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Posi-Shell®

- Description
- Testimonials
- Applications
- Airspace Savings
- Technical Info
- FAQ
- Options/Accessories
- Equipment
- Consumable Materials

Posi-Shell Applications: Vertical Faces & Balefills

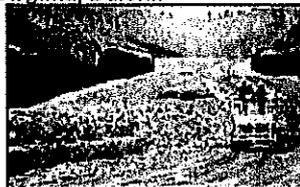


The Posi-Shell Cover formulation provides excellent adhesion to vertical faces, such as the found in balefills or solid waste excavations. The continuous coating provided by Posi-Shell together with its long-term durability make it ideal for this application.

" This is a total daily cover system, which from start to finish will only take about an hour to apply. The other uses within the landfill are endless including storm water management and erosion control applications. Landfill operators will achieve huge air-space savings year-in and year-out, with the use of this system. "

[View all Testimonials](#)

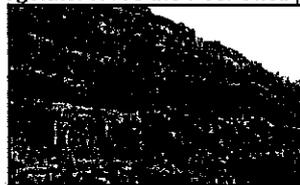
Virginia, Balefill



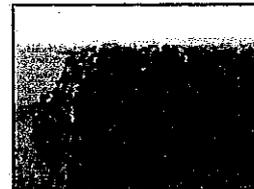
Posi-Shell Cover works to control odors and wind-blown li landfill operations of all sizes, including balefills and landfill excavations. "The City of Bristol has been using the Posi-Shell Cover System at its Integrated Solid Waste Management Facility since March 2001 and is quite pleased with the performance of the product. We use the system in our cover operations for both solid waste disposal and landfill mining well as some erosion control applications. We have been particularly impressed with how well it works when applied to the vertical faces of the balefill operation as a fire control measure, and with the added benefit of odor control. Your product works well, is easy to use and is an integral part of our daily operation."

Wyoming, Balefill

"We needed a cost-effective approach for using the awesome Posi-Shell product on our small, 250-ton per day landfill, and you responded with excellent customer service, providing a solution allowing use of our own hydroseeding unit and silo; thereby, saving us thousands of dollars each year. Our regulator loves the Posi-Shell product for covering our Balefill



face—it's the best product that we have found. Not only does it help with litter, it is a great fire retardant. I can't thank you enough for being sensitive to our unique budget constraint and for finding a workable solution for us. "



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" We needed a cost-effective approach for using the awesome Posi -Shell product on our small, 250-ton per day landfill, and Landfill Service Corporation responded with excellent customer service, providing a solution allowing use of our own hydro-seeder and silo; thereby saving us thousands of dollars each year. "

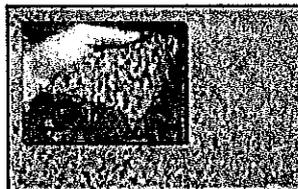
[View all Testimonials](#)

Posi-Shell Applications: Daily, Intermediate, and Long-Term Cover

Posi-Shell has been approved for daily cover, intermediate and long-term cover for landfills, stockpiles, and hazardous waste sites. The primary component of the formulation is a cementitious mineral binder reinforced with structural composite fibers, which results in excellent resistance to erosion and cracking and provides long-term durability in various weather conditions.



Applying Posi-Shell cover is a simple one-person operation using either the specialized Posi-Shell equipment or a standard hydroseeding unit. One load of P requires just one hour for mixing, application, and rinse-out. Landfill operators realize a huge savings in airspace, labor, machinery, and fuel costs through use of the Posi-Shell Cover System over traditional soil cover.



After application, the Posi-Shell slurry hardens to a non-flammable and highly impermeable coating that easily conforms to the irregular contours of a landfill. Its color and texture provide uniform appearance that is aesthetically appealing to nearby residents; and because of its inherent alkalinity, Posi-Shell suppresses typical landfill odors as well.

Posi-Shell is highly effective in preventing wind-blown litter fires, scavenging, and vector problems. Posi-Shell has met the rigorous standards required for approval by numerous state regulatory agencies and has been favorably evaluated for Superfund site use by the USEPA. Made of non-flammable, non-toxic materials, Posi-Shell is an environmentally compatible, multi-purpose landfill cover solution.

Posi-Shell Cover System:

- Conserves airspace
- Mitigates odors
- Reduces airborne debris
- Controls vector populations
- Enhances safety through non-flammability
- Discourages scavenging
- Cuts operating expenses
- Extends landfill life
- Increases profits

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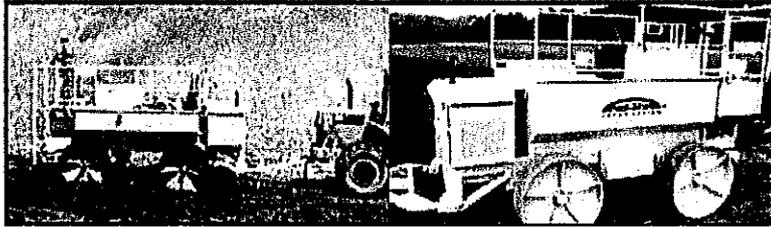
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Posi-Shell Equipment: PSA 2000



Applicator Features:

- 2,000 gallon mixing tank
- Per Load Coverage to 20,000 sq. ft.
- On-board reserve water tank
- Full-width clean-out hatch
- Large working deck

" Posi-Shell has met and exceeded all expectations we had for a daily cover. Additionally, we are disposing of waste latex paint and leachate daily with Posi-Shell while extending the life of our landfill. Posi-Shell has made my job easier and the landfill more profitable. "

[View all Testimonials](#)

Applicator Data:

Coverage Guidelines: (Per Load)	
Long Term Coverage	8,000 - 12,000 sq. ft. (per load)
Medium Term Coverage	12,000 - 16,000 sq. ft. (per load)
Short Term Coverage	16,000 - 20,000 sq. ft. (per load)
Application Time: (Per Load)	
1-man crew	60-90 minutes
2 man crew	50-70 minutes

Specifications:

Capacity	2,000 gal.
Width	9' 2"
Height	11' 4"
Length (including draw bar)	24' 4"
Weight (empty)	15,000 lbs
Weight (full)	38,000 lbs
Engine	4 cyl Diesel 45 hp.

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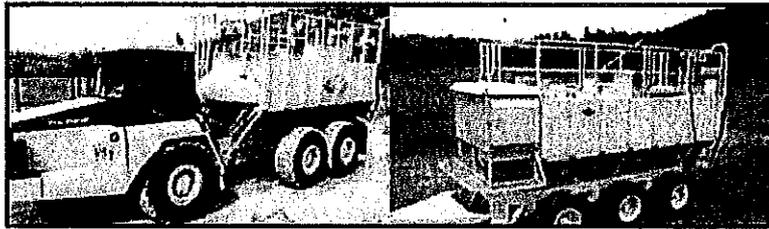
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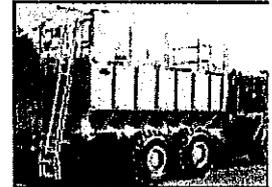
[View all Testimonials](#)

Posi-Shell Equipment: PSA 3500



Applicator Features:

- 3,800 gallon mixing tank
- Per load coverage to 38,000 sq. ft.
- Self-Contained mobile unit
- Tow-Behind or Truck-Mounted Models
- Leachate Recirculation Capability
- Self-contained clean out system



Applicator Data:

Coverage Guidelines: (Per Load)	
Long Term Coverage	15,000 - 22,800 sq. ft. (per load)
Medium Term Coverage	22,800 - 30,400 sq. ft. (per load)
Short Term Coverage	30,400 - 38,000 sq. ft. (per load)
Application Time: (Per Load)	
1-man crew	80-90 minutes
2 man crew	50-70 minutes

Specifications:

Capacity	3,800 gal.
Width	8' 9"
Height	11' 0"
Length (including draw bar)	32' 10"
Weight (empty)	47,628 lbs
Weight (full)	91,788 lbs
Engine	6 cyl Diesel

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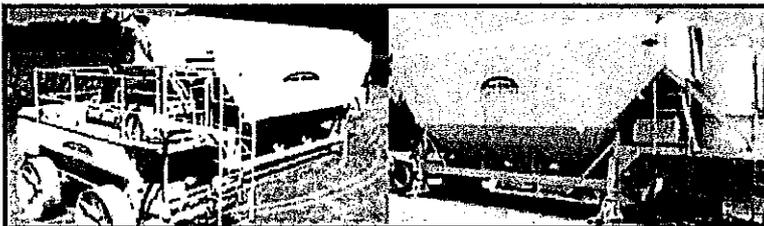
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Posi-Shell Equipment: HS 50T Silo



Features:

- Stores mineral binder (50 Tons)
- Easy towing via 5th wheel
- Filter baghouse for dust free loading
- Dispenses 1 ton per minute

Specifications:

Capacity	50 Tons
Width	8' 6"
Height	13' 4"
Length (including draw bar)	36' overall
Weight (empty)	18,000 lbs
Weight (full)	118,000 lbs

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[View all Testimonials](#)



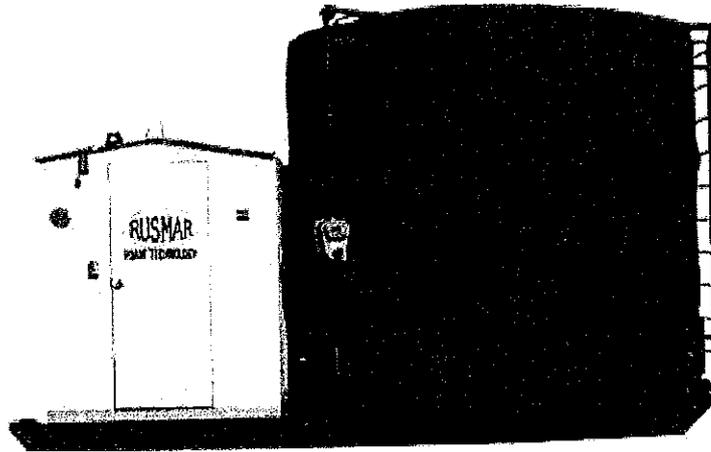
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PRODUCT DATA SHEET

BULK FOAM STORAGE UNIT BSD7000



A bulk storage and dilution system designed for tank load quantities of Long Duration and Soil Equivalent Foam. The system allows for foam concentrate to be automatically diluted, metered and transferred into the on-board solution storage tank of a Pneumatic Foam Unit.

The BSD7000 is recommended for sanitary landfills and large remediation projects. Storage system includes microprocessor controlled transfer pumps and metering devices. Heat pads and freeze protection system maintain optimal temperatures of all Rusmar foam products and allow for outdoor storage year-round.

FEATURES

- Simple to operate
- Quick and easy product transfer
- Totalizes dispensed volume
- Automatic system does not require monitoring
- Eliminates drum handling
- Indicator light signals time to re-order
- Eliminates worker contact with product

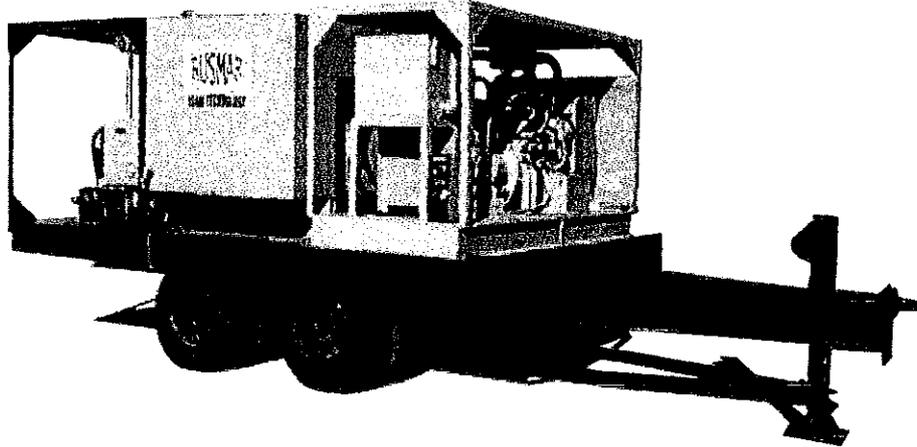
SPECIFICATIONS

Capacity..... 7,000 Gallons
Transfer Rate.....0-120 Gal./Min.
Products.....All Long Duration and Soil Equivalent Foam Products
Uses.....Sanitary Landfills / Large Remediation Sites
Electrical System..... 240V, 100 amp, single phase
Water.....60 Gal./Min.



LANDFILL PRODUCT DATA SHEET

PNEUMATIC FOAM UNIT 1600/40



A completely self-contained foam generating system recommended for applying daily cover on medium to large landfills with working faces up to 10,000 ft². Exceptionally durable and reliable all-weather design uses easy to replace modular components to maximize your uptime. Can be towed around site with any large equipment such as a compactor or dozer. Foam is applied using a hand-line or with an optional bi-directional manifold.

System includes air compressor, pump, hoses, nozzles, solution storage tank and proprietary foam generating technology. Unit has freeze protection for outdoor storage year-round.

FEATURES

- Simple to operate
- Durable, rugged construction
- No clean-up necessary
- Can be filled and placed aside until needed

SPECIFICATIONS

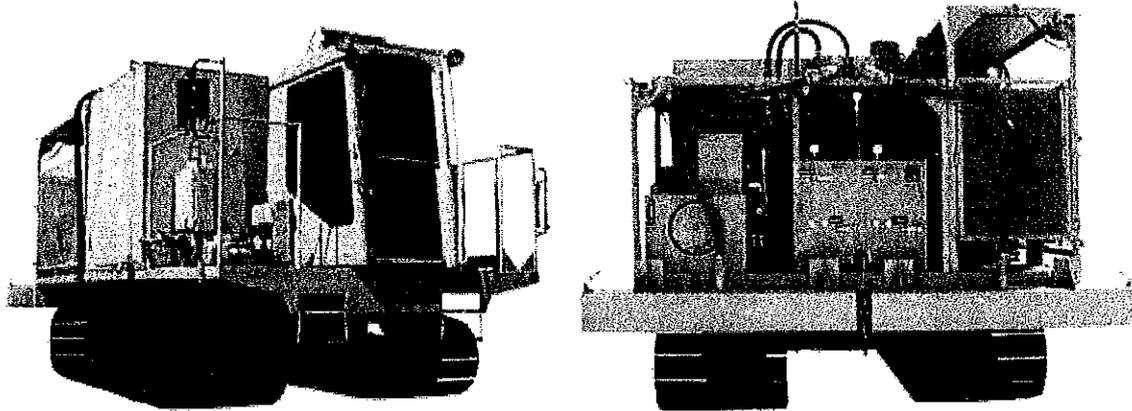
Solution Storage Tank.....	1600 Gallons
Coverage Rate.....	.430 Sq. Ft./Min. @3" depth
Coverage Area.....	9,000 - 18,000 Sq. Ft. of working face per fill
Size.....	24' L x 8' W x 8'6" H
Weight.....	17,000 Pounds
Hose.....	200 Feet of 1-1/2" Diameter
Products.....	AC-667SE Soil Equivalent Foam or AC-900 Series
Freeze Protection System.....	120V or 230V, 30 amp, single phase

Page 1 of 1



LANDFILL PRODUCT DATA SHEET

PNEUMATIC FOAM UNIT 2500/40



A self-propelled foam generating system engineered and configured to apply daily cover on larger landfills with working faces greater than 10,000ft². Exceptionally durable and reliable all-weather design uses easy to replace modular components to maximize your uptime. Climate controlled cab provides superb operator safety and turns the task of daily cover into a quick, one-person operation. Foam is applied using our patented bi-directional manifold.

The unit includes diesel driven hydraulics, air compressor, Caterpillar® tracks and drive assemblies, pump, hoses, solution storage tank, freeze protection and proprietary foam generating technology.

FEATURES

- Caterpillar diesel power
- Requires one person to operate
- Reliable Caterpillar undercarriage
- Equipped with freeze protection system
- Foam applied via manifold
- No clean up required
- Durable, rugged construction
- Hydrostatic drive

SPECIFICATIONS

Solution Storage Tank.....	2,500 Gallons
Coverage Rate.....	400 – 800 Sq. Ft./Min.
Coverage Area per fill.....	14,000 – 28,000 Sq. Ft.
Size.....	19'7" L x 10'2" W x 11'7" H
Dry Weight.....	40,000 Pounds
Products.....	Soil Equivalent Foam or AC-900 Series



PRODUCT DATA SHEET

SOIL EQUIVALENT FOAM AC-667SE

GENERAL DESCRIPTION

AC-667SE Soil Equivalent Foam is a patented product which produces a thick, long-lasting, viscous foam barrier for immediate control of foul odors, blowing litter, disease vectors and scavengers when applied to landfills as a daily cover material. AC-667-SE is also an excellent choice for emission control at remediation sites where dust, odors and volatile organic compounds (VOCs) are a concern. AC-667SE maintains its integrity for up to 72 hours and is designed for use with Rusmar Pneumatic Foam Units.

FEATURES

- Biodegradable
- Will not add to treatment costs
- No ambient temperature limitations
- Easy to use
- More effective than tarps
- Can withstand moderate rainfall
- Non-hazardous
- Safe for workers and the environment
- Requires only water dilution
- No clean up necessary
- Non-combustible
- Maintains integrity for up to 72 hrs

APPLICATIONS

The primary application for AC-667SE is to replace soil for the daily cover of landfills. However it also effectively controls odors, VOCs and dust during active excavation and provides multi-day coverage of contaminated soils at hazardous waste sites. AC-667SE will adhere to vertical surfaces such as balefill landfills and can also be applied on top of liquid surfaces.

SPECIAL ODOR CONTROL PROBLEMS

The remediation of hazardous waste sites often includes excavation of soil contaminated with odorous compounds. AC-667SE forms a barrier between contaminants and the atmosphere and can be applied during active excavation to provide a continuous and effective barrier to minimize odors. It is completely biodegradable and poses no threat to workers, neighboring residents or ground water. AC-667SE will not add to soil treatment costs.



PRODUCT DATA SHEET

LONG DURATION FOAM AC-667SE

AC-667SE can also be applied on top of trucks for emission control during transport of materials such as contaminated soils or sewage sludge.

- Minimizes worker exposure
- Maintains fence-line odor and VOC emission limits
- Works on lagoon and pond closures
- Can be applied to liquid surfaces

FUGITIVE DUST

At hazardous waste sites, fugitive dust can present a health hazard. AC-667SE can be applied on top of the dusty material to prevent any wind-borne emissions. There is no need to mobilize equipment to immediately cover with soil or tarps. The Pneumatic Foam Unit can be filled and placed at the site to be used at a moment's notice.

EMERGENCY SPILL CLEAN UP

In emergency spills, odor and VOC control is often difficult because of the terrain and accident conditions. AC-667SE foam can be applied to any shaped object, as well as vertical slopes, water, mud, snow and ice. It is non-flammable and non-reactive - difficult spill problems can be accommodated.

METHOD OF APPLICATION

AC-667SE is supplied in either 450-pound (55 gal.) drums or by bulk load (approximately 46,000 pounds). Bulk shipments can be stored outside in a Rusmar Bulk Storage-Dilution System. The Bulk Storage and Dilution system is comprised of a 7000 gallon heated and mixed chemical storage tank and a microprocessor controlled dispensing system to accurately dilute and transfer the chemical.

AC-667SE is designed to be applied with a Rusmar Pneumatic Foam Unit. The Pneumatic Foam Units are available in a variety of sizes to accommodate a range of site conditions and application needs.



MATERIAL SAFETY DATA SHEET

SOIL EQUIVALENT FOAM AC-667SE

SECTION I: GENERAL INFORMATION

- Manufacturer's Name: RUSMAR INCORPORATED
- Manufacturer's Address: 216 Garfield Avenue • West Chester, PA 19380
- Manufacturer's Phone No.: 610-436-4314
- Chemical Family: Starch modified hydrolyzed protein surfactant
- Trade Name: RUSMAR AC-667SE

SECTION II: HAZARDOUS INGREDIENTS

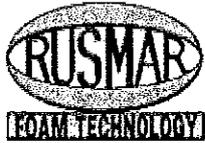
- Paints, Preservatives, and Solvents - None
- Alloys and Metallic Coatings - None
- Hazardous Mixtures and Other Materials - None

SECTION III: PHYSICAL DATA

- Boiling Point: 100° C
- Vapor Pressure: 25mm Hg at 25° C
- Vapor Density (Air = 1): N/A
- Water Solubility: Complete
- Appearance/Odor: Opaque, dark viscous gel, cinnamon scented
- Specific Gravity: 0.99 to 1.01
- % Volatile, By Volume: None
- Evaporation Rate: N/A

SECTION IV: FIRE AND EXPLOSION HAZARD DATA

- Flash Point (Method): Nonflammable – water based
- Derived Foam – nonflammable – ASTM E1354, see below
- Flammable Limits: N/A
- Extinguishing Media: N/A
- Special Fire Fighting Procedures: None
- Unusual Fire and/or Explosion Hazards: None



MATERIAL SAFETY DATA SHEET

SOIL EQUIVALENT FOAM AC-667SE

SECTION V: HEALTH HAZARD DATA

- Threshold Limit Value: Not Determined; material is non-hazardous. Refer to Section X.
- Effects of Overexposure: This material is not expected to present an inhalation or ingestion hazard. It may cause an eye or skin irritation upon direct contact in concentrate form.
- Emergency and First Aid Procedures: Wash thoroughly with clean water.

SECTION VI: REACTIVITY DATA

- Material is stable: No material incompatibility
- Hazardous Decomposition Products: Low levels of sulfur oxides and ammonia on exposure to high temperatures
- Derived foam is noncombustible, see below
- Polymerization will not occur

SECTION VII: SPILL OR LEAK PROCEDURES

- Steps to be taken in case material is released or spilled: If spilled indoors on a hard surface, the spill area may be slippery and should be thoroughly washed with water. Contain spill and absorb material with dirt or other appropriate absorbent.
- Waste Disposal Method: This material is completely biodegradable and can be disposed of in a sanitary landfill according to local regulations.

SECTION VIII: SPECIAL PROTECTION INFORMATION

- Respiratory Protection: None required for normal operations
- Ventilation: No special requirements
- Protective Gloves: Not required, but recommended
- Eye Protection: Not required, but recommended
- Other Protective Equipment: None



MATERIAL SAFETY DATA SHEET

SOIL EQUIVALENT FOAM AC-667SE

SECTION IX: SPECIAL PRECAUTIONS

- Storing/Handling Precautions: Avoid excessive heat. Material will freeze, but thawing will not cause changes in the product.
- Other Precautions: None

SECTION X: ENVIRONMENTAL TEST RESULTS

A. TCLP – NOVEMBER 1995;

- Results, all negative:
 - Non-Volatile extraction
 - Metals
 - Pesticides
 - Herbicides
 - Acid, Base, Neutrals
 - Zero headspace extraction
 - Volatiles

B. BIOAQUATIC ASSAY – DECEMBER 1995;

- Static acute bioassay procedure for hazardous waste
- California Department of Fish and Game
- Water pollution control laboratory
- Results, $LD_{50} > 750\text{PPM}$ = Non-hazardous material

C. FLAMMABILITY – ASTM E1354, CONE CALORIMETER – DEC. 1995

- Results:
 - No ignition
 - Heat of combustion = 0.0
 - Non-flammable

D. BIODEGRADATION EVALUATION – JANUARY 1996; OECD METHOD 301

- Results: Material is completely biodegradable.