



"In this column, various blasting related topics are featured and explained. The purpose is to share blasting knowledge with the readers."

WRITTEN BY NICK KING, CONTRIBUTING EDITOR FOR MFN AND TECHNICAL ADVISOR AT WINOA



## The Importance of having a Balanced Operating Mix (part 3 of 3)

Once you understand what, then it is important to understand why. The reason for understanding all these functions is to come to an end result. The purpose is to clean metal. One of the most important variables in the process of blast cleaning metal is keeping the Operating Mix balanced and maintaining all functions of a Blast Machine is necessary to achieve this.

The abrasive operating mix (or working mix) is a blend of abrasive sizes found in any in-use abrasive product. The particles of abrasive in a proper operating mix are a mix of new (large), partially worn (medium) and almost completely worn (small) abrasives. An efficient abrasive operating mix contains a proportioned blend of large, medium, and small abrasive particles. The actual size used, and the blend depends on the requirements of the application and the specific type and condition

of the operating equipment. Maintaining a stable and consistent operating mix in a blast machine is not difficult. This function is performed primarily by the operator, or by means of an automatic adder system. There are four areas that need to be controlled if the system is to perform properly:

1. Set the Separator: Set the separator to remove spent abrasives and fines.
2. Control Abrasive Leaks: All abrasive that leaks from the machine must be returned to the machine on a regular basis, and/or the leaks plugged.
3. Minimize Carry-out Losses: Carry-out should be kept to a minimum, and if feasible, this abrasive should be returned to the machine on a regular basis.
4. Control Abrasive Additions: New abrasive addi-

tions should be made frequently, in small quantities, and should equal the breakdown rate of the abrasive, abrasive losses from the separator take-out, leaks, or carry-out.

### Conclusion

In today's manufacturing industry, controlling cost is more important than ever and understanding the smaller aspects of the big picture is a cheap and simple way to help achieve this goal. There are many variables that have an impact on the efficiency and productivity of a Blast Machine and continuously maintaining the major parts and functions of the machine will result in a balanced operating mix, cleaner air around the machine, cleaner blasted parts, longer lasting wear parts, etc. All of which are a way to make a major impact on overall cost savings and increasing profit. Understanding *how* and knowing *why*, is free.

Contact:  
[nick.king@winoagroup.com](mailto:nick.king@winoagroup.com)