

Part #60280 TuffGrip® 11-35P Isocyanate
Part #60285 TuffGrip® 11-35P Resin
DESCRIPTION:

TuffGrip® 11-35P system is a two-component, fast set, rapid curing, polyurea elastomer spray applied lining for commercial applications. TuffGrip 11-35P produces a tough, abrasion and chemical resistant film that can be applied to flat, vertical, and overhead surfaces in a single or multiple pass application from 10 mils to 50 mils without sag or runs. This bondable, paintable, versatile product remains flexible in cold temperatures and contains UV stabilizers for enhanced UV stability. For proper application, it is essential to use approved high pressure plural component spray equipment.

FEATURES AND BENEFITS:

- Fast cure - Can be walked on within minutes of being sprayed.
- Waterproof - Prevents penetration of water.
- Flexible - For long term impact and crack resistance.
- Durable - High tensile strength, chemical, and abrasion resistance.
- Labor savings - Required mils can be applied in one coat.
- Excellent adhesion to most surfaces.
- Thermal stability from -30° F (-34° C) to 230° F (110° C).
- Environmentally friendly - Low VOCs.

TYPICAL USES:

- Parking garage decks
- Walkways and balconies
- Below grade waterproofing
- Above grade damp proofing

CHEMICAL PROPERTIES:	TEST	Isocyanate (A)	Resin (B)
Specific Gravity (grams/cc)	ASTM D-792	1.14	1.01
Viscosity, CPS		300-450	200-350
Solids by Volume/Weight		100%	100%
Mix Ratio, Parts Per Volume		1	1
Volatile Organic Compounds		Low	Low
Odor		Sweet	Slight Amine
Base Color		Clear/Yellow	Clear/Amber
Shelf Life-Unopened Containers		12 months	12 months

* Properties were tested at 77° F (25° C)

TYPICAL PHYSICAL PROPERTIES:	TEST	RESULT
Hardness (Shore D)	ASTM D-2240	35 +/-5
Tensile Strength (psi)	ASTM D-638	1600-1900
Elongation (%)	ASTM D-638	300-350
Tear Resistance (pli) Die C	ASTM D-624	400-500
Taber Abrasion Resistance (mg of loss/1000 cycles H-18 wheels)	ASTM D-4060	170
MVT, Perms	ASTM E-96	0.022
Weathering/UV Resistance (2,000 hours)	ASTM G-53	No integrity loss
Gel Time, Seconds	---	8
Tack-Free, Seconds	---	40
Recoat, Max	---	1-2 hours
Foot Traffic	---	1-2 hours

PROCESSING PARAMETERS:

The system settings required to achieve quality spray application will vary depending on environmental and substrate conditions. The following recommended parameters will help ensure optimum quality.

Equipment	Spray Gun	Process Pressure, psi*
1-1 Ratio Proportioner	Various - See MFG specs	2,000 - 3,000 (static)

* Process Pressure tested at 90° F (32.2° C)

PROCESSING TEMPERATURES:

Component Temperature (A&B)	Hose Temperature	Substrate Surface
150° - 160° F (66 - 71° C)	150° - 160° F (66 - 71° C)	>40° F (4 C) and 5 F above dew point

PREPARATION:

Oily or painted surfaces may require solvent cleaning and abrading or scarifying of the surface to provide mechanical adhesion of the coating. Non-painted surfaces should be clean and rough enough to provide good mechanical adhesion. Metal or concrete may need to be sandblasted to achieve a surface profile similar to 80-grit sandpaper for proper adhesion of primer (if applicable) and coating.

COVERAGE RATES:

Theoretical Square Feet Per Gallon:

Mils	12	18	24	36	48
Application Rate	.75	1.12	1.5	2.24	2.99
Square Feet	134	89	67	45	33

Note: Theoretical coverage is based on 0% loss and is dependent on surface texture and porosity of substrate.

APPLICATION:

The successful installation of TuffGrip 11-35P will depend on the equipment capabilities and settings, the temperature of the coating in the container, ambient temperature and relative humidity, substrate temperature and moisture content, substrate type and condition. It is the responsibility of the applicator to take these factors into consideration prior to installation. If material appears thickened due to storage at cold temperatures, store material for a sufficient length of time in a warm area prior to application to bring material temperature to 70° F (21° C). Thinning not recommended.

TuffGrip 11-35P is applied in two or more coats to ensure proper coverage, cure rate, and to provide a continuous, durable film without pinholes. Individual coats of TuffGrip 11-35P should be applied in perpendicular direction to the previous coat. TuffGrip 11-35P can be reinforced with glass fiber mat or nylon mesh, particularly over seams and joints, to increase tensile strength and improve consistency of the application surface. The mat or mesh should be open enough that the coating can penetrate to the substrate or previous coat, as the speed of reactivity will prevent incorporation of the mat or mesh into the middle of the applied coating. Be advised that adding the mat/mesh will increase tensile strength, and will reduce elongation.

In high-traffic areas, it is recommended that TuffGrip 11-35P be reinforced and have sand or similar aggregate broadcast onto it for increased abrasion resistance.

LIMITATIONS:

Not recommended for applications where direct contact with extremely high or low pH will occur.

CHEMICAL RESISTANCE:

Good resistance to many routine chemicals such as: weak acids, weak alkalies, oils and cleaning agents. For specific applications and/or information, consult with a Rhino Linings® representative.

THICKNESS RANGE

Varies based on application. Thickness can vary from a minimum of 1/16" (62.5 mils; 1.5mm) to unlimited thickness.

SUBSTRATES

Metals, wood, concrete, fiberglass, and geotextiles.

COLOR OPTIONS

Standard Colors - Black, Industrial Gray, Industrial Tan, Graphite. No custom color options are available.

HOW SUPPLIED

Net weight per set is 1055.45 pounds (478.74 kg). A set of TuffGrip 11-35P consists of one (1) 55 gallon (208 L) drum of 'A' component and one (1) 55 gallon (208 L) drum of 'B' component.

STORAGE

TuffGrip 11-35P should be stored between 50 - 95° F (10 - 35° C). Protect from moisture contamination. Do not store in direct sunlight. Do not allow product to freeze.

SAFETY PRECAUTIONS:

Health Considerations: Consult the Rhino Linings® Safety Data Sheets (SDS)

This chemical system requires the use of proper safety equipment and procedures. Please follow the Rhino Linings® product SDS for detailed information and handling guidelines.

For Your Protection:

The information and recommendations in this publication are, to the best of our knowledge, reliable. Suggestions made concerning the products and their uses, applications, storage, and handling are only the opinion of Rhino Linings Corporation. Users should conduct their own tests to determine the suitability of these products for their own particular purposes and of the storage and handling methods herein suggested. The toxicity and risk characteristics of products made by Rhino Linings Corporation will necessarily differ from the toxicity and risk characteristics developed when such products are used with other materials during a manufacturing process. The resulting risk characteristics should be determined and made known to end users and processors.

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Contact Rhino Linings Technical Support at 858-450-0411 ext. 2 for additional questions.

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