

WHY DO YOU NEED TO CHECK THE WORK MIX FOR BALANCE?

The work mix is very important to the blast process. A **“work mix”** is the retained percentages of large medium and small abrasive being fed back to the shot wheels and/or air nozzles that performs the **“work”** on the product being blasted. It is this proper **“work mix”**, in conjunction with an accurate shot blast pattern and an efficient dust collection system that will yield optimum performance from your cleaning equipment. The larger the shot pellet the more kinetic energy is generated. Conversely, if the shot pellet is too small, very little energy is generated and the cleaning ability of the blast process is diminished.

WHAT ROLE THE DUST COLLECTOR PLAYS IN A BALANCED WORK MIX?

The function of the dust collection system is not only to remove dust generated from the blast process at various areas of the machine. It also vacuums out the fine contaminants and fractured abrasive from the shot work mix. This vacuuming process is achieved by creating a negative pressure at the separator of the blast machine. As the abrasive cascades over several baffles within the housing of the separator the contaminants are vacuumed out by weight and the heavier material is returned to the storage hopper to be recycled to the shot wheels. The volume of air flow from the dust collector through the separator is regulated by slide gates on the rear of the separator housing. The more the slide gate is in the **“open”** position the stronger the vacuum. This increase vacuuming effect will remove more of the larger abrasive as well as the smaller particulate. If the slide gate is in the more **“closed”** position the blast machine will retain more of the finer shot sizes. This is how you control your surface finish on the product being blasted.

The other key factor in cleaning and grading the abrasive by size is to ensure the abrasive is dispersed across the entire distance across the lip of the separator from one wall to the other. This forces the suction or volume of air **“through the curtain of shot”** and not around it. This gives you maximum efficiency in removing the contaminants. If the curtain of abrasive is less than a full curtain from wall to wall of the separator, the air will take the path of least resistance and go **“around”** the curtain resulting in less efficiency and allowing the finer material to return to the storage hopper and then sent to the shot wheels.

The results of an improper work mix with excessive fines will be increased wear and tear on the blaster, a very fine surface finish and poor cleaning ability due to lack of mass of the abrasive.

If the work mix is too coarse, the same increased wear and tear on the shot blast equipment but accelerated due to the increased energy generated by larger abrasive. This will also lead to a very rough surface finish due high percentage of new abrasive. Increased amounts of new abrasive results in less coverage in the blast stream. In addition to the wear and tear, an improper work mix can and usually results in longer cycle times and an increase in abrasive consumption.

PLEASE CONTACT A PEERLESS REPRESENTATIVE TO DISCUSS WORK MIX AND OR HAVE YOUR WORK MIX SCEENED FOR ACCURACY.

