



Technical Data Sheet

Techniset 6000 UNB Part 1 Resin

Part 1 Phenolic Urethane No Bake Resin for Maximum Performance

PERFORMANCE FEATURES

Techniset 6000 Pt1 Phenolic Urethane Part 1 Resin has been designed to offer general foundry use, as well as high hot strength. As with all Techniset Part 1 binders, Techniset 6000 Pt1 has been formulated to contain no reportable formaldehyde. Techniset 6000 Pt1 can be used with several different Part 2 Isocyanate components, the choice of which is dependent on the particular performance features desired. Techniset 6000 Pt1 is suitable for ferrous and non-ferrous applications. Features available when using Techniset 6000 Pt1 with the appropriate Part 2 component include the following:

- High Tensile Strength
- Superior Hot Strength for Ferrous Applications
- Unique Internal Release Characteristic
- Low VOC's
- Low Free Formaldehyde

PRODUCT DESCRIPTION

Techniset 6000 Pt1 is a phenolic resin that is used in conjunction with an MDI-type isocyanate resin, the part 2 component. Typically, both the Part 1 and Part 2 resin components are mixed with a suitable new sand, normally a silica sand 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 2.0 % based on the weight of the sand. The sand mix also includes an amine catalyst, which is pumped into the Part 1 resin stream just prior to discharge into the sand, or premixed with the Part 1 resin. This catalyst is typically used at a level of from 2 - 10 % (based on the Part 1) to achieve the desired cure speed. Techniset 6000 Pt1 works well with a large range of liquid amine catalysts to form a urethane bond. The selection of an appropriate catalyst will allow a wide range of strip times to be achieved.

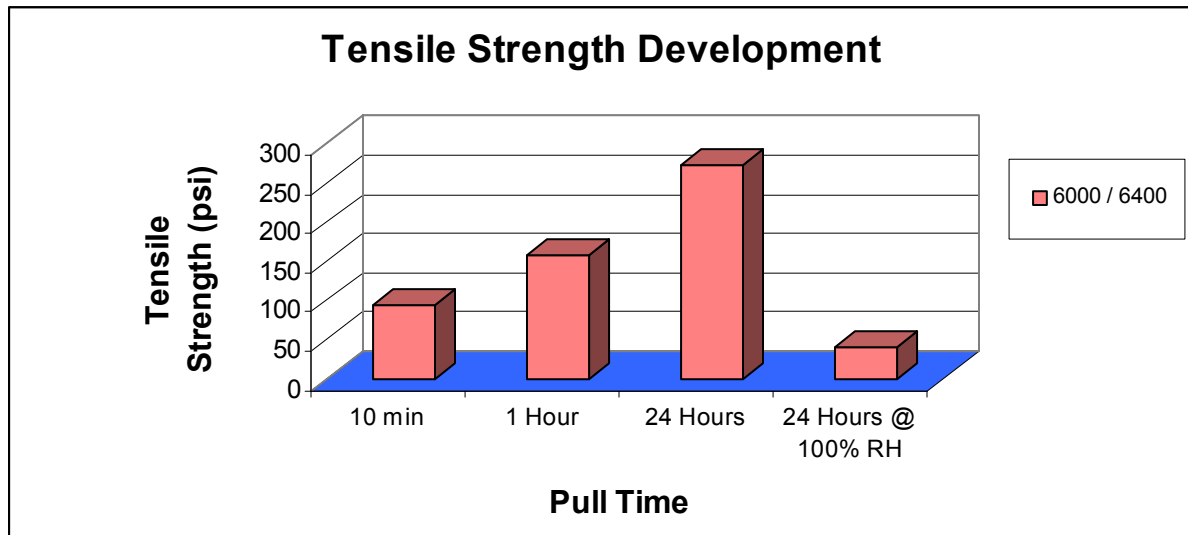
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PHYSICAL PROPERTIES

TYPICAL PHYSICAL PROPERTIES	
Refractive Index	1.5450
Viscosity (cps)	110
Flash Point (°F TCC)	145
Density (pounds per gallon)	9.18

TENSILE STRENGTH DEVELOPMENT

Both strip time achieved and tensile strength development of the Techniset 6000 Pt1 Part 1 Resin is 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 given below indicates some typical tensile strengths achieved when used with Techniset 6400 UNB Part 2 and a typical catalyst.



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STORAGE GUIDELINES

Recommended storage temperature is between 60 and 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.

TECHNICAL SERVICE

Proper selection of a binder system that meets your specific needs is key to achieving maximum performance benefits. HA International, LLC provides in-depth technical assistance and a wide range of urethane cold box binder systems. Both our in-house and field experts are available to assist you in 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.

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