

MILD STEEL – WET ABRASIVE BLASTING

WHAT IS WET ABRASIVE BLASTING?

Wet abrasive blasting, unlike high pressure water blasting has an infusion of non metallic abrasive (commonly garnet) to assist in the removal of coatings and corrosion.

WHY WET ABRASIVE BLAST?

Wet abrasive blasting can be used on flammable sites where other (spark-producing) methods of surface preparation are not permitted. It is considerably more efficient than water blasting alone and can be used on sites where dry blasting is not permitted. Unlike **UHPWJ** (see Tech Note 1.1.8) it produces a measurable **surface profile**. Wet abrasive blasting is far more efficient than power tool cleaning (such as needle guns, grinders, flapper disks etc.) and can even remove rust from within the pits on pit-rusted steel. The adjacent photo shows the effectiveness of wet abrasive blasting. Very little waste is produced by this method.

IS NEW STEEL SUITABLE?

Yes it can be used on new steel, although new steel is typically dry abrasive blasted and coated in shop (which is more time efficient).

Wet Abrasive Blasting is best used on existing surfaces on site, particularly those in very poor condition such as the in the top photo, which shows some residual coating and widespread rusting and pitting. Wet abrasive blasting is also suitable for non-ferrous metals such as stainless steel and aluminium, and for removing coatings and graffiti from masonry.

DOES FLASH RUSTING OCCUR?

Wet steel will flash rust, but it is not a problem. A flash rust inhibitor is sometimes added in the blast water to form a very thin passivating film, but its presence prohibits the use of primers containing zinc metal, such as Zincode 304. Zinc Phosphate primers such as Duremax GPE ZP are very effective, however, and provide excellent adhesion, as do surface tolerant epoxies such as Durebild STE. As flash rust inhibitors may affect paint performance, a more reliable approach is to leave out the flash rust inhibitor and use a zinc-rich primer or a surface tolerant epoxy immediately after blast-cleaning.

The adjacent photo shows a very clean surface and is ready to paint. The corrosion has been thoroughly removed even from the steel pits. The surface is thoroughly dry and has little or no flash rusting.

HOW DOES IT LOOK WHEN IT IS FINISHED?

The surface profile depends largely on the extent of pitting. In the example shown here, the pitting is still evident after the steel is coated, but the coating system will offer maximum performance due to the thorough removal of rust.

For more information, please contact the Dulux Protective Coatings Technical Consultant in your state.



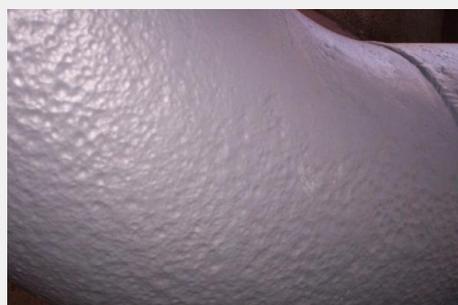
Widespread rusting and pitting and poorly adhering paint are easily removed by wet abrasive blasting



Wet abrasive blast cleaned steel appears bright and clean, even within the pits



Flash rusting is normally not a problem, especially if painted immediately afterwards



Kind thanks to NSW Surface Removal Specialists and Genos for their permission to photograph the process.

