

TECHNICAL DATA SHEET

DESCRIPTION

Emery Tuff Top is a ready to use floor topping comprised of a blend of 100% pure emery/corundum, special additives and portland cement. Emery is a naturally mined material that is extremely hard, tough and abrasion resistant. Emery Tuff Top will impart very long life and extremely high durability to concrete floors and surfaces. Emery Tuff Top is non corrosive, rust free and can be used indoors or out. Emery Tuff Top requires only the addition of water to produce a low slump, trowelable consistency.

USE

Emery Tuff Top is designed to provide an extremely hard, dense and abrasion resistant floor topping for heavy duty applications. Concrete floors protected by Emery Tuff Top will be very resistant to dusting, spalling, deterioration and surface abrasion. Applications for Emery Tuff Top include: industrial plants, waste transfer stations, foundries, loading docks, warehouses, service garages, processing plants, sewage and water treatment plants and the like.

FEATURES

- Dramatically increases the life of a concrete floor, up to 10 times the wear of concrete
- Emery is one of the hardest, most durable materials known to man
- Non rusting, can be used in a wet environment (typical metallic toppings cannot be used in a wet environment)
- Superior in wear and abrasion resistance to metallic toppings
- Resists dusting, spalling and deterioration
- Interior/exterior applications

PROPERTIES

100% pure emery/corundum consisting of a minimum of 50% aluminum oxide, a minimum of 24% iron oxide and no more than 8% silica.

Moh hardness – 8 to 9 (diamond is a 10)

For heavy duty service for class 5, 6, 7, and 8 industrial floors (ACI 302)

Abrasion test – ASTM C944 – “Standard Test Method for Abrasion Resistance of Concrete Mortar”. Test performed with a doubling of the applied load and with doubling of the time of abrasion. Average weight loss in grams -.4

Test Results

ASTM C109 Compressive Results

1 Day		3 Days		7 Days		28 Days	
PSI	MPa	PSI	MPa	PSI	MPa	PSI	MPa
6,000	41.3	9,000	62.0	10,000	68.9	11,500	79.3

Note:

The data shown is typical for controlled laboratory conditions. Reasonable variation from these results can be expected due to interlaboratory precision and bias. When testing the field mixed material, other factors such as variations in mixing, water content, temperature and curing conditions should be considered.

Estimating Guide

10 lbs/sq. ft. at ¾ in. thick (48.8 kg/sq. m at 1.9 cm)

13 lbs/sq. ft. at 1 in. thick (63.5 kg/sq. m at 2.5 cm)

Packaging

PRODUCT CODE	PACKAGE	SIZE	
		lbs	kg
67569	Bag	80	36.3
126496	Supersack	3000	1361

STORAGE

Store in a cool, dry area free from direct sunlight. Shelf life of unopened bags, when stored in a dry facility is 12 months. Excessive temperature differential and /or high humidity can shorten the shelf life expectancy.

Surface Preparation:

Use mechanical surface preparation to obtain an ICRI CSP 7 or greater surface profile then thoroughly clean the surface removing all loose concrete, dirt or other contaminants. Saturate the surface to receive the topping with water for 12 hours to bring the floor to a saturated-surface-dry (SSD) condition prior to placing the Emery Tuff Top.

Mock Up:

It is recommended that a minimum 10' x 10' (3.0 m x 3.0 m) test placement (mock up) be made using the same applicator, method of placement and finishing procedures and the same conditions as anticipated on the project. The mock up sample area should be to assure acceptance of installation and appearance.

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APPLICATION

ACI Manuals of Concrete Practice to be followed:
ACI 302 Guide to Concrete Floors and Slab Construction
ACI 305 Hot Weathering Concreting
ACI 306 Cold Weathering Concreting
ACI 308 Curing of Concrete

Mixing

Mix Emery Tuff Top at the rate of 4.5 quarts (4.3 L) of water per 80 lb. bag (36 kg) bag. Add the water to the mixing container first then slowly add the Emery Tuff Top. The product can be mixed in a mortar mixer. Continue mixing until the material is free of lumps, approximately 3 – 5 minutes.

Placement:

A bonding coat of cement and a 1:1 mixture of water and Acrylic Bonding Agent J40 (consistency of heavy cream) should be brushed onto the base slab immediately prior to placing the Emery Tuff Top. The Emery Tuff Top must be placed prior to the bond coat drying.

The use of Slow Set Bonding Agent epoxy can be used in lieu of the aforementioned bonding coat. Emery Tuff Top must be placed while the epoxy is still tacky. If Slow Set Bonding Agent is to be used, do not bring the receiving surface to an SSD condition.

The Emery Tuff Top should have approximately a 2 in. to 3 in. slump (5.1 to 7.6 cm). Evenly spread the Emery Tuff Top onto the base slab at a minimum depth of ¾ in. (1.9 cm). A vibratory screed is recommended to assure proper consolidation of the Emery Tuff Top. Then trowel to finish. Do not install Emery Tuff Top when the surface and ambient temperature is less than 40° F (4° C). During hot weather, reduce the size of the work area, keep bags of material cool prior to mixing and use cold water for mixing.

Not recommended for application if air, substrate or material temperatures are above 90°F (32.2°C) as work time and slump will be diminished. Protect from strong winds until material has reached final set. During hot, dry, or windy conditions, use the AquaFilm™ Concentrate J74 or the AquaFilm™ J74RTU evaporation reducer, in accordance with the instructions in their current technical data sheet, to reduce moisture loss and extend concrete workability.

CURING

Immediately after final finishing, and after the surface water has disappeared, apply a Dayton Superior membrane forming curing compound or cure and seal. Wet curing methods compliant with ACI 308 may also be employed.

CLEAN UP

Use water prior to material hardening. After material has hardened abrasive methods are required

LIMITATIONS**FOR PROFESSIONAL USE ONLY**

Protect the pour from excessive drying due to heat and wind. Do not install when the surface and ambient temperatures are below 40° F (4° C) Do not add other cements or additives to Emery Tuff Top. Prepackaged material segregates while in the bag, thus when mixing less than a full bag it is recommended to first agitate the bag to assure it is blended prior to sampling.

PRECAUTIONS**READ SDS PRIOR TO USING PRODUCT**

- Product contains Crystalline Silica and Portland Cement – Avoid breathing dust – Silica may cause serious lung problems
- Use with adequate ventilation
- Wear protective clothing, gloves and eye protection (goggles, safety glasses and/or face shield)
- Keep out of the reach of children
- Do not take internally
- In case of ingestion, seek medical help immediately
- May cause skin irritation upon contact, especially prolonged or repeated. If skin contact occurs, wash immediately with soap and water and seek medical help as needed.
- If eye contact occurs, flush immediately with clean water and seek medical help as needed
- Dispose of waste material in accordance with federal, state and local requirements

MANUFACTURER

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TECHNICAL DATA SHEET**WARRANTY**

Dayton Superior Corporation ("Dayton") warrants for 12 months from the date of manufacture or for the duration of the published product shelf life, whichever is less, that at the time of shipment by Dayton, the product is free of manufacturing defects and conforms to Dayton's product properties in force on the date of acceptance by Dayton of the order. Dayton shall only be liable under this warranty if the product has been applied, used, and stored in accordance with Dayton's instructions, especially surface preparation and installation, in force on the date of acceptance by Dayton of the order. The purchaser must examine the product when received and promptly notify Dayton in writing of any non-conformity before the product is used and no later than 30 days after such non-conformity is first discovered. If Dayton, in its sole discretion, determines that the product breached the above warranty, it will, in its sole discretion, replace the non-conforming product, refund the purchase price or issue a credit in the amount of the purchase price. This is the sole and exclusive remedy for breach of this warranty. Only a Dayton officer is authorized to modify this warranty. The information in this data sheet supersedes all other sales information received by the customer during the sales process. THE FOREGOING WARRANTY SHALL BE EXCLUSIVE AND IN LIEU OF ANY OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, AND ALL OTHER WARRANTIES OTHERWISE ARISING BY OPERATION OF LAW, COURSE OF DEALING, CUSTOM, TRADE OR OTHERWISE.

Dayton shall not be liable in contract or in tort (including, without limitation, negligence, strict liability or otherwise) for loss of sales, revenues or profits; cost of capital or funds; business interruption or cost of downtime, loss of use, damage to or loss of use of other property (real or personal); failure to realize expected savings; frustration of economic or business expectations; claims by third parties (other than for bodily injury), or economic losses of any kind; or for any special, incidental, indirect, consequential, punitive or exemplary damages arising in any way out of the performance of, or failure to perform, its obligations under any contract for sale of product, even if Dayton could foresee or has been advised of the possibility of such damages. The Parties expressly agree that these limitations on damages are allocations of risk constituting, in part, the consideration for this contract, and also that such limitations shall survive the determination of any court of competent jurisdiction that any remedy provided in these terms or available at law fails of its essential purpose.