



POLY-TUFF SYSTEMS
INTERNATIONAL
HIGHWAY DIVISION

TuffAid™

Finishing Aid & Evaporative Retarder

1.01 DESCRIPTION

TuffAid™ is designed to be used as a finishing aid and evaporation retarder on new concrete surfaces of all types. When sprayed over fresh concrete, TuffAid™ forms a thin, continuous film which greatly assists the finishing and tooling processes while preventing rapid moisture loss from the concrete surface. It is easy to use requiring only the addition of water before spray application. TuffAid™ is especially effective when concreting operations must be performed in direct sun, high wind and temperatures or low relative humidity. Please use the correct product grade that complies with VOC regulations as per federal, state, statutory bodies, county and city regulations/codes at the place of installation of product.

1.02 USES

- Hot or windy concrete finishing
- Silica fume concrete
- Parking decks and ramps
- Finishing patches & spalls
- Concrete Floors
- Concrete Pavement
- Non-modified concrete toppings
- Vertical/overhead repair finishing

1.03 FEATURES

- Extends finishing time by 15-45 minutes
- Allows lower slump / water content
- Reduces plastic shrinkage cracking
- Reduces wind surface moisture evaporation by 80%
- Reduces moisture loss in sunlight by 40%
- Eliminates or reduces crusting & drag
- Supplements practices for hot weather concreting
- Eliminates need to sprinkle or add extra mixing water
- Safeguards against the ill effects of evaporation

1.04 TECHNICAL DATA

A detailed technical discussion about the action of mono-molecular films, typified by **TuffAid™** finishing aid and evaporation retarder, is contained in the Journal of the American Concrete Institute, Volume 62, pp. 977-985. The use of a mono-molecular film to prevent the rapid drying of fresh concrete is recommended in the following ACI documents: ACI 302.1R, "Guide for Concrete Floor and Slab Construction"; ACI 305R, "Hot Weather Concreting"; ACI 308R, "Guide to Curing Concrete"; and ACI 345R, "Guide for Concrete Highway Bridge Deck Construction". **TuffAid™** is a water-based polymer concentrate that is readily diluted with water.

1.05 COLOR

Yellow

1.06 PACKAGING

5 gallon (18.9 liters) pail
55 gallon (207.9 liters) drums
275 gallon (1039.5 liters) totes

1.07 COVERAGE

2000-4000 sqft/gallon (186-372 sqm/liter) in concentrate.
The coverage rate is 1 gallon/250-400 sqft (0.17-0.1 liter/sqm) or 250-400 sqft/gal when diluted with 9 gallons (34.02 liters) of water and 1 gallon (3.78 liters) of **TuffAid™**. Evaporation rate is a function of relative humidity, concrete temperature, air temperature and wind.

1.08 PREPARATION

TuffAid™ is applied directly to the surface of fresh concrete. No surface preparation is necessary.

1.09 MIXING

TuffAid™ is supplied as a concentrate and must be diluted with clean potable water at a 9:1 (Water:**TuffAid™**) ratio. Determine capacity of sprayer and divide by 10. Add this amount of **TuffAid™** to the sprayer followed by 9 times that amount of water. For example, if 1 quart (0.95 liters) of **TuffAid™** is added, dilute with 9 quarts (8.5 liters) of water. Mix or shake until thoroughly blended.

1.10 APPLICATION

Apply using a hand pump, tank-type sprayer capable of spraying in a fine mist. Use a slotted tip for the best spray. Spray **TuffAid™** over the fresh concrete surface as soon as possible after floating. A gold translucent sheen will appear as the surface is being treated. On extremely dry conditions, additional applications may be applied as needed. When used on floors with dry shake hardener applications, **TuffAid™** may be used on the fresh concrete as well as between each shake application. The application color will dissipate.

1.11 CURING/DRY TIME

Proper curing procedures are important to ensure the durability and

quality of concrete. To prevent surface cracking, cure flatwork with high solids curing compounds, such as **TuffCure™ 309W** cure. For indoor concrete slabs, use **TuffCure™ WB**.

1.12 LIMITATIONS

- Always use with proper dilution rate.
- Do not use as a curing compound.
- Apply only as a fine spray.
- Do not allow to freeze.
- In all cases, consult the Safety Data Sheet (SDS) before use.

READ SDS PRIOR TO USING PRODUCT. KEEP OUT OF THE REACH OF CHILDREN.

1.13 CLEAN UP

Tools and Equipment: Clean with soap & water or PSI's **EnviroClean™**.

1.14 STORAGE AND SHELF LIFE

Store in closed containers between 40–95°F (5-35°C) away from direct sunlight and sources of heat. Shelf life of properly stored material is 12 months from date of manufacture.

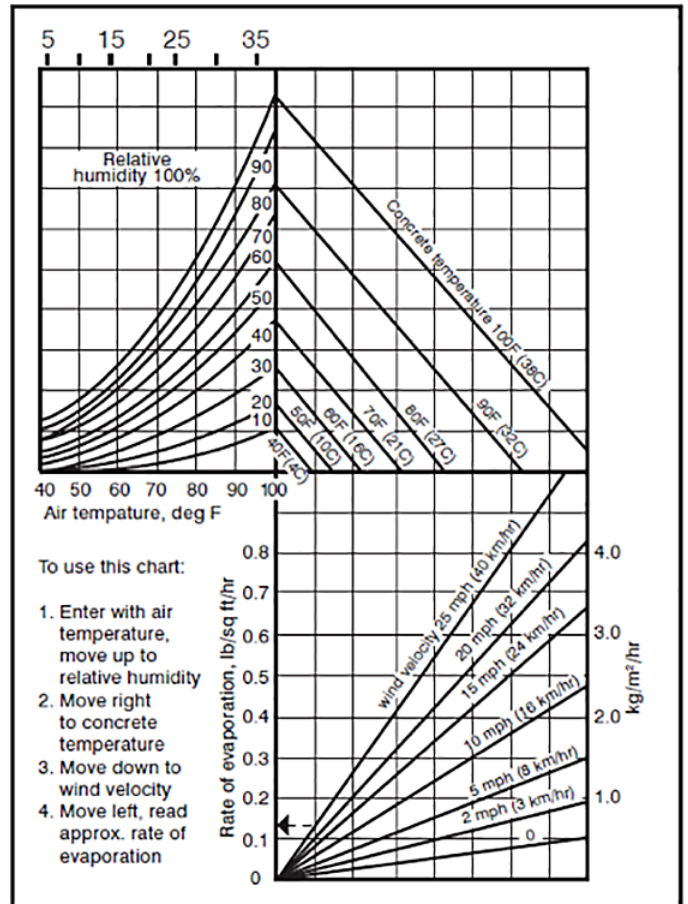


Fig. 2.1.5, ACI 305, Hot Weather Concreting

Please read all information in the General & Safety Guidelines, Technical Data Sheets, Guide Specifications and Safety Data Sheets (SDS) before applying material. PSI Products are for "Professional Use Only" and preferably applied by professionals who have prior experience with the PSI Products or have undergone training in application of PSI Products. Published technical data and instructions are subject to change without notice. Contact your local PSI representative or visit our website for current technical data, instructions, and project specific recommendations.

LIMITED WARRANTY

PSI warrants its products to be free of manufacturing defects and that they will meet PSI current published physical properties. With preapproval, PSI warrants that its products, when properly installed by a state licensed waterproofing contractor according to PSI guide specifications and product data sheets over a sound, properly prepared substrate, will not allow water migration for a period of 12 months. Seller's sole responsibility shall be to replace that portion of the product which proves to be defective. There are no other warranties by PSI of any nature whatsoever expressed or implied, including any warranty of merchantability or fitness for a particular purpose in connection with this product. PSI shall not be liable for damages of any sort, including remote or consequential damages resulting from any claimed breach of any warranty whether expressed or implied. PSI shall not be responsible for use of this product in a manner to infringe on any patent held by others. In addition, no warranty or guarantee is being issued with respect to appearance, color, fading, chalking, staining, shrinkage, peeling, normal wear and tear or improper application by the applicator. Damage caused by abuse, neglect and lack of proper maintenance, acts of nature and/or physical movement of the substrate or structural defects are also excluded from the limited warranty. PSI reserves the right to conduct performance tests on any material claimed to be defective prior to any repairs by owner, general contractor, or applicator.

DISCLAIMER

All guidelines, recommendations, statements, and technical data contained herein are based on information and tests we believe to be reliable and correct, but accuracy and completeness of said tests are not guaranteed and are not to be construed as a warranty, either expressed or implied. It is the users responsibility to satisfy himself, by his own information and test, to determine suitability of the product for his own intended use, application and job situation and user assumes all risk and liability resulting from his use of the product. We do not suggest or guarantee that any hazard listed herein are the only ones which may exist. Neither seller nor manufacturer shall be liable to the buyer or any third person for any injury, loss or damage directly or indirectly resulting from use of, or inability to use, the product. Recommendations or statements, whether in writing or oral, other than those contained herein shall not be binding upon the manufacturer, unless in writing and signed by a corporate officer of the manufacturer. Technical and application information is provided for the purpose of establishing a general profile of the material and proper application procedures. Test performance results were obtained in a controlled environment and PSI makes no claim that these tests or any other tests, accurately represent all environments.