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› SHALL /

› SHALL 4-1/2 x 7/8 Inch Cut-Off Wheels Instruction Manual

## SHALL SH008001AE

# SHALL 4-1/2 x 7/8 Inch Cut-Off Wheels Instruction Manual

Model: SH008001AE

## 1. INTRODUCTION

This instruction manual provides essential information for the safe and effective use of SHALL 4-1/2 x 7/8 inch cut-off wheels. These wheels are designed for precise and efficient cutting of various materials, primarily metals, when used with a compatible angle grinder. Please read this manual thoroughly before use to ensure proper operation and safety.

## 2. SAFETY INFORMATION

**WARNING: Always prioritize safety when using abrasive tools. Failure to follow safety guidelines can result in serious injury.**

- **Personal Protective Equipment (PPE):** Always wear appropriate safety gear, including security glasses, welding gloves, and a face shield. Hearing protection and protective clothing are also recommended.
- **Tool Compatibility:** Ensure your angle grinder is compatible with 4-1/2 inch diameter wheels and has a 7/8 inch arbor.
- **RPM Matching:** Verify that the maximum operating RPM of your angle grinder does not exceed the maximum rotational speed of the cut-off wheel (13,300 RPM).
- **No Grinding:** These wheels are designed exclusively for cutting applications. Do not use them for grinding.
- **Wheel Inspection:** Before each use, inspect the cut-off wheel for any signs of damage, such as cracks, chips, or warping. Discard any damaged wheels immediately.
- **Proper Installation:** Always ensure the wheel is securely and correctly mounted on the angle grinder spindle. Use the grinder's safety guard.



Image 1: SHALL 4-1/2 inch cut-off wheel displaying key specifications and mandatory safety icons for eye, hand, hearing, and body protection, along with a warning against improper use.

### 3. PRODUCT OVERVIEW

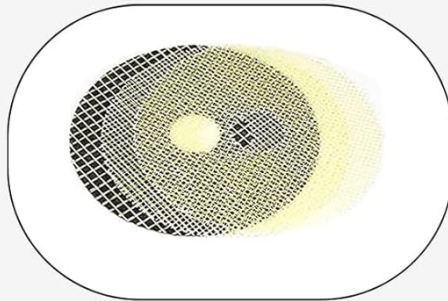
The SHALL 4-1/2 x 7/8 inch cut-off wheels are engineered for durability and performance. Each pack contains 25 wheels, along with a convenient carrying pouch.

#### Key Features:

- **Dimensions:** 4-1/2 inch (115 mm) diameter, 7/8 inch (22.2 mm) arbor hole, 3/64 inch (1.2 mm) thickness.
- **Material Composition:** Constructed from high-quality single crystal corundum and calcined corundum for enhanced cutting performance.
- **Reinforcement:** Features a double reinforced fiberglass mesh for increased safety and durability during operation.
- **Maximum Speed:** Rated for a maximum rotational speed of 13,300 RPM (80 M/S).
- **Carrying Pouch:** Includes a sturdy 600D Oxford cloth pouch, capable of holding up to 10 wheels, to protect them from moisture and dirt.

# Top Material

Durable & Safe



- Single crystal corundum
- Calcined corundum



- Double reinforced
- fiberglass mesh for safety



Image 2: Exploded view diagram illustrating the internal structure of the cut-off wheel, highlighting the single crystal corundum, calcined corundum, and double reinforced fiberglass mesh for durability and safety.



organized / convenient  
**Carrying Pouch**

**600D Oxford Cloth**



**capacity: 10 pieces**

Image 3: The included 600D Oxford cloth carrying pouch, designed for organized and convenient storage of up to 10 cut-off wheels, protecting them from environmental elements.

## 4. SPECIFICATIONS

Attribute	Value
Brand	SHALL
Model Number	SH008001AE
UPC	768358104596
Grit Material	Aluminum Oxide
Grit Type	Fine (80 Grit)
Product Dimensions (Wheel)	4.5"L x 4.5"W (115mm Diameter)
Item Thickness	1.2 Millimeters (3/64 inch)
Arbor Size	7/8 inch (22.2 mm)
Construction Type	Cut-off Wheels
Maximum Rotational Speed	13,300 RPM (80 M/S)
Compatible Devices	Angle Grinder
Item Weight (Pack)	1.81 pounds

## 5. SETUP

Proper setup is crucial for safe and effective operation.

- 1. Read Grinder Manual:** Always refer to your angle grinder's instruction manual for specific wheel installation procedures and safety guidelines.
- 2. Power Disconnection:** Ensure the angle grinder is unplugged or its battery is removed before attempting to install or change any accessories.
- 3. Compatibility Check:** Confirm that the SHALL cut-off wheel (4-1/2 inch diameter, 7/8 inch arbor) matches the specifications of your angle grinder.
- 4. Inspect Wheel:** Visually inspect the new cut-off wheel for any damage. Do not use a damaged wheel.
- 5. Mounting:** Place the cut-off wheel onto the grinder's spindle, ensuring it sits flush against the inner flange. Secure it with the outer flange and tighten the spindle nut using the appropriate wrench. Do not overtighten.
- 6. Safety Guard:** Always ensure the angle grinder's safety guard is properly installed and adjusted to provide maximum protection during operation.

**4-1/2" x 7/8" x 3/64"**

**MAX 13300RPM 80M/S**

**Best Match Size**

**SHALL®**

SH008001

**4-1/2"**

**CUT-OFF WHE**

**4-1/2" x .045" x 7/8"**

**115 x 1.2 x 22.2mm**

**MAX 13300 RPM**

**80 m/s**

Thickness  
**3/64"**  
**Ultra thin**



**INOX / METAL CUTTING**

Image 4: A detailed view of the cut-off wheel, emphasizing its ultra-thin 3/64 inch (1.2mm) profile and its 'Best Match Size' indication for standard angle grinders.

## 6. OPERATING INSTRUCTIONS

Follow these guidelines for optimal cutting performance and safety.

1. **Secure Workpiece:** Always clamp or secure the material you are cutting to prevent movement during operation.
2. **Initial Contact:** Start the angle grinder before making contact with the workpiece. Allow the wheel to reach full operating speed.
3. **Cutting Technique:** Apply steady, even pressure. Allow the wheel to do the work. Avoid excessive force, twisting, or bending the wheel, as this can cause breakage or kickback.
4. **Material Suitability:** These cut-off wheels are suitable for a wide range of materials, including: ferrous metals, non-ferrous metals, stainless steel, wood, plastics, fiberglass, aluminum, steel pipe, structural steel rebar, galvanized steel, sheet metal, and structural tubing.
5. **Clean Cuts:** The design of these wheels promotes sharp and clean cuts with minimal thermal burns and burrs.

on the workpiece.

6. **Cooling:** For prolonged cuts, allow the wheel and workpiece to cool periodically to prevent overheating.



Image 5: An angle grinder in operation, cutting a metal pipe, demonstrating the smooth cutting action and minimal thermal burns and burrs achieved with SHALL cut-off wheels.

# Perfect for Metal Cutting & Grinding

stainless Steel, ferrous metal, gray iron, nonferrous materials, aluminum, and pipeline.



**Stainless Steel**



**Ferrous metal**



**Gray iron**



**Nonferrous materials**



**Aluminum**



**Pipeline**



Image 6: A visual representation of the diverse materials that can be cut using SHALL cut-off wheels, including stainless steel, ferrous metal, gray iron, non-ferrous materials, aluminum, and pipelines.



Image 7: An angle grinder actively cutting a metal beam, illustrating the sparks generated during the cutting process, indicative of effective material removal.

## 7. MAINTENANCE

Proper care extends the life and maintains the performance of your cut-off wheels.

- **Storage:** Store cut-off wheels in the provided 600D Oxford cloth carrying pouch or a similar protective container. Keep them in a dry, cool environment, away from moisture, direct sunlight, and extreme temperatures.
- **Inspection:** Regularly inspect wheels for any signs of wear, damage, or degradation. Discard wheels that are chipped, cracked, warped, or have reached their wear limit.
- **Handling:** Handle wheels carefully to avoid dropping or impacting them, which can cause unseen damage.

## 8. TROUBLESHOOTING

If you encounter issues during operation, consider the following:

- **Excessive Wear or Breakage:**

- Ensure the angle grinder's RPM does not exceed the wheel's maximum rating.
- Verify that the correct cutting technique is being used (steady pressure, no twisting).
- Confirm the wheel is suitable for the material being cut.

- **Poor Cut Quality (e.g., rough edges, excessive burrs):**

- Check if the wheel is worn out and needs replacement.
- Ensure the wheel is securely mounted and not vibrating.
- Adjust cutting pressure and speed.

- **Vibration During Operation:**

- Re-check that the wheel is properly and securely installed on the grinder.
- Inspect the wheel for any damage or imbalance.
- Ensure the grinder's flanges are clean and undamaged.

## 9. WARRANTY AND SUPPORT

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For information regarding warranty coverage, product support, or to report any issues, please contact SHALL customer service through the official SHALL website or your point of purchase. Please have your product model number (SH008001AE) and UPC (768358104596) available when contacting support.