



TECHNICAL DATA SHEET

TSE-EcoWIND® 100/200

Polyurethane Resin

Description

TSE-EcoWIND® resins are “**Environmentally-Preferred Products**” or **EPP’s**. They are a pair of polyurethane resins *free of Styrene, and are “ultra-low” emitting during application.* **TSE-EcoWIND®** resins are formulated for filament winding applications serving the composite pressure vessel, tank, and piping markets. These PU resins have tested positively in both hot and cold pressure vessel applications and can be applied to reinforce thermoplastic substrates (i.e. polyethylene, ABS, etc.) or applied directly to a release coated mandrel surface.

Features

- ☞ “Environmentally-Preferred Product”

- ☞ High degree of toughness

- ☞ Low to no resin shrinkage

- ☞ Manufactured in ISO 9001 certified plants

Benefits

- “Ultra-low” emissions and free of Styrene, Eliminates Tile V Permitting related to processing with styrenated resins

- Improved lifecycle and impact quality

- Improved product quality and consistency

- Increased batch-to-batch consistency and quality

THE INFORMATION HEREIN IS BELIEVED TO BE CORRECT AND RELIABLE. HOWEVER, NO WARRANTY IS EXPRESSED OR IMPLIED REGARDING THE ACCURACY OF THESE DATA, AND NONE IS MADE AS TO THE MARKETABILITY OF THE MATERIAL OR ITS FITNESS FOR ANY PURPOSE. THE CONSUMER ACCEPTS THE RESPONSIBILITY OF AND THE CONDITIONS FOR LIABILITY OF USE OF THE PRODUCT.



TSE INDUSTRIES, INC., CLEARWATER, FL 33760, (727) 573-7676, www.tse-industries.com

Typical Liquid Properties (75°F)

TSE-EcoWIND® 100

Viscosity, cps	800-1,000
Specific Gravity	1.026
Color	light Straw
Shelf Life	6 months

TSE-EzNATE® 100

Viscosity, cps	400-600
Specific Gravity	1.24
Color	Brown
Shelf Life	6 months

Note: The gel time when reacted at 1:1 by volume is typically varied from 3 to 15 minutes, based on the application.

TSE-EcoWIND® 200

Viscosity, cps	800-1,500
Specific Gravity	1.05
Color	translucent
Shelf Life	6 months

TSE-EzNate® 200

Viscosity, cps	1,200-1,500
Specific Gravity	1.19
Color	light Brown
Shelf Life	6 months

Note: The gel time when reacted at 1:1 by volume is typically varied from 3 to 20 minutes, based on the application.

Typical Mechanical Properties

	Clear Casting (EW 100)	Clear Casting (EW 200)
Shore D Hardness	84/85	82/83
Tensile Strength, PSI	≥10,000	≥7,000
Elongation, %	2-3	2-3

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Processing and Application

Slight settling may occur upon standing. Agitation to ensure homogeneity is critical to maintain desired end performance. Processing from a suitable metered mix machine to achieve 1:1 by volume ratio with resin is recommended to maintain desired end performance. Glass fibers are coated with resin using TSE's patent pending "high-speed" impregnator to achieve the desired physical properties of the end product. A post cure at 135°F - 145°F for 25 minutes is necessary to ensure proper cure and strength of the laminate.

Storage

Store both **TSE-EcoWIND® 100/200** and **TSE-EzNATE® 100/200** in tightly closed containers and protected from contamination from moisture and foreign substances, which can adversely affect processing. Any opened packages should be blanketed using dry gas and resealed tightly so as to keep moisture from entering the sealed container. **TSE-EzNATE® 100/200** will react with water to form ureas and CO₂ gas, which may cause sealed containers to expand and rupture. For maximum storage life, sealed containers should be stored between 75°F and 95°F.

Standard Package

Components are supplied in 5-gallon pails (40-50 Lbs. net), 55-gallon drums (400-500 Lbs. net), 275-gallon totes (2,200-2,800 Lbs. Net), and Bulk tank truck (33,200-39,700 Lbs. Net).

Safety and Handling

Refer to the Material Safety Data Sheet (MSDS) before handling either **TSE-EcoWIND® 100/200** or **TSE-EzNATE® 100/200**. It is the responsibility of the operator to completely read and understand the MSDS for each component before handling them. If for any reason you are not clear on the proper safety and handling procedures please contact your TSE representative for additional information.

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