
Technical Service Bulletin No. S-19-04

Aggregate for Vulkem Traffic Coatings

The purpose of this Technical Service Bulletin is to discuss the aggregates Tremco Commercial Sealants & Waterproofing recommends for traffic coating applications, as well as where and why they are used. Proper aggregate selection and sourcing is dependent on many factors, including the jobsite's geographic location, the regional minerology, and supplier presence (or lack thereof). This Technical Service Bulletin can be used as a resource to make educated decisions on what aggregate characteristics are desirable, and a few suggested regional sources of suitable material.

Purpose of Aggregate in Traffic Coatings

- To enhance mechanical bond of subsequent coating lifts/layers
- To enhance interlaminary shear resistance of installed coating system
- To enhance impact resistance of installed coating system
- To enhance abrasion resistance of installed coating system
- To enhance skid resistance of installed coating system
- In certain applications, to contribute aesthetically to the finished appearance of installed coating system

Required Aggregate Selection Criteria

All aggregates proposed for use in Tremco traffic coating systems must first be reviewed and approved (in writing) by the local Tremco Sales or Technical Representative. Otherwise, Tremco corporate Technical Services must review and approve (in writing) the material in question. Tremco is not liable for any subsequent results related to the installation of our traffic coatings with non-conforming/non-approved aggregates.

The following are common characteristics required by Tremco for aggregate to be used in various pedestrian and vehicular traffic systems:

- Moh's Hardness of 7 or greater for all systems (except light traffic pedestrian-duty systems, like Tremco's Vulkem[®] OC810).
- Required mesh, sieve, or grit size as dictated in the pertinent Tremco Application Instructions
- Ensure proper aggregate particle shape for intended application/service condition. Rounded aggregates are typically used in pedestrian applications. Angular aggregates are typically used in vehicular and/or heavy duty applications.
- Clean, dry (moisture content < 0.1% per ASTM C-566), sound, angular silica sand of commercial/industrial quality is highly recommended; no "play sand" or other soft, high-moisture content, high-clay content sand.
- Crushed flint may or may not be acceptable on a case-by-case basis; this material must always be reviewed and subsequently approved (in writing) by a Tremco Sales or Technical Representative prior to installation
- Aggregate must pass the "magnet test"; if a ceramic refrigerator magnet picks up any particles from a sample of the proposed aggregate, the Fe (Iron) content is too high; this leads to rust spotting/streaking/staining, and cannot be corrected once broadcast into the coating system
- Extreme duty systems may require the use of Aluminum Oxide (Al₂O₃) to provide the necessary service condition wear, impact, and skid-resistant attributes. Sources are limited, and therefore, Tremco has suggested specific suppliers below.
- Decorative systems may require the use of colored aggregate, which is typically comprised of Quartz base material. Sources are abundant and vary regionally. Due to the ever-changing supplier landscape, please consult your local Tremco Sales or Technical Representative for current supplier recommendations.
- Light traffic pedestrian-duty systems (such as Tremco's Vulkem[®] OC810) will require special shredded rubber or other aggregate. This may or may not be supplied with the coating at the time the sales order is placed; please confirm with your local Tremco Sales Representative prior to ordering/installation.

- Image of commercial/industrial colored quartz (for decorative applications):



- Image of commercial/industrial quality silica sand (for standard pedestrian and vehicular applications):



Standard Duty Pedestrian & Vehicular Aggregate Websites

- US Silica - <http://www.ussilica.com/why-us-silica/sales-support/distributors>
- Martin Marietta - <https://www.martinmarietta.com/locations/southeast/south-georgia-district/junction-city-quarry/>
- Unimin - <https://unimin.com/markets/construction/>
- Badger Sand - <http://badgerminingcorp.com/products-technical/#construction-sand>
- Cemex - <https://www.cemexusa.com/products-and-services/aggregates/lapis-lustre-sands>
- Cal-Silica - <http://www.calsilica.net/silica-sand.html>
- Bell & Mackenzie Co., Ltd. - <https://www.frasers.com/product/sand-10647369364/>
- AGSCO Corporation - <http://www.agsco.com/floor-aggregates/>

Decorative Aggregate Websites

- Estes - <https://estesco.com/permacolorquartz/>
- Torginol - <https://www.torginol.com/quartz-2/>
- AGSCO Corporation - <https://www.agsco.com/colored-quartz/>

Image of Aluminum Oxide (for very heavy/extreme duty applications):



Very Heavy/Extreme Duty Aluminum Oxide (Al₂O₃) Aggregate Websites:

- GMA Industries - <http://www.gmaind.com/products/v-blast-brown-fused-alox/>
- Washington Mills - <https://www.washingtonmills.com/products/brown-aluminum-oxide/>
- AGSCO Corporation - <http://www.agSCO.com/bauxite-grit/>

Regional Aggregate Suggestions

Region	Heavy Duty Sources (Al₂O₃)	Vehicular/Pedestrian Sources (Industrial Silica)
New England/Atlantic	GMA Industries (V-Blast, R-Blast®), Washington Mills (DURALUM®GW), AGSCO Corporation (Bauxite Grit)	US Silica, AGSCO Corporation (Pine Brook, NJ)
Southeast/Atlantic	GMA Industries (V-Blast, R-Blast®), Washington Mills (DURALUM®GW), AGSCO Corporation (Bauxite Grit)	Martin Marietta (“20/40 Junction City, GA), Unimin 2040
South Central	GMA Industries (V-Blast, R-Blast®), Washington Mills (DURALUM®GW), AGSCO Corporation (Bauxite Grit)	Pioneer Sands/Premier Silica (Irving, TX)
Midwest	GMA Industries (V-Blast, R-Blast®), Washington Mills (DURALUM®GW), AGSCO Corporation (Bauxite Grit)	Unimin, FairmountSantrol (Chardon, OH or Wedron, IL), Badger Sand (Wisconsin), AGSCO Corporation (Wheeling, IL)
West	GMA Industries (V-Blast, R-Blast®), Washington Mills (DURALUM®GW)	Cemex No. #0/30 (“Lapis Lustre®”), Cal-Silica
Canada	GMA Industries (V-Blast, R-Blast®), Washington Mills (DURALUM®GW)	Bell & Mackenzie Co. Ltd. (“#1240S” Silica Sand), Unimin (“Granusil 18-22”)