TECHNICAL DATA SHEET

W-THANE DRV 561 R INCOLOR

PRODUCT DESCRIPTION: Two-component aliphatic polyester finish varnish. Providing high gloss finish, excellent flexibility, high hardness and resistance to weathering.

RECOMMENDED USES: Product developed for the protection of floors in food industries, hospitals, laboratories, pulp and paper mills, chemical and petrochemical industries, sugar mills, alcohol distilleries and other industrial floors. Indoor and Outdoor Use (See the Application Performance field of this white paper).

CERTIFICATIONS AND APPROVAL: This product, when supplied to comply with the RoHs Directive (Restriction of Certain Hazardous Substances) has the letter R in its description.

PACKAGING:

Component	Content	Package	Unit of measurement
Component A	2,16	3,6	L
Component B	1,44	1,5	L

CHARACTERISTICS:

Color: Colorless

Gloss: Gloss

Volume solid: 55 ± 2% (ISO 3233).

Shelf-Life: 12 months at 25°C.

Thickness per coat (dry): 30 µm –40 µm

Theoretical coverage: 15,7 m2/l without dilution in the thickness of 35 µm dry. Without considering loss factors in application.

Resistance to dry heat: Maximum temperature 90 °C . The product retains its physical and chemical properties up to the temperature of 90 °C however, variations in the coating color and gloss may occur from 60 ºC.

Drying:

	10ºC	25ºC	35ºC
Touch:	8 hours	5 hours	3 hours
Handling:	36 hours	24 hours	16 hours
Final:	240 hours	168 hours	24 hours

Overcoating Drying:

	10ºC	25ºC	35ºC
Min	48 hours	24 hours	16 hours
Max	72 hours	48 hours	24 hours

SURFACE PREPARATION

The surface must be clean, dry and free of any contaminants. Completely remove oils, greases and fats, as described in the SSPC-SP 1 standard.

Accumulated dirt must be removed using a dry brush and soluble salts must be removed by washing with high pressure fresh water.

Concrete Surface Treatment

Before starting painting, all masonry or concrete must be free of cracks, wells and perfectly adhered to the base or other layers of mortar and coating.
They must be removed from the mold release surfaces, cement cream, grease stains, oil, grease or any other contaminations that have penetrated or been deposited on the surface to be painted in addition to any dust that has accumulated.

Very smooth and glassy surfaces are not suitable for painting and should be treated according to

technical guidelines.

If it is old concrete, a technician's inspection is advisable.

For more information, consult the Concrete Surface Preparation and Application Manual.

For the application of W-THANE DRV 561 R, proceed as directed by our technical department, in order to obtain the best expected performance. Factors such as surface condition, roughness, degree of contaminants and other details are essential for the proper execution of surface preparation.

Respect the overcoating interval of the primer, before applying W-THANE DRV 561 R, which should be applied in 2 coats for better performance. If the repainting time is exceeded, sand as described in the technical bulletin of the used primer.

In situations where the nature of the primer is unknown, it is recommended to test the compatibility of W-THANE DRV 561 in a small area. It must be ensured that the original material is well adhered. All non-adherent paint must be removed. Points with corrosion or application over aged paints should be treated according to technical guidance.

If the maximum interval indicated for applying the subsequent coat is exceeded, it is necessary to proceed with superficial sanding. This procedure is necessary to obtain adhesion between the coats.

For further information, consult WEG Technical Department.

PREPARATION FOR APPLICATION

Mixture

Homogenize the contents of each component with mechanical or pneumatic stirring (A and B). Check there are no sediment settled at the bottom of the package. Add component B to component A, at the recommended proportion (volume), under stirring, until complete homogenization, observing the mixing ratio.

Mixing ratio (Volume)

1.5 A X 1 B.

Diluent
Pu diluent 5003

Pot life of the mixture (25°C)

4 h
The pot life is reduced with a higher room temperature.

Induction time (25°C)
Wait 15 minutes before application.

In hot areas, we recommend consulting WEG Technical Department.

APPLICATION FORMS

The data below is a guide, and similar equipment may be used.

Changes in nozzle sizes and pressures may be necessary to improve spraying characteristics.
Before application, check if the equipment and its components are clean and in best condition.
Purge the compressed air line to prevent contamination of the coating.

After mixing two-component products, if there are stops in the application, and pot life is exceeded (the coating shows variation in fluidity) it can no longer be diluted for further application.

Recoat all sharp edges, cracks and weld beads with a brush to prevent premature failures in these areas.

Airless Gun:

Use Airless:	Use at least pump 60: 1
Fluid pressure:	1500 - 2500 psi
Hose:	¼" internal diameter
Nozzle:	0,013“ - 0,017“

Brush:
Use a brush 75 to 100 mm wide for larger surfaces and 25 to 38 mm for touch up.

Roller:
Use a thin nap, seamless sheepskin or microfiber roller for epoxy coatings.
NOTE: For application by cutting it may be necessary to apply two or more passes to obtain a uniform layer according to the film thickness recommended by others.

Cleaning the equipment:
Pu diluent 5003

NOTE:
Do not leave material in the hoses, spray guns and equipment used in the spraying. Thoroughly wash all equipment used.

Clean all equipment immediately after use.

PERFORMANCE IN THE APPLICATION

For a good performance of the product, we recommend following the directions below:

For application with brush and/or roller, two or more passes may be necessary to obtain a uniform layer according to the recommended film thickness per coat.
In paintings carried out in front of the sea, if exposed to sea air, we recommend to wash with fresh water between coats eliminating settled impurities.

Light colors may require more than one coat for an even coverage.

Do not apply the product after the pot life has expired.

We recommend coating only if the surface temperature is at least 3 °C above the dew point temperature.

The temperature of the substrate, the weather and environmental conditions during the application and during the curing of the product, and the thickness of the coat may interfere in the product drying time.

For better application properties, the coating temperature should be between 21 - 27 °C prior to the mixing and application.

It should not be applied under adverse conditions, such as air relative humidity (RH) above 85%, as changes in color and appearance may occur.

Polyurethane systems (component A and B) present when exposed to air relative humidity, which can cause flaws in the dry film and reduction of pot life. Therefore, we recommend that the packages of each component be properly closed after use and kept in dry places protected from bad weather.

On newly painted surfaces in direct contact with water during the curing process, localized stains may occur with changes in their color (more visible in dark colors), delay in curing and compromised product performance.
In coatings with variation in application method in the same job, the final aspect and gloss of the painted surfaces may show differences.

For further information, consult WEG Technical Department.

COMPATIBILITY OF SYSTEMS AND MAINTENANCE REFINISHING

The direct application of this product on zinc-rich ethyl silicate-based primers, alkyd primers, coal tar-based coatings and other single-component primers is not recommended. When necessary to apply the topcoat over one of the primers mentioned above, we recommend the application of an appropriate intermediate coating.

The primer overcoating interval should be respected before applying the topcoat. If the maximum recommended overcoating interval is exceeded, manual/mechanical sanding is necessary to break the gloss. The primer surface must be dry and free of any contaminants.

Note: W-THANE DRV 561, when applied over epoxy and exposed to ultraviolet light, does not prevent the yellowing of the epoxy paint.

For further information, consult WEG Technical Department.

SAFETY PRECAUTIONS

Product developed for industrial use intended for handling by qualified professionals.

Please read carefully all the information contained in the MSDS of this product, available at: www.weg.net.

Store in a covered, well-ventilated area. Keep the container tightly closed and away from sources of heat or ignition.

Use only in well-ventilated areas avoiding the accumulation of flammable vapors. Keep the product away from heat and sources of ignition.

Do not inhale mists / vapors / aerosols generated during handling and / or application.

Wear protective gloves / protective clothing / eye protection / face protection.

Avoid release this product and its packaging, as well as materials used during handling and application in the environment.

NOTE:

The information contained in this technical datasheet is based upon the experience and knowledge acquired in the field by the technical team of WEG.

If using the product without previous inquiry to WEG Coating concerning its suitability for the customer's intended purpose, the customer is aware that the use shall be its exclusive responsibility, WEG not being responsible for behavior, safety, suitability or durability of the product.

Some information contained in this datasheet are estimated, and can undergo variances arising from factors outside the manufacturer's control. Thus, WEG does not guarantee and does not assume any responsibility regarding the yield, performance or any other material or personal damage resulting from the incorrect use of the products concerned or the information contained in this Technical datasheet.

The information contained in this technical datasheet is subject to periodic modification, without prior notice, due to the policy of evolution and continuous improvement of our products and services, providing solutions with quality to satisfy our customers' requirements.

APPLICATION MANUAL

1. **General Painting Recommendations:**

1.1. Environmental conditions, surface cleaning, interval between coats:Respecting all the features described in the technical bulletin.

1.2. No paint must be applied, if it is expected that the ambient temperature can fall to 0°C, before the paint has dried.

1.3. No paint application must be done in rain, mist or fog, or when the relative air humidity exceeds 85% (eighty-five percent), or when it is expected to be reached, under risk of jeopardizing the adherence between coats or total of the film applied.

1.4. Each coat of paint must have a uniform thickness, free of defects such as porosity, wrinkles, blistering, bubbles, craters and impregnation of other visible contaminants.

1.5. The concrete surfaces shall receive suitable treatment to attain conditions of providing the good performance of the painting system.

2. General Floor Recommendations:

2.1. So that the protection system can be applied, the surface shall be clean, solid, free of any types of contaminant, totally dry and have sufficient rugosity to allow the adherence of the protection system to be applied.

2.2. The floor must have neutral pH (7) or slightly alkaline (10).

2.3. No coating of any kind can be directly applied to the concrete floor or subfloor with curing accelerator additives, unless representative tests indicate the possibility of satisfactory adhesion of the coating system.

2.4. No type of coating or painting must be applied, without the concrete (or subfloor of sand and cement mortar) being totally dry and cured for at least 28 days in normal climatic conditio.

2.5. Coatings must not be applied to floors contaminated with oils or aggressive products. The floor shall be clean in efficacious manner. If the application is done on residue of these contaminants, the coating film may be detached and other types of failure and defect.

2.6. The execution project of the concrete shall foresee its prior impermeabilization, in order to avoid rising damp or the rise of the water table by the concrete capillarity, under the burden of appearance of blistering (bubbles) and peeling of the paint.

2.7. Check the presence of humidity in the concrete as per standard ASTM D 4263, summarized below:

2.7.1. Stick a plastic sheet 18 x 18 inches (457 mm x 457 mm) using adhesive tape of the type Silver Tape 3M, level with the concrete surface ensuring that all the edges are well sealed.

2.7.2. Deixar a folha plástica selada ao concreto por no mínimo 16 h no local.

2.7.3. After this time period (between 16 – 24 h), remove the plastic sheet and evaluate visually the under part of the sheet an surface of the concrete regarding the presence of humidity.

2.7.4. Execute the sampling of 01 (one) test area every 46 m² or proportion thereof.

2.7.5. Do not execute the painting if there is any type of residual humidity in the plastic sheets of the samplestra.

3. General Recommendations for painting on old paint:

3.1. An analysis shall be made regarding the compatibility of the old paint with the system to be applied. If there is any incompatibility, the painting shall not be done, or all the old paint shall be removed beforehand. If there is compatibility, the sanding shall be executed (to break the gloss and promote adherence) and cleaning of the floor.

3.2. If there is peeling of old paint (even with compatible systems), a scraping and/or removal of all the old paint shall be executed. For this scraping tools can be used as steel spatulas, milling machines and grinders G-16 – G-24.

3.3. The surface, after scraping, sanding or any other type of repair shall be clean of contaminants and residue.

3.4. Contact the Technical Department of WEG (WEG Paints) to evaluate the requirement of applying the sealer.

4. Execution of Painting (Basic methodology recommended):

4.1. Start degreasing:

4.1.1. Wet all the surface well with clean water, under high pressure and preferably hot.

4.1.2. Spread uniformly over all the area a biodegradable detergent solution as per instruction of the detergent manufacturer;

4.1.3. Rub vigorously with the aid of industrial floor waxers, polishers and/or piassabai palm brushes and brooms;

4.1.4. Leave it to act on the floor for approximately 10 minutes;

4.1.5. Rinse with clean water in abundance, under high pressure and preferably hot and leave it to dry.

4.1.6. Repeat this start degreasing process, as many times as necessary. As an option the floor can be rubbed in the localized points where the greatest contamination by oil and ordinary acids is perceived, followed by the degreasing process, described above.

Important Comment: Para el inicio de la aplicación del sistema de pintura descrito abajo, es necesario que el piso esté
completamente seco, sin humedad, para esto se puede utilizar la ayuda de sopletes, siempre asegurándose con la prueba del papel plástico (ASTM D 4263). Antes de iniciar el pintado el concreto deberá presentar humedad residual e hasta un máximo de 6%.

4.1.7. These technical recommendations aim to obtain the best performance of the painting system.

4.2. Surface preparation:

4.2.1. The surface preparation must be executed in compliance with Standard SSPC SP-13/NACE # 6, Technical Guideline # 03732 of ICRI – International Concrete Repair Institute and compared with the visual standards expressed as CSP 1 to 9:

- CSP 1 – Acid etching
- CSP 2 – Grinding
- CSP 3 – Light shotblast
- CSP 4 – Light scarification
- CSP 5 – Medium shotblast
- CSP 6 – Medium scarification
- CSP 7 – Heavy abrasive blast
- CSP 8 – Scabbled
- CSP 9 – Heavy scarification

4.2.2. The type of surface preparation will affect the thickness of the painting schema and consequently the consumption and yield of the material, also impacting the real function of the system applied (see the table below):

Visual Standard (Technical Guide of ICRI)		mils	mils	µm
CSP-1	Acid etching	13.5	+/- 2.5	342.9
CSP-2	Grinding	16	+/- 2.5	406,4
CSP-3	Light shotblast	19	+/- 2.5	482.6
CSP-4	Light scarification	25	+/- 2.5	635.0
CSP-5	Medium shotblast	33	+/- 2.5	838.2
CSP-6	Medium scarification	63	+/- 2.5	1600.2
CSP-7	Heavy abrasive blast	87.5	+/- 5	2222,5
CSP-8	Scabbled	105	+/- 5	2667.0

4.2.3. **Scarification (milling cutter):**

This method is an excellent option for repairs and recovery of damaged surfaces, being appropriate for both light and heavy work.

This equipment is recommended for cutting antiskid grooves, removal of surface layers of concrete contaminated as with grease, oil, rubber, synthetic paving, paint, drops, ranges of traffic demarcation among other application ion floor surfaces in general.

The milling cutter consists of an electric motor (three-phase or single-phase) or gasoline engine which rotates a reel of tools/disks parts of Widea (tungsten carbide) which execute the surface wear and chipping of the floor. The depth of the wear will depend upon the type and format of the disk used together with the milling cutter shaft.

4.2.4. **Manual polishers and rotary hammers:**

The polishers are intended for the service of preparation, regularization, reduction, cleaning and polishing of floors and coatings. These machines work with electric motors (three-phase or single-phase) and with 1 or 2 multiuse disks (3 grinders or diamond tipped inserts per disk).

Depending upon the hardness of the floor, inserts of carborundum or widea (tungsten carbide) can be used.

4.2.5. **Captive blast with centrifugal turbines:**

Another way of preparing the concrete, mainly in floors, is with the blast produced by centrifugal turbines, using steel shot in a closed circuit. The turbine throws the shot particles against the concrete and a strong vacuum withdraws the powder and shot, which undergo a purification process and return to the turbine to be thrown against the floor again. This method wears some millimeters of the concrete.

4.2.6. **Treatment with acido:**

This type of surface treatment with acid requires great care and attention. Acid is only recommended on floors at the level of the soil and walls, provided that there is no risk of infiltration, as acid attack in the ironwork can jeopardize the mechanical resistance and safety of the structure.

When opting to use this method, follow the steps below:

4.2.6.1. Wet the surface beforehand, apply the solution with 15% of hydrogen chloride (muriatic) acid in water (01 part of commercial muriatic acid to 01 part of water in volume).

Important note: To calculate the quantity of solution required, consider that 10 liters of muriatic acid solution covers approximately 15 to 18 m2 of area.

4.2.6.2. Spread the acid solution uniformly on the surfasse, using nylon piassabai palm brush, avoiding the formation of puddles and letting the solution act on the concrete until the surface has a rugosity similar to a sheet of sandpaper 80.

4.2.6.3. Wash with water in abundance to eliminate all the acid residue and attain pH near to neutral.

4.2.6.4. Apply the first coat of the sealer or coating when the concrete is dry.

5. General Recommendations for Painting New Floor:

5.1. One must proceed as per the instructions of the technical bulletin described in this document, as well as the aforesaid instructions.

5.2. If there any queries regarding the performance of the floor, do not apply any product and contact the technical area of WEG (WEG Paints).

5.3. For the preparation and application, it is advisable to contract specialized companies responsible for the application of the product.