

# WHAT IS BLASTOX®?

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Blastox® is a blasting additive that is blended with most abrasives to render lead waste non-hazardous under the TCLP test. It is abrasive in nature with a Mohs hardness greater than 6.0, and has a similar bulk density to sands or slags. Blastox® is a complex calcium silicate technology, and contains no detectable levels of crystalline silica nor metallic iron or steel. Contractors report no loss in efficiency when Blastox® is used, and they report similar profiles with or without Blastox®. Standard abrasive blast equipment is used and it is good practice to have an air dryer or moisture separator on the blast pots.

## AT WHAT RATIO IS BLASTOX® ADDED?

For dry blasting with a mineral abrasive (typically slag or sand) Blastox® is blended at a 15% weight ratio. This engineered ratio is based on an average application rate of 6-8 pounds of blast media per square foot of surface area. If using non-mineral abrasives, slurry blast techniques or if your mineral abrasive application rate is less than 6 pounds per square foot, please contact Flat Rock Bagging for a blending ratio.

## ARE PERMITS REQUIRED TO USE BLASTOX®?

All of the states and the US EPA have indicated that as long as Blastox® is blended **prior to blasting**, the process is not considered treatment. Therefore, no waste treatment permits are required. However, if a waste is first characterized as hazardous, a permit may then be required from the state or US EPA to use Blastox®.

## IS BLASTOX® EFFECTIVE ON OTHER HEAVY METALS?

Blastox® is engineered to stabilize the lead in paint removal blasting. In addition, the 15% ratio may reduce the leachability of other metals found in paint systems to below hazardous levels. High levels of chromium may also require additional stabilization and surface preparation. If chromium or other heavy metals are present on a structure, please contact Flat Rock Bagging.



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## DOES IT EFFECT COATINGS?

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**S.G. Pinney & Associates, Inc** conducted a *Performance Evaluation of Blastox In-Situ on Various Structures* in June of 1994. The following is a summary of their findings. This study was based on visual and instrument aided surveys of several steel structures that were abrasive blasted and coated during 1991 and 1992. These projects used Blastox® blended abrasives for the surface preparation, and these field tests investigated the coatings performance of those surfaces over a two to three year period. This study was initiated after extensive laboratory testing of coatings performance over Blastox® prepared surfaces.

Several sites and types of construction were chosen for this survey in order to obtain a broad cross section of in-service performance. The projects included railroad bridges over highways and streams, railroad bridges connecting to coal handling facilities, pulp and paper mills, potable water tanks and exhaust piping and process piping. The authors found no indications of any loss in coatings performance related to the use of Blastox® blended abrasives.

Several different types of coating systems were involved, including Vinyl, Epoxy/Polyurethane, Inorganic Zinc/Epoxy/Polyurethane, Zinc Rich Epoxy/Epoxy, Epoxy/Epoxy, Zinc Rich Epoxy/Acrylic and Polyurethane primer /Silicone Alkyd topcoat. Several different manufacturers' products were surveyed including Carboline, Elite, International, ValSpar, Tnemec, and Sherwin Williams.

**Tnemec Company, Inc** is conducting on-going testing of their coatings systems' performance over Blastox® surfaces. They issued Tnemtech Technical Bulletin No. 96-01 at the two year point of this testing. It states "Tnemec primers Series 20,37H, 66, 69, 140 and 90-97 have been laboratory tested for two years with no applicable difference seen when using Black Beauty abrasive with and without Blastox®." "Series 20 and Series 140 applied to panels prepared to SSPC-SP10 using Blastox® containing abrasive have been in water immersion for two years. They are in excellent shape."

Tnemec's testing has also shown that the use of Blastox® containing blast media had no effect on the performance of various exterior coating systems. The systems tested include their silicone alkyd system, organic zinc/epoxy/urethane system and two epoxy/urethane systems. The technical bulletin concluded, "Tnemec feels that topcoats listed on the product data sheets will perform as expected when the substrate is prepared using Blastox® containing abrasive."

**Contact Flat Rock Bagging for a copy of the above mentioned reports.**



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**"The results of this survey of varying structure in varying localities painted by varying contractors with varying coating systems offers proof of the performance of coatings applied over steel abrasive blasted media to which Blastox® was added prior to abrasive blasting."**

**"The only areas found that were not in excellent condition were directly traceable to either poor surface preparation or poor application."**

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## WHAT DOES THE EPA SAY?

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**“MEP and TCLP test results strongly indicate that stabilization of LBP with Blastox<sup>®</sup> and the addition of water will provide long-term immobilization and durability.”**  
**U.S. EPA Study**

Although the EPA cannot endorse trade marked products, it has extensively tested Blastox<sup>®</sup>. A summation of the results of this testing is found in Blastox<sup>®</sup> Sales Bulletin #7. In addition, the EPA offers an outline of what they consider the best processes as the Final Best Demonstrated Available Technologies; and these are commonly referred to as BDAT.

Blastox<sup>®</sup> is a proprietary combination of the technologies referred to as BDAT. Information on BDAT chemistry can be obtained by contacting EPA through their RCRA Hotline. This information is also contained in a supplemental document to the EPA regulations handbook (40 CFR) for the purpose of discussing the stabilization of D008 (lead) wastes.

Flat Rock Bagging has letters from the Federal EPA, reaffirming that the use of Blastox<sup>®</sup> does not require permits and is not considered Hazardous Waste Treatment. Similar letters are on file from state environmental agencies. After passing the TCLP<sup>®</sup>, Blastox spent abrasives can be handled as a non-hazardous waste.

**Contact Flat Rock Bagging for a copy of the above mentioned documents or letters.**

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