

Technical Bulletin # 1612D

## Product Description

ESCOWELD 7505E/7530 is a highly flowable, epoxy grout system engineered for use with dynamically - operated industrial machinery and equipment where performance and operating reliability are crucial. ESCOWELD grout functions as a critical interface between the equipment and its foundation ensuring proper transference of static and dynamic loads generated by operating equipment to the foundation. This allows the foundation to efficiently absorb and dissipate the loads true to its purpose.

ESCOWELD Epoxy Grout provides proper support for the operating equipment. When coupled with a properly designed anchoring system, ESCOWELD grout maintains critical shaft alignment fundamental for optimum performance of rotating and reciprocating equipment.

ESCOWELD 7505E/7530 also offers improved resistance to many industrial chemicals that would typically destroy conventional cement grouts. A foundation too, is subject to chemical attack. If the foundation mass is reduced by chemical attack, so is its effectiveness as a support and damping mechanism. Using guidelines available from ITW Philadelphia Resins, ESCOWELD grout can also be used to protect concrete foundations from chemical attack that would otherwise deteriorate as a result.

## Use & Benefits

The key to the performance of ESCOWELD 7505E/7530 is the combination of ESCOWELD 7505E, a versatile liquid epoxy resin/hardener system, with ESCOWELD 7530, a engineered silica aggregate specifically designed for greater flowability, strength and self-leveling characteristics. Other unique features and benefits that have been offered for over 20 years with ESCOWELD 7505 include:

- Excellent bondability to itself without surface preparation to simplify multiple pour projects.
- Wide range of depth of pour, from 1-1/2" to 18". This simplifies and speeds up many jobs that would otherwise have required multiple pours and additional surface preparation.
- Cures in 24 hours which is especially valuable during tight turn-around schedules or emergency repairs.
- Exceptional dimensional stability as well as excellent resistance to chemical and physical degradation.
- Negligible shrink on cure.

## Design Considerations

For optimum results, follow the recommendations closely for site preparation, grout mixing, grout placement, and grout finishing, etc. found in "ESCOWELD 7505E/7530 Installation Procedures, Bulletin No. 1600.

## Application Instructions

The performance of any epoxy machinery grout system depends not only on the engineering and physical characteristics of the cured grout, but also on the quality of the mixing and installation. Proper mixing of all components is particularly important in obtaining the maximum strength and adhesive characteristics of epoxy grouts.

- ESCOWELD 7505E is packaged in a single can. Lower portion contains Epoxy Resin and upper portion contains the converter. Pour entire contents of converter into the Epoxy Resin container and mix properly.
- Mix ESCOWELD 7530 aggregate into combined liquid components in a wheelbarrow or mechanical mixer (mortar/plaster mixer) until all dry particles are wetted out.

## Physical Properties

COMPRESSIVE STRENGTH	14,000 psi (984 kg/cm <sup>2</sup> ) (Actual field strength may vary, from 10,000 to 14,000 psi depending on curing and testing conditions)	ASTM C-579 MODIFIED
COMPRESSIVE MODULUS OF ELASTICITY	1.8 x 10 <sup>6</sup> psi (1.26 x 10 <sup>5</sup> kg/cm <sup>2</sup> )	ASTM C-579
LINEAR SHRINKAGE	0.036% (.00036 in/in)	ASTM D-2568
COEFFICIENT OF LINEAR THERMAL EXPANSION	26.2 1 x 10 <sup>-6</sup> / °C @ 0°C to 60°C (14.6 x 10 <sup>-6</sup> / °F @ 32°F to 140°F)	ASTM C-531
FLEXURAL STRENGTH	4,700 psi (329 kg/cm <sup>2</sup> )	ASTM C-580
FLEXURAL MODULUS OF ELASTICITY	1.8 x 10 <sup>6</sup> psi (1.26 x 10 <sup>5</sup> kg/cm <sup>2</sup> )	ASTM C-579
TENSILE STRENGTH	2,100 psi (147 kg/cm <sup>2</sup> )	ASTM D-307
ADHESIVE BOND TO STEEL	2,100 psi (147 kg/cm <sup>2</sup> )	ASTM C-307
IZOD IMPACT STRENGTH		ASTM D-258
FIRE RESISTANCE	Self Extinguishing	ASTM D-637
SERVICE TEMPERATURE	Up to 140°F (60°C)	
SPECIFIC GRAVITY		
DENSITY	125 lbs/cu ft (1948 kg/cu meter)	

## Product Information

COVERAGE	2.4 cu.ft. (68 liters)
APPLICATION TEMPERATURE	55°F To 90°F (13°C to 32°C)
CURE TIME (approximate)	12 hours @ 90°F (32°C) 24 hours @ 80°F (27°C) 36 hours @ 70°F (21°C) 38 hours @ 60°F (16°C)
POT LIFE	2 Hours @ 77°F (25°C)
CLEAN UP	Water or IMPAX IXT-59 Solvent
UNIT PACKAGING	Resin (NH): 2.6 gal (9.8 L) in a 5 gal bucket Hardener (NH): 1.2 gal (4.6 L) in a plastic tray inserted into the top of the resin can Aggregate: (5) 53 lb. (24 kg) bags
UNIT WEIGHT	Resin: 25.7 lbs (11.7 kg) Hardener: 10.2 lbs (4.2 kg) Aggregate: 265 lbs (120 kg)
SHIPPING WEIGHT	305 lbs (138 kg)
SHELF LIFE	2 years

Date 09/2005

**General:** Every reasonable effort is made to insure the technical information and recommendations on these data pages are true and accurate to the best of our knowledge at the date of issuance. However, this information is subject to change without notice. Products and information are intended for use by qualified applicators that have the required background, technical knowledge, and equipment to perform said tasks in a satisfactory manner.  
**Warranty:** ITW Philadelphia Resins, a division of Illinois Tool Works Inc., warrants that its products meet their printed specifications. This is the sole warranty. This warranty expires one year after product shipment.  
**Warranty Claims:** If any product fails to meet the above, ITW Philadelphia Resins will, at its option, either replace the product or refund the purchase price. ITW Philadelphia Resins will have no other liability for breach of warranty, negligence, or otherwise. All warranty claims must be made in writing within one year of the date of shipment. No other claims will be considered.  
**Disclaimer:** ITW Philadelphia Resins makes no other warranty, expressed or implied, and specifically disclaims any warranty of merchantability or fitness for a particular purpose.

Suggestions concerning the use of products are not warranties. The purchaser assumes the responsibility for determining suitability of products and appropriate use. ITW Philadelphia Resins' sole liability, for breach of warranty, negligence or otherwise, shall be the replacement of product or refund of the purchase price, at ITW Philadelphia Resins' election. Under no circumstances shall ITW Philadelphia Resins be liable for any direct, incidental or consequential damages.  
**Modification of Warranty:** No distributor or sales representative has the authority to change the above provisions. No change in the above provisions will be valid unless in writing and signed by an officer or the Technical Director of ITW Philadelphia Resins. No term of any purchase order shall serve to modify any provision of this document.  
**Mediation and Arbitration:** If any dispute arises relating to products or product warranties, either the purchaser or ITW Philadelphia Resins may a) initiate mediation under the then current Center for Public Resources (CPR) Model Procedure for Mediation of Business Disputes, or b) initiate a non-binding arbitration under the rules of the American Arbitration Association for the resolution of commercial disputes.

### The **ESCOWELD®** Extended Aggregate Systems for Machinery Grouting and Foundations are designed to meet your installation and product performance needs.

The performance of any epoxy machinery grout system depends not only on the engineering and physical characteristics of the cured grout, but of the mixing and installation.

The new **ESCOWELD®** Enhanced and Super Aggregate Systems for machinery grouting and foundations offer you many benefits designed to simplify installation while providing excellent performance.

#### Key Benefits:

- **Simpler installation**
- **Greater yield/economy**
- **Excellent performance characteristics**

These unique systems combine The **ESCOWELD® 7505E** Resin/Hardener with **ESCOWELD® 7530** aggregate with precisely graded enhanced aggregates to provide exceptional flow characteristics, while achieving a greater yield per unit. These systems are a cost effective replacement for polymer-modified concrete and essential for deeper pours and foundation rebuilds. A 24-hour cure makes **ESCOWELD®** Enhanced Aggregate and **ESCOWELD®** Super Aggregate Machinery Epoxy Grouting Systems the smart choice for shut-downs and turn-arounds.

#### Features:

- **Greater Yield**, resulting in a lower cost per cubic foot.
- **Convenient Packaging**, to simplify the mixing of liquid components and provide greater mixing precision.
- **Superior Flow Characteristics**, to simplify installation on difficult foundations, assuring proper load-bearing area and reducing the time required for installation.
- **Cleans up with water**, a unique feature with obvious advantages over competitive products that require hydrocarbon-cleaning solvents.
- **Gentle Exothermic Cure**, provides low-stress results.

Other unique features and benefits, which have been offered for over 20 years with the original **ESCOWELD® 7505E/7530** formulation include:

- **Excellent Bonding**, to itself without surface preparation to simplify multiple pour projects.
- **Wide range of pour depths**, from 1 inch to 18 inches. This simplifies and speeds up any job, which would otherwise have required multiple pours and additional surface preparation.
- **24 hour cure**, especially valuable during tight turn-around schedules or emergency repairs.
- **Exceptional dimensional stability**, upon cure.
- **Excellent resistance**, to chemical and physical degradation.

#### Mixing & Installation:

Proper mixing of all components is particularly important in obtaining the maximum strength, flow and adhesive characteristics of epoxy grouts.

Mix the liquid components thoroughly and in correct proportions. The pail for **ESCOWELD® 7505E Part A** has enough room to permit mixing **Part B** directly in that container. Mix aggregate into a combined liquid components in a mechanical mixer. Mixing consistency is the key when adding aggregate.

For optimum results, follow the recommendations for site preparations closely, grout storage, grout mixing, grout placement, grout finishing, etc. See the **ESCOWELD®** Representative in your area for complete details or contact us at [www.escoweld.com](http://www.escoweld.com).



ITW **ESCOWELD®** Epoxy Grout Systems ♦ Montgomeryville, PA

[www.escoweld.com](http://www.escoweld.com)



## Extended Aggregate Systems

Typical Physical Properties	Standard Mix	Enhanced Aggregate Mix	Super Aggregate Mix***
<b>Compressive Strength</b> <b>ASTM C 579</b> Actual field strength may vary from 10,000 to 14,000 psi depending upon curing and testing conditions.	14,000 psi	14,000 psi	16,000 psi
<b>Yield Per Unit</b>	2.4 cu.ft.**	2.9 cu.ft.**	3.4 cu.ft.**
<b>Tensile Strength</b>	2,100 psi	2,000 psi	2,000 psi
<b>Modulus of Elasticity</b> <b>ASTM C 579</b> Modulus of Elasticity as measured by ASTM C579 can vary according to conditions of curing and measuring techniques.	1.8 x 10 <sup>6</sup>	1.9 x 10 <sup>6</sup>	1.9 x 10 <sup>6</sup>
<b>Coefficient of Linear Expansion</b> <b>ASTM C 531</b>	14 x 10 <sup>-6</sup>	12 x 10 <sup>-6</sup>	12 x 10 <sup>-6</sup>
<b>Flexural Strength</b>	4,700 psi	[Not Tested]	[Not Tested]
<b>Adhesive Bond to Concrete</b> <b>ASTM C 307</b>	Better than Concrete	Better than Concrete	Better than Concrete
<b>Adhesive Bond to Steel</b> <b>ASTM C 307+A66</b>	2,100 psi	[Not Tested]	[Not Tested]
<b>Approximate Working Life</b> <b>@ 77°F</b>	2 hours	> 2 hours	> 2 hours
<b>Sealed Shelf Life, Part A &amp; B</b>	2 years	2 years	2 years
<b>Depth of Pour Limitation</b>	18 inches	24 inches*	48 inches*
<b>Cured Density, lbs./cu.ft.</b>	120 lbs./cu.ft.	130 lbs./cu.ft.	136 lbs./cu.ft.
<b>Viscosity, Centipoise @ 77°F</b> Epoxy Resin - Part A Converter - Part B	1,100 - 1,500 cps 700 - 1,200 cps	1,100 - 1,500 cps 700 - 1,200 cps	1,100 - 1,500 cps 700 - 1,200 cps
<b>Flash Point, SETA Closed Cup</b> Epoxy Resin - Part A Converter - Part B	210°F 210+B34	210°F 210°F	210°F 210°F
<b>Dielectric Strength</b>	140 volts/mil	140 volts/mil	140 volts/mil

\* Deeper Pours can be made, but and ESCOWELD® Representative should be contacted for specific instructions.

\*\*Typical physical properties as expressed for the ESCOWELD® Enhanced Aggregate and Super Aggregate mixtures are approximate based on the averages of multiple field samples tested.

\*\*\* The Super Aggregate System is designed for use as a polymer alternative to concrete when installing new foundations or rebuilding existing only. Contact your ESCOWELD® Representative when considering this system for your next application.



Extended Aggregate Systems  
Mix Data

PRC Part #	Mix Type	Enhanced	Super	Standard
	Component	Quantity	Quantity	Quantity
7575UN	Escoweld 7505E Liquids A&B, 40#/unit	1	1	1
7530A	Escoweld 7530 Engineered Aggregate, 53#/bag	4	4	5
	<b>Coral 1/4 - 3/8 Aggregate, 50#/bag *</b>	2	3	0
	Mixed Yield (Cu. Ft.)**	2.9	3.4	2.4
	Flowability	Good	Fair/Poor	Excellent

**NOTES:**

**\* This product is not available through Philadelphia Resins**

**Coral 1/4 - 3/8 Aggregate, 50# bags are available through:**

**Sheridan White Rock Company  
Attention: Pam Vance  
P.O. Box 485  
Sheridan, AR 72150  
Phone: 870-942-2488  
Fax: 870-942-7012**

**Contact Sheridan for cost information**

**\*\* Yields on extended aggregate mixtures are approximate and may vary slightly**

Sheridan White Rock Co.  
 P.O. Box 485  
 Sheridan, AR 72150

ANALYTICAL LABORATORIES LTD. 557 S. EASTMAN ST. VANCOUVER BC V6C 1R6  
 WHOLE ROCK ICF ANALYSIS  
 GEM QUALITY FILE # 96-0874  
 106-23121 PLAZA POINT, VANCOUVER BC V6G 1Y6  
 ANALYZED BY: R.V. COLEMAN

SAMPLE#	SiO2	Al2O3	Fe2O3	MgO	CaO	Na2O	K2O	TiO2	P2O5	MnO	Cr2O3	Ba	Ni	Zr	Y	Hf	Mo	Ba	LOI	SUM
%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%
A1 QUARTZITE	97.51	.20	.54	.02	.05	.05	.05	.06	<.01	<.01	.002	98	<20	<10	44	<10	<50	<10	.6	99.13
RE A1 QUARTZITE	97.46	.20	.50	.01	.05	.06	.05	.08	.02	<.01	.003	100	<20	<10	41	<10	<50	<10	.5	98.96
BS CLAY	35.38	5.16	1.99	9.87	20.89	.77	1.80	.23	.11	.05	.001	288	20	1616	50	<10	<50	<10	23.3	99.18
BLT 40-60 SILTCA	78.54	12.02	.37	.08	1.15	3.21	3.44	.06	.02	<.01	.006	1844	28	322	57	<10	<50	<10	.7	99.84
LJ SILTCA	97.88	.25	.22	.08	.13	.07	.08	.27	<.01	<.01	.001	266	<20	16	179	<10	<50	<10	1.1	100.16
WV CLAY	56.88	24.71	2.09	.32	.63	.16	4.46	.32	.01	.04	.002	93	<20	29	260	35	<50	<10	8.1	99.57
IN CLAY	54.33	15.23	4.96	2.86	3.53	1.46	2.67	.61	.17	.07	.006	533	31	246	110	23	<50	10	12.4	100.44
1H 1/4 X 8	72.28	13.64	1.93	.56	2.50	3.11	4.38	.25	.07	.03	.003	1531	<20	342	132	13	<50	<10	1.4	100.48
1H 4 X 20	73.22	13.98	1.23	.32	2.16	3.18	4.51	.16	.05	.02	.003	1727	<20	431	86	<10	<50	<10	1.3	100.49
YH GRAVEL	73.16	11.49	2.90	.60	1.79	2.46	4.59	.36	.11	.04	.005	980	<20	256	145	22	<50	<10	1.6	99.31
STANDARD SD-15	49.73	12.35	7.05	7.05	5.68	2.36	1.94	1.64	2.86	1.35	1.068	2173	71	385	790	19	<50	10	5.9	99.51

.200 GRAM SAMPLES ARE FUSED WITH 1.2 GRAM OF LiBO2 AND ARE DISSOLVED IN 100 MLS 5% HNO3. Ba IS SUM AS BaSO4 AND OTHER METALS ARE SUM AS OXIDES.  
 - SAMPLE TYPE: ROCK - SAMPLES DESIGNATED "RE" ARE RETURNS AND "RR" ARE REJECT RETURNS.

DATE RECEIVED: FEB 26 1996 DATE REPORT MAILED: March 5/96 SIGNED BY: [Signature] D. TOYE, C. LEONG, J. WANG; CERTIFIED S.C. ASSAYERS

SPECIFIC GRAVITY AND ABSORPTION OF COARSE AGGREGATE  
ASTM C 127

**Project:** SHERIDAN WHITE ROCK  
**Location:**  
**Sample No.:** CA-2  
**Soil Description:** -3/8 WASHED GRAVEL

**Project No.:** 6461  
**Date:** 12/7/99  
**Sample Depth:**

**Bulk Specific Gravity:** 2.6  
**Bulk Specific Gravity (SSD):** 2.6  
**Apparent Specific Gravity:** 2.6  
**Absorption:** 0.6g  
**Moisture Content:** 0.6g

<b>Date:</b> 12-7-99	<b># of Pages:</b> 2
<b>To:</b> Hollis	<b>From:</b> Leslie
<b>Co:</b> Sheridan White Rock Co.	<b>Co:</b> ANDERSON ENGINEERING CONSULTANTS, INC.
<b>Phone:</b>	<b>Phone:</b> 501/455-4545
<b>Fax #:</b> 501/452-7012	<b>Fax #:</b> 501/455-4552



**MIXING INSTRUCTIONS FOR ESCOWELD® 7505E/7530  
Standard Mix, Enhanced Mix, and Super Aggregate System**

ESCOWELD® 7505E/7530 can be mixed using three different recipes to create three different products dependent on the application.

Standard Mix	Enhanced Mix	Super Aggregate System
<p>1 unit 7505E Liquid (Parts A &amp; B) 5 bags 7530 Aggregate Yield = 2.4 cubic feet</p>	<p>1 unit 7505E Liquid (Parts A &amp; B) 4 bags 7530 Aggregate 2 bags Coral Pea Gravel Yield == 2.9 cubic feet</p>	<p>1 unit 7505E Liquid (Parts A &amp; B) 4 bags 7530 Aggregate 4 bags Coral Pea Gravel Yield = 3.4 cubic feet</p>
<p>Standard Mix can be poured to depths of 18 inches. For depths greater than 8 inches contact your ESCOWELD Distributor. Enhanced mix may be recommended. When flow ability is a consideration either Standard Mix or Enhanced Mix should be used. Mix parts 7505E Liquid A &amp; B in the 5-gallon bucket provided. Mix for three minutes with a Jiffy mixer blade at 200 - 300 rpm. Pour the mixed 7505E mixture into the mortar mixer and start the paddles. Add the five (53 lb.) bags of 7530 Aggregate and mix for two minutes. Empty the mortar mixer into a wheelbarrow and repeat the procedure for additional units.</p>	<p>Enhanced Mix can be poured to depths of 24 inches. For depths greater than 8 inches contact your ESCOWELD Distributor. When flow ability is a consideration either Standard Mix or Enhanced Mix should be used Mix parts 7505E Liquid A &amp; B in the 5-gallon bucket provided. Mix for three minutes with a Jiffy mixer blade at 200 - 300 rpm. Pour the mixed 7505E mixture into the mortar mixer and start the paddles. Add the four (53 lb.) bags of 7530 Aggregate and two (50 lb.) bags of Coral Pea Gravel and mix for two minutes. Empty the mortar mixer into a wheelbarrow and repeat the procedure for additional units.</p>	<p>Super Aggregate Mix can be poured to a depth of 48 inches. When flow ability is not a consideration Super Aggregate Mix can be used. Typical applications for Super Aggregate Mix are where depths of over 24 inches are required. Contact your local Distributor before using Super Aggregate Mix. Mix parts 7505E Liquid A &amp; B in the 5-gallon bucket provided. Mix for three minutes with a Jiffy mixer blade at 200 - 300 rpm. Pour the mixed 7505E mixture into the mortar mixer and start the paddles. Add the four (53 lb.) bags of 7530 Aggregate and four (50 lb.) bags of Coral Pea Gravel and mix for two minutes. Empty the mortar mixer into a wheelbarrow and repeat the procedure for additional units.</p>