



Provisional Technical Data Sheet

VORASTAR HA 7000 Polyol **VORASTAR HB 7000** Isocyanate

Description

VORASTAR™ 7000 is a developmental high performance two component polymer coating material. The elastic spray coating system is especially designed for use in the surface protection of concrete and steel exposed to advanced chemical attack (e.g. chemical process industry). Resistance, especially to polar and acidic aqueous media, is outstanding compared to conventional Dow systems.

Preliminary Component Properties

	Units	VORASTAR™ HA 7000 Polyol	VORASTAR™ HB 7000 Isocyanate	Test Method
Appearance		Yellow to Amber	Yellow	Visual
Density (23°C)	g/cm ³	1.03	1.16	ASTM D1475
Viscosity (23°C)	cP	600 – 900	300 – 550	ASTM D4287
Flash Point	°C	>100	>150	Closed Cup

These are typical values and should not be construed as specifications.

Recommended Process Conditions

The Polyol component must be mixed until homogenous before use. The material should be processed through a two component, high pressure dosing machine using impingement mixing technology, a feed rate of 0.5 to 2 gallons/minute and a round nozzle.

	Unit	Value
VORASTAR™ HA 7000 Polyol	Vol.	1.00
VORASTAR™ HB 7000 Isocyanate	Vol.	1.00
Typical component temperature (both components, tanks and hose the same).	°C	75-85
Typical component pressures	psi	1800-2500

Typical Reaction Characteristics⁽¹⁾

	Unit	Value
Gel time	s	3-7
Tack-free time	s	5-10
Final hardness	days	7

1. Values refer to tests conducted using a high pressure machine processed according to "Recommended Process Conditions" as stated above; These are typical values and should not be construed as specifications.

Handling and Storage

	Units	VORASTAR™ HA 7000 Polyol	VORASTAR™ HB 7000 Isocyanate
Storage temperature	°C	15-25	15-25
Storage stability / Shelf life ⁽²⁾	months	6	6
2. Both polyol and isocyanate components must be protected against humidity and stored in sealed containers at the recommended temperature.			

Preliminary Polymer Properties

	Unit	Value	Test Method
Hardness	Shore A	>90	ASTM D2240
Tensile strength	psi	>1500	ASTM D412
Elongation at break	%	>100	ASTM D412
Tear resistance	pli	>200	ASTM D624C
Taber abrasion	mg loss	<90	ASTM D3389 H18 wheel, 1000g load, 1000 rev.
Density	g/cm ³	>1	DIN 53479

These are typical values and should not be construed as specifications

Expected Chemical Resistance Evaluation

	Chemical Resistance	Test Method
Complete immersion at room temperature for 168 h	Rating	ASTM D543
HCl 28%	R	
H2SO4 30%	R	
H2SO4 96%	NR	
HNO3 40%	R	
Demineralized water	R	
NaCl solution/Salt brine (27-30%)	R	
Diesel fuel	R	

Rating:

R: Recommended (no damage)

C: Caution (some discoloration, deformation, swelling or cracking)

NR: Not recommended

Precautions

The use of this two-component system requires special precautions. Please refer to the material safety data (MSD) sheet before using. Avoid inhalation of the vapour and contact with skin and eyes. Working areas should be well ventilated with fresh air.

Use protective gloves and goggles. In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. In case of contact with skin, wash immediately with plenty of water and soap. During spray application, wear suitable respiratory equipment.

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Safety Considerations

Material Safety Data (MSD) sheets are available from The Dow Chemical Company. MSD sheets are provided to help customers satisfy their own handling, safety and disposal needs and those that may be required by locally applicable health and safety regulations. MSD sheets are updated regularly, therefore, please request and review the most current MSD sheet before handling or using any product. These are available from the nearest Dow sales office.

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