-500 Encapsulator Agent around a hot spot. Kits are available with 5-foot stainless steel Add-A-Sections for 25, 50, 75 or 100-foot piercing operations.

1000 Series



The **1000 Series Piercing Rod System** comes with a locking Diamond Steel Storage Locker.

1000 Series basic Piercing Rod System includes:

- Add-A-Sections - 25, 50, 75 or 100 ft
- 60-gpm eductor
- Main Assembly with Lifting Head
- Valve Assembly
- Two Piercing Nozzles
- 50-foot Double Jacket Hose
- 15-foot Double Jacket Hose
- Rotating Spray Nozzle
- HCT E4 Thermal Imaging Camera
- Two 14" Pipe Wrenches

2000 Series



The **2000 Series Piercing Rod System** comes with a Diamond Steel Storage Locker with wheels and a handle assembly. It includes the same equipment as the 1000 Series, plus:

Additional
50-ft. Hose



Emergency Hand Line
and Washdown Nozzle



Custom Carts

3000 Series

The **3000 Series Piercing Rod System** comes with a custom cart. The 3000 Series includes the same equipment as the 1000 Series, plus:

Additional
50-ft. Hose



Emergency Hand Line
and Washdown Nozzle



Spare
60-gpm
Eductor

4000 Series

The **4000 Series Piercing Rod System** also comes with the custom cart, but upgrades to a HCT E40 thermal imaging camera, which has considerably higher resolution, wider field of view, digital camera, picture-in-picture, video, voice recording and Wi-Fi reporting capability via smart phones. The 4000 Series includes the same equipment as the 1000 Series, substituting the HCT E40 for the HCT E4, plus:

Additional
50-ft. Hose



+



Emergency Hand Line
and Washdown Nozzle



+

HCT E40
Thermal imaging
video/digital
camera



Fully Equipped 4000 Series Piercing Rod System includes an HCT E40 thermal imaging camera.

On-Site Training Services for Industrial Plants

At Hazard Control Technologies, Inc. our mission is to provide the highest level of on-site emergency response safety and hazard management training as effectively and efficiently as possible to ensure that your employees are well prepared to deal with in-plant hazards.

The Economical Choice - On-Site Training

Our on-site training classes are a cost effective way to train your staff. Employee travel expenses are eliminated and employee downtime is minimized by bringing the training to your facility. This allows you to include everyone involved with these hazards, providing the training they need. Training at your facility and on your equipment better prepares first responders and local fire departments to handle the hazards specific to your facility.



On-Site Training Courses

Power Plant Hazard Awareness Training

This course covers all aspects of power plant fire and explosion hazards including transformers, turbines, boiler fronts and the entire coal handling system from the coal yard to the pulverizer. The course addresses each hazard and offers best practice solutions. The employee will learn about sub-bituminous coal and why it is dangerous. Coal dust management will be discussed with various solutions to reduce the potential of spontaneous combustion. Attendees will learn how to locate and mitigate coal hot spots in coal yards, bunkers or silos. The course is in sections, so management can plan for employees to attend the classes pertinent to each employee. The course can include testing at the end with certificates issued to successful graduates. A piercing rod demonstration can also be included.

Recommended for a broad employee audience - operations, management and all employees working around transformers, turbines, boilers and the entire coal handling system. Employee awareness is critical to rapid hazard mitigation.

Typical Course Length: 7 hours (1 hour additional for optional piercing rod demonstration)

Bulk Storage Fire Response Training

This course presents an awareness of the hazards associated with sub-bituminous coal and a clear understanding of coal's characteristics. The student is taught "Recommended Practice" of the PRB Coal Users' Group to identify, locate and safely mitigate hot spots in coal yards, bunkers and silos.

Recommended for operations, management, emergency response team and local fire departments.

Typical Course Length: 4 hours

Hazard Control Technologies can provide an experienced, on-site Incident Management Response Specialist to advise how to safely mitigate coal or combustible granular silo or stockpile fires, on call 24/7.

Hazard Control Technologies products are designed, developed and manufactured in compliance with ISO 9001:2000. Certification of this compliance is issued by FM Approvals. F-500 Encapsulator Agent is cULus listed for use on Class A and Class B materials. Hazard Control Technologies is an industry sponsor of the PRB Coal Users' Group and a member of the National Fire Protection Association.



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HAZARD CONTROL TECHNOLOGIES, INC.

150 Walter Way
Fayetteville, GA 30214

TEL: 770.719.5112
FAX: 770.719.5117

www.hct-world.com
info@hct-world.com