



630 Oakmont Lane ♦ Westmont, IL 60559 ♦ 1-800-323-6863 ♦ ha-international.com



**Bioset Binder Systems  
F6073/6636 or F6073/6636T**

**Product Features**

This new urethane no-bake binder system has been designed for odor and smoke reduction. The improved product maintains the performance characteristics of the original Techniset® line of urethane no-bake products that have proven to be popular for foundries everywhere. Bioset binder systems contains very low free formaldehyde content (<0.1%) and is coupled with a specially designed solvent package for lower odor and smoke and odor during pouring, cooling and shakeout.

Bioset F6073 Phenolic Urethane Part 1 Resin utilizes a new solvent system that is based on methyl ester vegetable oils. It has been formulated to contain no reportable formaldehyde. Bioset F6073 Part 1 Resin can be used with a number of Part 2 Isocyanate components, but is most effective with Bioset 6636 and 6636T Part 2's to improve the foundry environment.

Bioset 6636 and 6636T are polymeric MDI-type isocyanate resins that are used in conjunction with a phenolic resin, such as Bioset F6073 to significantly improve the foundry environment. Features available when using Bioset F6073 with 6636 or 6636T Part 2 component includes the following:

This product meets HAI's EcoMission Standards, **meeting or exceeding three of the following five** criteria:

**Water based or renewable component  
Utilizes recycled components**



**Low VOC  
Low HAP  
Low Odor**

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- Less odor than conventional Phenolic Urethane No Bake systems at mixing, molding/core-making and storage
- Solvents are renewable plant based methyl esters
- Low HAP's
- Reduced smoke
- Unique Internal Release Characteristic
- High Tensile Strength
- Low Free Formaldehyde
- Superior Hot Strength for Ferrous Applications

**Product Description**

Bioset F6073 Part 1 resin is a phenolic resin which is used in conjunction with an MDI-type isocyanate resin such as 6636 or 6636T, the Part 2 component. Typically, both the Part 1 and Part 2 resin components are mixed with a suitable new sand, normally a silica or lake sand, or a reclaimed sand, in ratios ranging from 50/50 to 60/40, and at a total resin content in the range of 0.8 to 1.5% based on the weight of the sand. The sand mix also includes a liquid tertiary amine catalyst, which is pumped into the Part 1 resin stream just prior to discharge into the sand. This catalyst is typically used at a level of from 2 - 10 % (based on the Part 1) to achieve the desired cure speed. Bioset systems work well with a large range of Activators to form a urethane bond. The selection of the appropriate Activator will allow a wide range of strip times to be achieved.

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Typical Properties - Bioset F6073	
Viscosity, cps	~350
Free Formaldehyde, %	< 0.1
Flash Point, °F, TCC	116
Density, pounds per gallon	9.22
Refractive Index	1.537

Typical Properties - Bioset 6636 or 6636T		
	Bioset 6636	Bioset 6636T
Flash Point, °F, TCC	>212	105
Density, pounds per gallon	9.69	9.55
Viscosity, cps	50	40
Refractive Index	1.580	1.566

### Performance Characteristics

Bioset Part 1 Part 2 resins are environmentally friendly, high-performance, binder systems. Patented chemistry provides the highest hot strength available for these type of binder systems.

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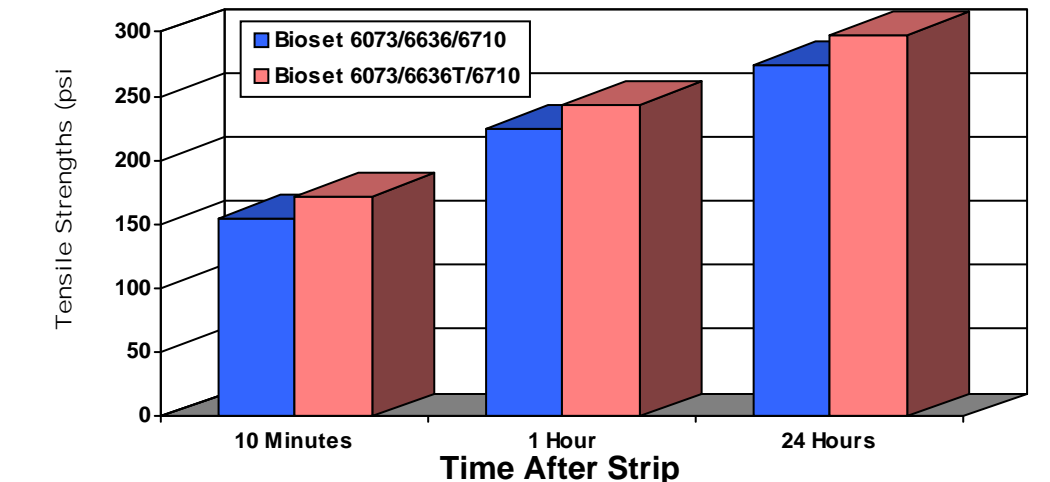


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### Tensile Strength Development

Both strip time achieved and tensile strength development of the Bioset systems are dependent upon the catalyst chosen, as well as a number of other parameters such as sand quality, sand temperature, and catalyst level used. The graph below displays tensile strength development achieved with a typical catalyst and Bioset 6636 and 6636T part 2 resins.

#### TENSILE STRENGTH DEVELOPMENT



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Sand tests conducted under the following conditions:

<b>Base Sand</b>	<b>Wedron 530</b>
<b>% Binder</b>	<b>1.00% Based on Sand Weight</b>
<b>Part 1/Part 2 Ratio</b>	<b>55/45</b>
<b>% Catalyst</b>	<b>4.45% Based on Part 1 Resin</b>
<b>Strip Time</b>	<b>Bioiset F6073/6636/6710; 4'40"</b>
	<b>Bioiset F6073/6636T/6710; 4'40"</b>

**Storage Guidelines**

Recommended storage temperature is between 60 - 90 ° F. At lower temperatures, viscosity will increase, making pumping and mixing more difficult. At high temperatures, solvent loss can occur. Drum storage should be in a dry area, out of direct sunlight. Partially used drums should be tightly closed, to prevent contamination, primarily from water, which can adversely affect performance.

**Safe Handling**

Chemically resistant gloves and eye protection should be used when handling or using chemical binders. Material Safety Data Sheets are available for all products. Drum labels also contain handling information. This material will react with the Part 2 component, without catalyst, in an exothermic reaction, to give a solid polymer. Do not mix Part 1 and Part 2 except on sand during use.

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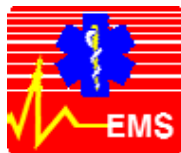
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**Technical Service**

HA International is “The Best Total Solution” for your foundry by providing innovative products, in-depth technical assistance, and a diverse product line specially formulated for any foundry application. Both our in-house and field experts are available to assist you with your most challenging foundry applications. Please contact your HA International, LLC representative so that we may assist you in putting together a binder system and foundry team that will help you achieve your goals. Contact your sales representative for additional technical information.



**For Emergency Medical Assistance Please Call:  
Health & Safety Information Services: 1-866-303-6949**

For additional health and safety or regulatory information, call 630-575-5722 or 630-575-5705.

Date: 3/17/2010 Author: DMT

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