



CONE CRUSHER OPERATION
RUN IT RIGHT



Efficient and profitable aggregate production depends as much on the crusher operator as it does on the machine itself. Good operating practices can typically extend the lifetime of the cone crusher by a significant amount.

Powerful destructive forces are constantly at work in a cone crusher, so the eyes and ears of the operator are crucial. An alert operator can often detect an imminent component failure that might otherwise be overlooked, thus avoiding mechanical damage and costly downtime.

Follow these operating tips to get the output you want and extend the lifetime of your crusher.

Homogenized feed

What is dumped in the cone crusher's hopper determines what drops out below. Whatever the type of material being crushed, it should be homogenized, i.e. mixed so that finer and coarser elements are evenly distributed in the crushing chamber. If the conveyor process lets fine and coarse material segregate, you can end up with coarse material on one side of the chamber and finer material on the other.

The resulting uneven load creates imbalance, uneven crushing and undue strain on the crushing mechanisms. Ultimately, it means poor output and prematurely worn liners.

Full crushing chamber

Fitfully feeding a cone crusher's chamber because of loading or conveyor issues can also lead to uneven wear on liners. Not only are crushing forces magnified by the weight of material constantly pressing down from above, but the machine itself is also given full traction to do its work.

A crushing chamber that swings between full and partly full can be compared to a car travelling down the highway without cruise control. Accelerating, dropping back and then accelerating again wastes fuel and negatively impacts the vehicle's systems. When it comes to cone crushing, the best practice is to keep the chamber full.





Correct application

Cone crushers are versatile machines, but they should be used according to the way they are set up. A 4:1 reduction ratio is a standard crusher application. Opting to use it for a 6:1 or 8:1 reduction of material could fall outside the parameters of its usual function, with a negative impact on the machine.

Cone crushers can be used in various stages of a sequential crushing process, but some applications are more effective than others. The owner-operator of a cone crusher should distinguish among tasks for best performance.

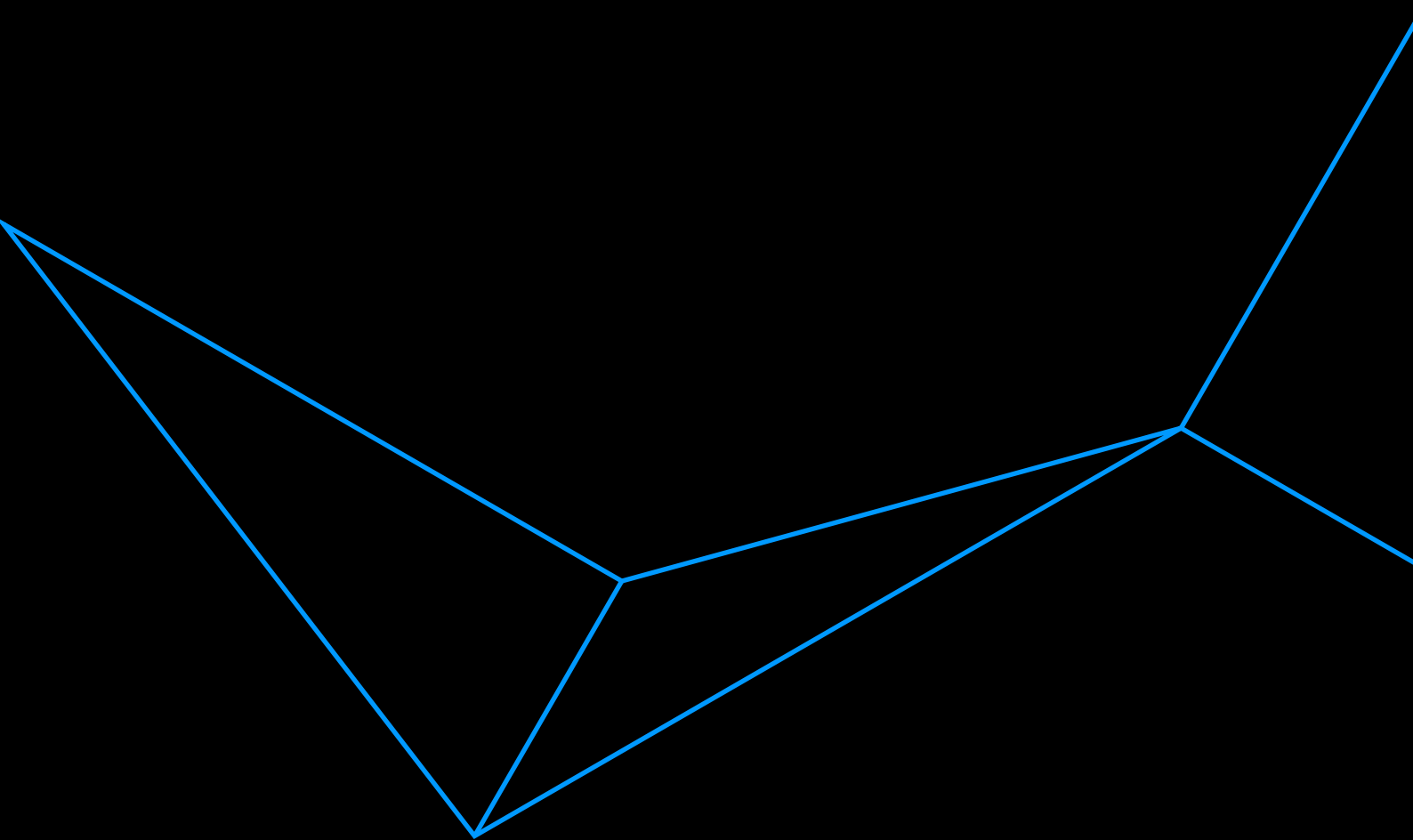
Dry material

Dust rising from a crushing operation can be dampened by water sprays, but actual crushing performance will suffer. Material that is wet when it falls into the hopper will generally cause problems. The water molecules mud together with dust molecules and finer material becomes pasty. The sticky material does not fall out of the crushing chamber, leading to unwanted pressures in the chamber, unnecessary liner wear and reduced performance.

Training

Training is one of the keys to successful aggregate production. Good operator training can extend the life of a cone crusher. A well-maintained and properly operated unit can process material for 20–25 years without major overhaul or junking.

The expected lifespan reduces significantly when good operating procedures are not regularly practiced. Best-practice rules are no help if they are not followed!



For more information on how to improve your operations, contact your local Sandvik team or call our global head office on +46 (0) 8 456 11 00.

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