

Specification of Abrasives

FEATURES:

Particle Shape: Rounded abrasive particles produce a peened surface, whereas angular or irregular shaped abrasive particles produced an etched or angular surface profile. Selecting the right particle shape to produce the required profile and texture for the job at hand can impact productivity and performance of the coating applied.

Particle Weight : Different mettalic abrasives have different mass weights per unit volume and different impact values. For a given impact velocity and particle shape, the weight (mass) of the particle determines the shape and the depth of the profile produced. Because steel abrasives have approximately 1-1/2 to 2-1/2 times the density of nonmetallic abrasive, steel abrasives create more impact for a given particle size. Smaller steel abrasive particles will produce the same impact value as nonmetallic particles 1-1/2 to 2 1/2 times larger. With the smaller steel abrasive there are more abrasive particles impacting the surface per unit time, which means faster cleaning rates.

Particle Size : Abrasive particle size influences two primary functions of blast cleaning, rate of cleaning and profile. Decreasing particle size may increase cleaning rate because more particles are impacting the surface per unit time.

Increasing abrasive size may be necessary to increase profile and/ or to remove heavy coatings

Particle Hardness : It is generally believed that the harder an abrasive, the better it will perform on difficult to clean areas.

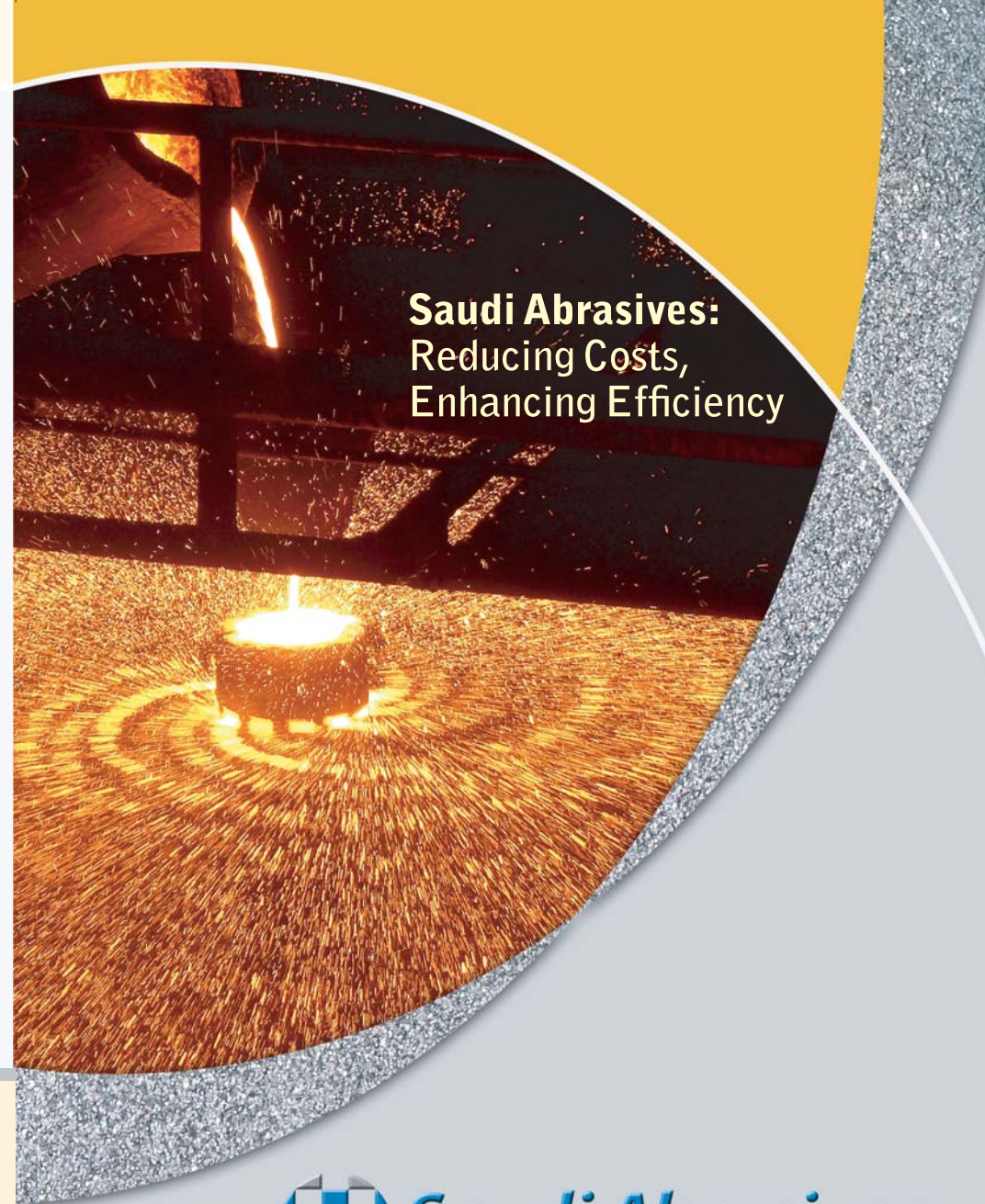
Dust Generation: Metallic abrasives do not break down on impact like conventional nonmetallic abrasive products. Consequently, there is considerably less dust and waste generated during the blasting process. Low dust levels mean better visibility, faster cleaning, increased productivity and shorter cleanups, saving time and labor and disposal costs.

Saudi Abrasives.	Steel Shot	Steel Grit GS	Steel Grit GM	Steel Grit GL	Steel Grit GH
Shape when new	Round	Angular	Angular	Angular	Angular
Shape in the Operating mix	Round	Angular			
Sieve Analysis	According to standard SAE J 444				
Chemical Composition (%)	C 0.80 - 1.20	Si 0.40 - 1.20	Mn 0.60 - 1.20	S <0.05	P <0.05
Micro hardness. Tukon	normal 40-51 HRC other hardness	40-51 HRC	47-56 HRC	54-61 HRC	min 60 HRC
Vickers	392-528 HV other hardness	392-528 HV	544-613 HV	613-697 HV	> 697 HV
Standard deviation	On 10 measurements taken halfway across the particle radius. Arithmetic mean of absolute values of deviations:				
	± 3 Rc or ± 40 HV	± 3 Rc or ± 40 HV	± 3 Rc or ± 50 HV	± 3 Rc or ± 60 HV	± 3 Rc or ± 80 HV
Microstructure	The microstructure of the abrasive consist of martensite, tempered to a degree consistent with the hardness range.				
Minimum density measured by alcohol displacement	≥ 7.0 g/cm ³		≥ 7.3 g/cm ³		

Packaging



25kg / bag, 40 bags in each wooden pallet (1 tonne)
600-1000kg Drums



Saudi Abrasives:
Reducing Costs,
Enhancing Efficiency



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Distributor



Steel Shot

PRODUCT	7	8	10	12	14	16	18	20	25	30	35	40	45	50	80	120	200
S780	AP		85% min	97% min													
S660		AP		85% min	97% min												
S550			AP		85% min	97% min											
S460			AP	5% max	85% min	96% min											
S390				AP	5% max	85% min	96% min										
S330					AP	5% max	85% min	96% min									
S280						AP	5% max	85% min	96% min								
S230							AP	10% max	85% min	97% min							
S170								AP	10% max		85% min	97% min					
S110									AP	10% max			80% min	90% min			
S70										AP	10% max			80% min	90% min		
Screen number	7	8	10	12	14	16	18	20	25	30	35	40	45	50	80	120	200
Screen size mm	2.80	2.36	2.00	1.70	1.40	1.18	1.00	0.85	0.71	0.60	0.50	0.425	0.355	0.30	0.180	0.125	0.075
Screen size inches	0.111	0.0937	0.0787	0.0661	0.0555	0.0469	0.0394	0.0331	0.0278	0.0234	0.0197	0.0165	0.0139	0.0117	0.007	0.0049	0.0029

SAUDI ABRASIVES is the first steel shot and grit manufacturing company in the Middle East. It has been set up by technocrats with over 30 years of experience in the business.

Installed with the latest, state-of-the-art technology and features, the unit has an installed capacity to produce over 10,000 metric tons of world class steel shot and grit per annum to meet the requirements of high-end customers across a plethora of industries.

The plant is equipped with two medium frequency induction melting furnaces, besides atomizing systems, hardening, tempering, crushing and screening equipment required to achieve the SAE international standard for steel abrasives.

With a strong professional team of experts and technicians in the field, SAUDI ABRASIVES has also installed the most advanced metallurgical instruments at their testing laboratory. This is to analyze the microstructure, hardness and chemical composition of the steel shots and grit produced. At the same time, the company provides perfect technical support with good back up services and complete solutions to all our esteemed customers.



Steel Grit

PRODUCT	7	8	10	12	14	16	18	20	25	30	35	40	45	50	80	120	200
G12		AP		80% min	90% min												
G14			AP		80% min	90% min											
G16				AP		75% min	85% min										
G18					AP		75% min	85% min									
G25						AP			70% min			80% min					
G40							AP					70% min	80% min				
G50								AP					65% min	75% min			
G80										AP			65% min	75% min			
G120											AP		90% min	60% min	70% min		
Screen number	7	8	10	12	14	16	18	20	25	30	35	40	45	50	80	120	200
Screen size mm	2.80	2.36	2.00	1.70	1.40	1.18	1.00	0.85	0.71	0.60	0.50	0.425	0.355	0.300	0.180	0.125	0.075
Screen size inches	0.111	0.0937	0.0787	0.0661	0.0555	0.0469	0.0394	0.0331	0.0278	0.0234	0.0197	0.0165	0.0139	0.0117	0.007	0.0049	0.0029

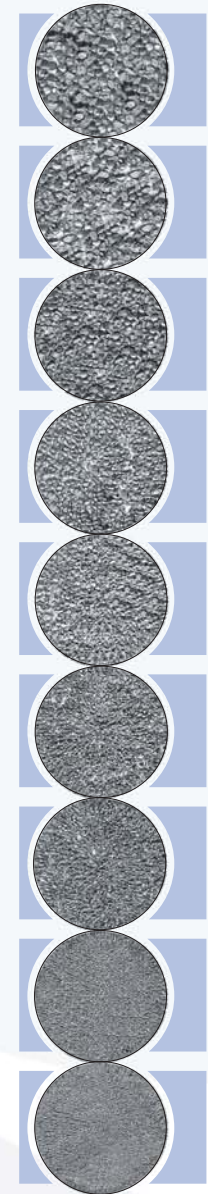
Steel grit and Shot are non polluting blast media used extensively in the blast cleaning industry to remove paint, rust, millscale and other surface contaminants from steel, concrete and other surfaces prior to coating. It is also used to remove surface contaminations from casting parts in foundry. The cost effectiveness is incomparable due to its impact resistance qualities, durability and with utmost cleaning capacity.

STEEL SHOT:

Steel Shots are spherical in shape, which are produced by the atomization of molten steel, followed by a series of thermal and mechanical treatments in order to attain martensite microstructure. Steel shots are widely used as a media for descaling steel components prior to coating. In this application the media is used almost exclusively in centrifugal wheel airless blasting equipment. It is also used in the foundry casting industry to remove sand from castings after removal from the mould and also for shot peening operations on metal components which are exposed to severe stress in automobile and construction machinery industries.

STEEL GRIT:

Steel grit is angular in shape and is produced by crushing oversize steel shots and subsequently heat treated by tempering to get the required hardness and microstructure. These intrinsic characteristics of the product enormously enhance the performance of the blasting for heavy descaling, deep descaling and surface preparations. The angular shape and relative hardness of steel grit ensures rapid cleaning rates and excellent recyclability. With variations in hardness and size, steel grit can also be used for cutting granite and stones. The four standard hardness ranges for high carbon cast-steel grit are as follows:
GS : The hardness range from 40 to 51 HRC
GM : The hardness range from 47 to 56 HRC
GL : The hardness range from 54 to 61 HRC
GH : Minimum 60 HRC



S780

S660

S550

S460

S390

S330

S280

S230

S170

S110

G12

G14

G16

G18

G25

G40

G50

G80

G120