

## Commissioning mixes

For the first fill of a machine, i.e. when a new or second-hand machine is being commissioned or when a trial is to be run and the machine has been emptied of the previous abrasive, a 'commissioning mix' needs to be added which will simulate, as near as possible, the operating mix required in the machine.

It must however be accepted, this mix will not initially give the same performance as the operating mix until the abrasive has become 'conditioned'. The abrasive needs first to clean itself of the oxide layer and then to work-harden.

The abrasives required per abrasive type:

**Shot – Shot mix**

**SH Grit – SG/Shot mix**

**LG Grit – LG mix**

**HG Grit – HG mix**

The following tables give an indication of the abrasives needed per abrasive size and type. The abrasive to be used in the blasting applications is across the top. The abrasives required to make up the commissioning mix are show in the left hand vertical column.

### HG Grit

Abrasive to be added for commissioning mix	Abrasive to be used in the blasting application									
	HG10	HG12	HG14	HG16	HG18	HG25	HG40	HG50	HG80	
HG10	60%									
HG12		60%								
HG14	25%		60%							
HG16		25%		60%						
HG18	15%		25%		60%					
HG25		15%		25%	25%	60%				
HG40			15%	15%	15%	25%	60%			
HG50						15%	40%	60%		
HG80								40%	100%	

## Commissioning mixes

### LG Grit

Abrasive to be added for commissioning mix	Abrasive to be used in the blasting application									
	LG10	LG12	LG14	LG16	LG18	LG25	LG40	LG50	LG80	
LG10	50%									
LG12		50%								
LG14	30%		50%							
LG16		30%		50%						
LG18	20%		30%		50%					
LG25		20%		30%	30%	50%				
LG40			20%	20%	20%	30%	60%			
LG50						20%	40%	60%		
LG80								40%	100%	

### SG Grit

Abrasive to be added for commissioning mix	Abrasive to be used in the blasting application									
	SG10	SG12	SG14	SG16	SG18	SG25	SG40	SG50	SG80	
SG10	30%									
SG12		30%								
SG14			30%							
SG16				30%						
SG18					30%					
SG25						30%				
SG40							30%			
SG50								60%		
SG80									100%	
S780	20%									
S660		20%								
S550	30%		20%							
S460		30%		20%						
S390	20%		30%		20%					
S330		20%		30%						
S280			20%		30%	20%				
S230				20%		30%				
S170					20%	20%	30%			
S110							40%	40%		
S070										

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### Shot

		Abrasive to be used in the blasting application										
		S780	S660	S550	S460	S390	S330	S280	S230	S170	S110	S070
Abrasive to be added for commissioning mix	S780	50%										
	S660		50%									
	S550	30%		50%								
	S460		30%		50%							
	S390	20%		30%		50%						
	S330		20%		30%		50%					
	S280			20%		30%		50%				
	S230				20%		30%	30%	60%			
	S170					20%	20%	20%	40%	60%		
	S110									40%	100%	
	S070											100%

It is important to remember that in the case of wheel machines there may be a requirement for the machine wear plates to be work-hardened if they are made of manganese steel. In this case the machine needs to start with Shot regardless of the abrasive required for the blasting application.

If SG is the required abrasive for the blasting application then the SG element of the commissioning mix can be added after the work-hardening.

If LG or HG is required abrasive then the shot will need to be removed from the machine prior to adding the LG or HG commissioning mix. In the situation where LG or HG is to be used, the machine will need to be run without any work pieces within the machine. This may also be necessary for SG and, if possible, is advisable for Shot.

Advice on work-hardening should be obtainable from the machine supplier, but as a guide a minimum of 50 hours blasting is required.

The discarding of the shot may be considered expensive, but this is the price that has to be paid. However, the least amount of shot as possible should be added to the machine.

## Commissioning mixes

A guide to the shot addition required when the shot is to be removed is as follows.

**$0.33 \times \text{No. of wheels} \times \text{kW per wheel} \times \text{work-hardening hours required} \times 1.5^*$**

For example:- 4 wheel machine with 22 kW motor to work-harden for 50 hours.

**$0.33 \times 4 \times 22 \times 50 \times 1.5 = 2178 \text{ kgs.}$**

\*The factor of 1.5 is used in that the addition of shot needs to be 150% of the amount that would be consumed in the work-hardening process.