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Mena Abrasives

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Mena Abrasives – Surface Preparation Solutions You Can Trust

Mena Abrasives, a division of Pentamena Oilfield and Facility Services L.L.C, is a leading UAE-based supplier of high-performance abrasive materials. Proudly **ISO 9001:2015 certified**, **ICV certified**, and **ADNOC prequalified**, we specialize in delivering premium-grade **garnet, steel grits, steel shots, blasting media**, and related accessories.

Sourced from globally recognized manufacturers, our abrasives are engineered to meet the demanding requirements of the **Oil & Gas, marine, construction, and industrial sectors**. With a strong commitment to **quality, competitive pricing**, and **on-time delivery**, Mena Abrasives ensures reliable performance for all your surface preparation needs.

Pentamena – Your Complete Partner in Oilfield & Industrial Supplies

As the parent company, **Pentamena Oilfield and Facility Services L.L.C** offers a complete portfolio of industrial solutions in the UAE, including **Penta Safety PPE**, **power and hand tools**, **welding accessories**, **insulation and cladding materials**, and **oilfield consumables**. We also provide **rental services** such as Oil **& Gas HSE equipment** and **scaffolding materials**, ensuring full support across your project lifecycle.

Pentamena is your trusted partner for safe, efficient, and cost-effective operations. Driven by a skilled team and a client-focused approach, we ensure professionalism, reliability, and long-term value in every project we undertake. Our commitment to quality service and customer satisfaction makes us a dependable choice across the Oil & Gas, industrial, and construction sectors.

"We treat all our clients with equal care, dedication, and professionalism."

Mena Abrasives

MENA ABRASIVES GARNET

Premium Quality Garnet for Industrial Applications

Mena Abrasives Garnet is a premium-quality, high-performance abrasive ideal for **blasting, waterjet cutting, and surface preparation**. Known for its **superior hardness**, **low dust emissions**, and **consistent particle size**, it is highly recommended for **surface cleaning prior to painting and coating**. Mena Garnet ensures **efficiency, safety, and cost-effectiveness** across various industrial applications.

Mena Super Garnet is an **ADNOC-approved MAR product**, specifically engineered for **high-performance abrasive blasting and waterjet cutting**, meeting the **highest industry standards** for quality and reliability.

Mesh Size Application Key Benefits

- **30/60** General-purpose blasting – pipelines, storage tanks, and surface prep
- **20/40** Heavy-duty blasting – steel structures, tanks, and shipbuilding
- **80** Waterjet cutting – precise cutting of metals, stones, and composites Mesh

Key Features & Benefits

- **ADNOC Approved – MAR Certified**
  Complies with stringent industry standards for oil & gas applications
- **High Purity & Hardness**
  Ensures efficient cutting and blasting performance with minimal dust generation.
- **Low Chloride Content**
  Reduces the risk of surface contamination and enhances coating adhesion.
- **Environmentally Friendly**
  Non-toxic, reusable, and free from heavy metals—safe for operators and the environment.
- **High Bulk Density**

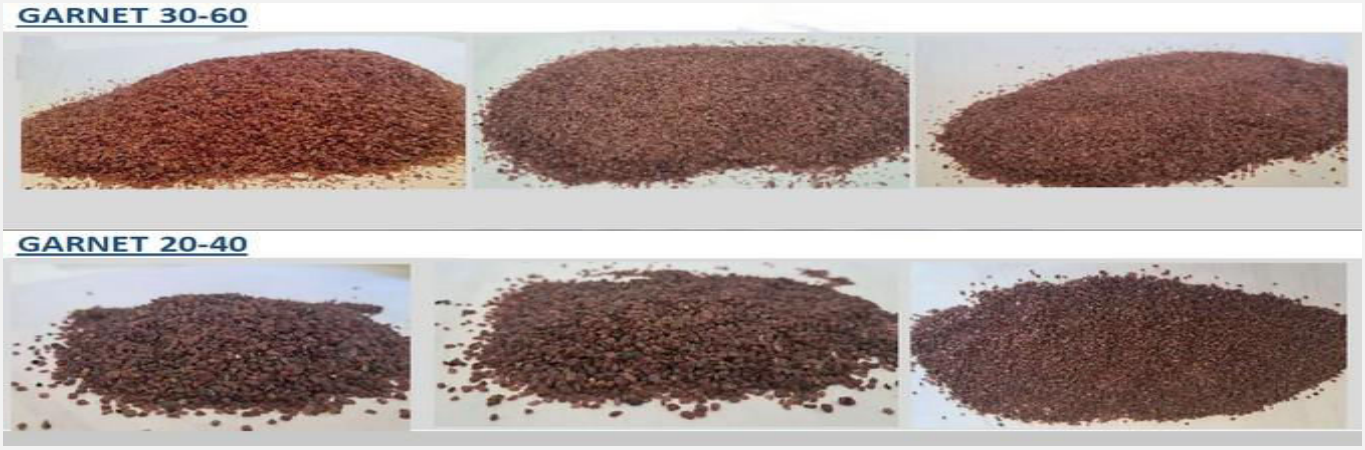
  Enhances blasting efficiency and reduces abrasive consumption, lowering overall costs.

Applications

- **Surface Preparation**
  Ideal for cleaning oil & gas pipelines, storage tanks, and steel structures before coating.
- **Shipbuilding & Marine Maintenance**
  Effectively removes rust, old paint, and contaminants from hulls and ship components.
- **Waterjet Cutting**
  Provides precision cutting for metals, stones, composites, and other engineering materials.
- **Construction & Industrial Maintenance**
  Suitable for demanding surface finishing requirements across various sectors.

Advantages of Mena Abrasives Garnet Mesh

Grade	Mesh Size	Blasting Profile (µm / mils)	Rec. Nozzle Size	Surface Standard Achievable	Productivity (m²/ hr)	Cons. (kg/m²)	Recommended Applications
#20/40	0.84 – 0.42 mm	70–100 µm / 2.7–4.0 mils	8 mm to 10 mm	SSPC-SP10 / SA 2.5	15–20	20–25	Heavy rust, old coatings, structural steel
#30/60	0.60 – 0.25 mm	50–75 µm / 2.0–3.0 mils	6 mm to 8 mm	SSPC-SP10 / SA 2.5	20–25	15–20	General-purpose blasting, pipes, tanks
#80	0.18 – 0.3 mm	30–50 µm / 1.2–2.0 mils	5 mm to 6 mm	SSPC-SP7 / SP6	25–30	10–15	Stainless steel, aluminum, sensitive surfaces



The combination of tough mineral structure and rapid setting results in lower levels of dust creation during blasting.

Superior surface profile: garnet grains create a uniform profile virtually free of embedment, providing an excellent surface for coating adhesion.

Cost-effective: highly effective, low consumption.

Non-toxic: inert and natural, crystalline silica levels are less than 1%.

Easy cleanup.

Inert: will not interfere with your coatings.

Non-porous: will not draw moisture.

Hazards Identification:

Almandine Garnet is an inert, stable solid needing no special handling in normal use.

- Incompatibility - None Known
- Hazardous decomposition or by Products - None Known
- Hazardous Polymerization - Will not Occur
- Conditions to Avoid - None Known

Health Hazard Data:

- Route(s) of entry
- Inhalation: Possible
- Skin: None
- Ingestion: None.

Health Hazards (acute and Chronic):

None Known. Use care to limit possible exposure to nuisance dust during blast cleaning.

Signs and Symptoms of exposure:

Exposure to nuisance dust may cause eye, throat, or lung irritation, coughing, or shortness of breath.

Emergency and First Aid Procedures:

Eye contact: Wash eyes with water to flush out dust particles.
Skin contact: Wash affected area with soap and water.

Fire and Explosion Hazard Data:

Material is a non-flammable solid.

Extinguishing Media

Use appropriate extinguishing media for the surrounding fire.

Accidental Release Measures:

No special precautions necessary. Sweep or vacuum material for disposal.

Handling and Storage:

Use good housekeeping practices to reduce dust.

Exposure Controls:

Respiratory Protection: NIOSH/MSHA approved filters and air-supplied hoods for blasters.
Ventilation: yes
Local exhaust: Use when blast cleaning
Special: None
Mechanical (general): Meet dust TLV
Protection gloves: Leather or equivalent
Eye protection: safety glasses with side shields

Physical and Chemical Properties:

Melting Point: 1315℃

Specific Gravity: 4.1

Solubility in Water: Insoluble

Appearance: Deep Red, Reddish Brown

Stability and Reactivity:

Almandine Garnet is an inert, stable solid.

Toxicological Information:

Contains no heavy metals that pose environmental or industrial hygiene risks.

Ecological Information:

Chemically inert non-metallic mineral commonly found in natural environments

Disposal Considerations:

Follow local, state, and federal guidelines.

Mode of Transport:

Can use any safe and convenient mode of transport.

Regulations:

Regulated by OSHA and ACGIH limits.

Other Details:

Mena Abrasive Garnets are environmentally friendly.

Mena Abrasives

Mena Abrasive - Mena Super Garnet 30-60 (I). Product Data Sheet

Composition/Information on Ingredients:

Physical Data:

- Chloride Content: < 17.72 ppm
- Water Content Solubility: Moisture <0.025%, Insoluble in water under normal conditions
- Acid Solubility: <1.0%
- Hardness: 8 Mohs Scale
- Specific Gravity: 4.1 g/cm³
- Melting Point: 1315°C
- Free Silica Content: No Free Silica
- Color: Red - Pink
- Grit Shape: Sharp Edged, Semi Angular

Chemical Composition

Elements	Guaranteed (%)	Typical (%)
SiO_2	33.0 - 38.0	36.06
Al_2O_3	19.0 - 22.0	20.26
Fe_2O_3	30 - 35.0	31.66
TiO_2	0.5 - 2.8	1.80
CaO	1.0 - 2.0	1.86
MgO	6.0 - 8.0	6.10

Mineralogy

Mineral	Guaranteed (%)	Typical (%)
Garnet	Max 98.50	98.92
Ilmenite	Max 01.00	0.86
Others	Max 00.50	0.22

Mena Abrasives

Particle Size Analysis

Mesh	MM	Guaranteed (%)	Typical (%)
30	0.600	0-2	0.44
40	0.425	12-22	17.48
50	0.300	45-65	60.86
60	0.250	5-25	11.42
70	0.212	0-10	6.38
80	0.180	0-5	3.42

Physical Analysis

Parameters	Guaranteed	Typical
Hardness	Min. 12 Mohs	9 Mohs
Conductivity	Max <100 µS/cm	85 µS/cm
Chloride	Max 25 ppm	19 ppm
Specific Gravity	3.9 - 4.3	4.1
Bulk Density	2.10 - 2.70 g/cm³	2.46 g/cm³
Toxic Substance	None	None
Suspended Solid	Max 1500 mg/l	680 mg/l
Moisture Content	Max 0.30 %	0.16 %

Mena Abrasives

Mena Abrasive - Garnet Mesh 30-60 (EG): Product Data Sheet

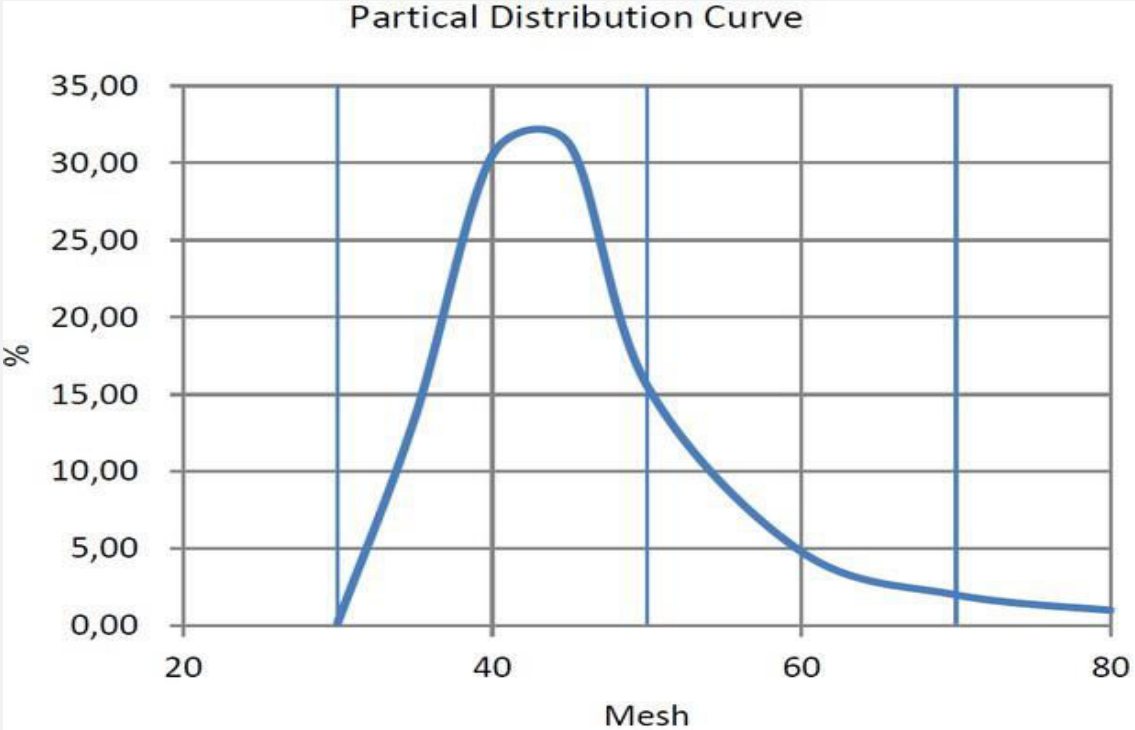
Category	Property	Value
Mineral Content	Almandine	>93.00%
	Ilmenite	<2.00%
	Albite	<2.00%
	Kaolinite	<2.00%
	Quartz	<1.00%
	Others	<1.00%
Chemical Composition	Fe_2O_3 (Ferric Oxide)	1.12%
	SiO_2 (Silicon Dioxide)	37.88%
	TiO_2 (Titanium Dioxide)	1.87%
	Al_2O_3 (Aluminum Oxide)	21.28%
	FeO (Ferrous Oxide)	26.76%
	CaO (Calcium Oxide)	1.35%
	MgO (Magnesium Oxide)	9.01%
	MnO (Manganese Oxide)	0.33%
Physical Characteristics	Bulk Density	1.96 g/cm³
	Specific Gravity	3.96
	Hardness (Mohs)	7.6
	Melting Point	1260°C
	Conductivity	<85 µS/cm
	Total Chlorides	<20 ppm
	Ferrite (Free Iron)	<0.01%
Heavy Metals & Safety	Lead	Not detectable
	Copper	Not detectable
	Radioactivity	Not detectable

Garnet Analysis results

TEST	TEST METHOD	UNIT	RESULT	Specification (ISO 11126-10)
Moisture Content	ISO 11127-5	wt. %	0.09	max. 0.2
Hardness	ISO 11127-4	Mohs	>6	min. 6
Chlorides	ISO 11127-7	ppm	17	max. 25
Conductivity	ASTM D4940	µs/Cm	83	max. 250

Partical Distribution

Size Mesh	Weight (%)
+600 30	0.20
+500 35	13.50
+425 40	30.50
+355 45	31.20
+300 50	15.60
+250 60	4.80
+212 70	2.00
+180 80	1.00
-180 80	1.20
Total	100.00



Mena Abrasive Garnet Mesh 20-40 (I): Product Data Sheet

MENA Garnet 20/40 mesh is a high-performance, natural almandine garnet abrasive ideal for open blasting in the oil & gas, marine, and construction sectors. It ensures excellent surface preparation, minimal dust emission, and superior cost-effectiveness.

Comprehensive Technical Data Table

Property	Typical Value
Mesh Size	20/40
Hardness (Mohs)	7.5 – 8.0
Specific Gravity	3.7 – 4.2 g/cm³
Bulk Density	1.8 – 2.4 g/cm³
Melting Point	1250 – 1300°C
Conductivity	10 – 125 µS/cm
Chloride Content	<25 ppm
Free Silica	<0.1%
Moisture Absorption	Nil
Particle Shape	Sub-angular
Color	Reddish Brown
Radioactivity	Not detectable
Recyclability	Up to 3–4 cycles
Surface Profile	65–105 µm (2.5–4.2 mils) depending on pressure and substrate
Blasting Rate	Up to 20 m²/hr
Consumption Rate	10–15 kg/m²

Chemical Composition

Compound	Typical Range
SiO_2 (Silicon Dioxide)	34 – 40%
Al_2O_3 (Aluminum Oxide)	15 – 21%
Fe_2O_3 + FeO (Iron Oxides)	25 – 31%
MgO (Magnesium Oxide)	5 – 6%
CaO (Calcium Oxide)	5 – 10%
MnO (Manganese Oxide)	0 – 1%
TiO_2 (Titanium Dioxide)	0.1 – 1%

Particle Size Distribution (Sieve Analysis)

US Mesh	Opening (mm)	% Retained
12	1.680	0.00%
20	0.841	3.66%
30	0.595	42.64%
40	0.420	42.86%
50	0.297	9.93%
Pan	—	0.91%

Applications

- **Surface Preparation**: Ideal for removing thick coatings, rust, and mill scale from steel structures, pipelines, and tanks.
- **Shipbuilding and Maintenance**: Effective in cleaning ship hulls and decks.
- **Waterjet Cutting**: Suitable for cutting metals, stones, and composites.
- **Construction**: Used in preparing surfaces for painting or coating applications.

Mena Abrasives

Steel Grits & Steel Shots – High-Performance Abrasives

Product Overview:

Steel Grits and Steel Shots are durable, high-performance abrasives used in surface preparation, shot blasting, and peening applications. These abrasives are made from hardened steel, ensuring high impact strength, recyclability, and superior cleaning efficiency.

They are widely used in industries such as oil & gas, shipbuilding, construction, foundries, and automotive for cleaning, descaling, surface roughening, and shot peening.

Steel Grits vs. Steel Shots

Feature Steel Grits Steel Shots Shape Angular Spherical

Hardness 40-65 HRC 40-60 HRC

Application Aggressive surface cleaning & roughening Smooth surface preparation & peening

Surface Finish Creates rougher texture for better adhesion Produces a smoother finish Common Uses Rust & paint removal, heavy-duty blasting Shot peening, cleaning, and surface polishing

Recyclability High (Multiple cycles) High (Multiple cycles)

Mena Abrasives

Available Grades & Specifications

Steel Grits

Grade	Size (mm)	Hardness (HRC)	Application
G14	1.4 – 2.0	40–50	Surface cleaning, descaling
G18	1.2 – 1.7	45–55	Rust and paint removal
G25	1.0 – 1.4	50–60	Heavy-duty blasting
G40	0.6 – 1.2	55–65	Roughening for coating adhesion
G50	0.4 – 1.0	58–65	Precision cleaning & preparation

Steel Shots

Grade	Size (mm)	Hardness (HRC)	Application
S110	0.3 – 0.5	40–50	Shot peening, polishing
S230	0.5 – 0.8	45–55	General cleaning, deburring
S330	0.8 – 1.2	50–60	Surface finishing, descaling
S460	1.2 – 1.7	55–65	Heavy-duty cleaning & preparation

Key Features & Benefits

- **High Durability & Recyclability** – Can be reused multiple times, reducing overall costs
- **Low Dust Generation** – Promotes a cleaner, safer working environment
- **Efficient Surface Preparation** – Enhances coating and paint adhesion
- **Consistent Particle Size** – Ensures uniform blasting results
- **Ideal for Heavy-Duty Applications** – Engineered for industrial-scale performance

Applications

- **Blasting & Surface Preparation –** Ideal for shipbuilding, oil & gas facilities, and steel structures
- **Shot Peening** – Used in automotive, aerospace, and fatigue-resistance treatments
- **Rust & Paint Removal** – Effective on bridges, pipelines, and machinery
- **Cleaning & Descaling** – Applied in foundries, metal casting, and heat-treated components
- **Coating & Paint Adhesion** – Prepares surfaces for durable paint and powder coatings

Mena General Abrasive Solutions

Mena Abrasives **offers both** in-house **and** branded **general abrasive products, including** Buffing Wheels**,** Flap Discs**, and** Emery Papers**. These high-performance solutions are developed to meet the demanding needs of** metal finishing**,** polishing**,** deburring**, and** surface preparation **tasks. Engineered for reliable use in** industrial**,** automotive**, and** metal fabrication **environments, they deliver consistent performance, exceptional durability, and precise results. Whether you're smoothing edges, removing imperfections, or achieving a refined finish,** Mena General Abrasives **enhance** efficiency**,** productivity**, and** surface quality**.**









Mena Abrasives – Your Surface Preparation Partner

Thank you – we look forward to your valuable inquiries.

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