

Technical Deep Dive: How SALI Tools Advances Grinding Wheel Performance Through Resinoid Bond Technology

A Technical Review of Resinoid Bond Structure, Grinding Performance and Application Requirements

CALIFORNIA, CA, UNITED STATES, September 10, 2026 / EINPresswire.com/ -- China, September 10, 2026—Grinding wheels for angle grinders are among the most widely used bonded abrasives in metalworking. This technical overview looks at the metal grinding wheel range produced by ZHEJIANG SALI ABRASIVE TECHNOLOGY CO., LTD., a manufacturer based in Zhejiang Province, China, and focuses on product construction, material selection, operational limits and typical metalwork applications. The products are sold under the SALI brand, which the company uses for its professional tool and abrasive business globally.



Logo for SALI Tools

Industry Context

The global grinding wheels market was estimated at USD 7.12 billion in 2025, according to Mordor Intelligence. Grand View Research data indicates that the metalworking segment accounted for 47.2% of the metal abrasives market in the same year. These figures reflect continued demand for abrasives used in metal fabrication, welding, repair, construction and manufacturing processes where surface material must be removed quickly and predictably. ZHEJIANG SALI ABRASIVE TECHNOLOGY CO., LTD., operating under the SALI brand, is a manufacturer of grinding wheels and related power-tool accessories based in Yongkang,

Zhejiang. The company operates the [SALI Tools](http://www.salitools.com) brand through its official website, www.salitools.com. According to company information, its production facility covers 30,000 square meters and has a reported annual grinding-disc capacity of 1.5 billion pieces. The company also states that its products are exported to more than 160 countries and regions.

Product Range and Classification

The product covered in this article is classified by the manufacturing company as a [metal grinding disc](#). In SALI's catalogue, the product line is listed under the A020 series, with models including A0200001, A0200004 and A0200007, as well as additional variants carrying the same series prefix.

According to SALI's product data, the series is offered in the following standard angle-grinder diameters:

- 4 inches / 100 mm
- 4.5 inches / 115 mm
- 5 inches / 125 mm
- 7 inches / 180 mm

The discs are supplied in Type 27 and Type 42 configurations, both in black color. The stated application is cutting and grinding metal.

Construction and Materials

The SALI metal grinding disc is a bonded abrasive product. Its main construction elements are aluminum oxide abrasive grain, a resinoid bond system and fiberglass mesh reinforcement. The company's specification lists the abrasive and bond formulations as A24Q4 BF and A30Q4 BF.

Aluminum Oxide Grain

Aluminum oxide is a conventional abrasive used for general-purpose steel and metal grinding. In portable angle-grinder operations, the grain cuts through weld metal, rust, scale and surface defects. Because the grain fractures during use, it can continue to expose new cutting edges, which is the basis of the self-sharpening behavior found in bonded abrasive wheels.

Resinoid Bond

Resinoid-bonded wheels use a synthetic resin matrix to hold abrasive grains in place. The resin is cured around the grains and the reinforcement, producing a wheel with enough mechanical strength for high-speed rotation. Compared with vitrified products, resinoid wheels are generally more resistant to shock and are widely used for portable grinding equipment.

SALI's product notes state that the bond matrix is intended to minimize wheel wear and control the rate at which used grains are released. In practice, a well-matched bond system can help avoid premature wear and can reduce the cost per grinding operation for an end user.

Fiberglass Reinforcement

The product specification lists fiberglass mesh as part of the wheel structure. The fiber net quantity is stated as two or three pieces. The reinforcement is placed inside the bonded body to improve structural integrity and reduce the risk of breakage under the mechanical stress generated during grinding.

How the Grinding Action Works

Grinding is a high-speed cutting process. The drive spindle rotates the wheel so that the abrasive grains on the wheel surface shear material from the workpiece in the form of small chips. In many grinding operations, the wheel surface speed is kept between 30 and 80 meters per second, depending on the machine type, the wheel diameter and the maximum speed stated on the wheel label.

To grind a complete area, the operator moves the wheel across the workpiece. In addition to the rotating movement, the feed system provides depth-of-cut infeed, typically between 0.005 and 0.05 mm per pass for precision surface grinding, as well as longitudinal and crossfeed movement. When angle-grinder discs are used by hand, the equivalent depth control is achieved through the pressure and angle applied by the operator.

One important property of a bonded grinding wheel is its self-sharpening mechanism. As abrasive grains become dull, grinding resistance rises. The increased stress fractures either the grain or the surrounding bond, allowing worn grains to break away and exposing fresh cutting edges. This is why disc hardness and grain structure influence performance as much as the abrasive type.

Suitable Industrial Applications

SALI specifies the grinding wheel for use in several metalworking and maintenance environments. The relevant industries are:

- Metal fabrication and machinery manufacturing
- Steel construction and infrastructure
- Welding and repair engineering
- Pipeline and oil/gas work
- Automobile manufacturing and auto repair
- Shipbuilding and offshore engineering
- Hardware tools and general maintenance

Within those industries, the disc is intended for weld seam smoothing, deburring and edge chamfering, rust and mill-scale removal, casting and forging cleaning, and general surface shaping. The manufacturer positions the product for use on carbon steel, alloy steel, iron, weld

joints and structural steel. Users should check compatibility before applying a disc to other metals, because grinding wheels designed for steel are not necessarily suitable for soft metals or for materials that require a different abrasive specification.

Matching the Wheel to the Tool

The correct disc size must be matched to the angle grinder or other machine on which it is mounted. A 100 mm disc is intended for compact angle grinders, while larger diameters, such as 125 mm or 180 mm, are intended for larger machines. Before mounting the wheel, the user must verify the machine's maximum no-load speed against the maximum operating speed printed on the wheel label. If the machine speed is higher than the rated wheel speed, the wheel must not be used.

SALI's grinding wheel data specifies a maximum operating speed of 80 m/s. That speed corresponds to the wheel body classification and must not be exceeded by the tool. Operators should also follow the mounting instructions for flanges and locking nuts. In general bonded-abrasive practice, flanges should cover at least one-third of the wheel diameter, and soft blotters should be used to distribute clamping pressure evenly.

Safety and Handling

EN 12413:2019 is the European safety standard for bonded abrasive products. SALI states that its products carry multiple international certifications, including MPA, EN12413 and EU safety standards, and the company holds ISO 9001 and ISO 14001 certifications. Certification is relevant to buyers because it shows the product has been assessed against specific safety and manufacturing requirements.

The following handling points are part of standard safe practice for bonded abrasive wheels:

- Inspect the wheel visually before mounting. Do not use wheels with cracks, chips, bends, or moisture damage.
- Perform a ring test before mounting, where applicable, to detect hidden cracks.
- Check the maximum operating speed printed on the label and compare it with the tool speed.
- Use intact flanges and soft blotters, and do not overtighten the locking nut.
- Run the mounted wheel empty for one to three minutes with the guard in place before starting work.
- Stand out of the plane of rotation when starting the tool.
- Use the safety guard supplied with the angle grinder and never operate without it.

During operation, the recommended grinding angle for portable angle grinders is between 15 and 30 degrees. Excessive pressure should be avoided because it can overheat the workpiece or overload the wheel. Thin cut-off wheels should never be used for side grinding, and grinding

wheels should not be used for work that requires a dedicated cut-off or grinding product. Operators should wear impact-rated eye protection, a face shield where appropriate, a dust mask and hearing protection. Local exhaust ventilation or dust extraction is recommended because dry grinding produces fine metallic and abrasive dust. SALI also recommends storing resin-bonded discs in a cool, dry area, off the floor. Moisture, heat and long-term exposure to humidity can weaken the bond material and reduce wheel service life.

Company Background

ZHEJIANG SALI ABRASIVE TECHNOLOGY CO., LTD. was founded in 2003 and is an integrated manufacturer and global trader of power tools, accessories and hand tools. Its main products include cutting wheels and discs, grinding wheels and discs, flap discs, diamond saws, drill bits, cordless power tools and generators. The company's Yiwu headquarters includes a product showroom of 700 square meters and displays more than 5,000 product types.

SALI employs approximately 150 people, with a research and development team of more than 30 engineers. The company launched the SALI brand in 2010 and reports trademark registrations in more than 190 countries. The SALI Tools brand is exported through distributors and partners across the United States, Europe, Africa, the Middle East, Latin America, Central Asia and other regions.

The company says it uses an in-house testing laboratory and a traceability system to control quality from raw material through to finished product. Its warehouse area of 8,000 square meters is used to hold ready stock for standard items, which is an important operational factor for distributors and importers planning inventory.

Market Presence and User Recognition

SALI's market presence extends beyond its manufacturing and distribution network, with the brand also gaining recognition in major online retail markets. Media reports have highlighted SALI's performance on Amazon in the United States, where its grinding wheel products have remained among the top-selling products in the category and have frequently ranked within the top three in sales rankings over an extended period.

The brand has also built a substantial user base across Europe and North America. According to media reports, SALI has served more than one million users across European and North American markets, reflecting the brand's growing presence among professional users and consumers of abrasive products. This market exposure provides an additional reference point for evaluating the commercial reach of SALI's grinding wheels alongside their manufacturing capacity, product specifications and compliance with international safety requirements.

Outlook

Grinding wheels remain a high-volume consumable in metalworking and construction, and the choice of wheel depends on three basic factors: tool compatibility, workpiece material and the type of operation being performed. For a manufacturer such as SALI, the combination of high production capacity, a broad abrasive product line, and compliance with international safety standards provides a basis for serving distributors who need metal grinding discs in multiple sizes and grades.

Because operating speed, structural reinforcement and bond properties are directly connected to safety, buyers should treat the specification information on each wheel as a mandatory reference rather than as optional product detail. SALI's technical data and safety information can help users select a metal grinding wheel for the intended industrial task, provided tool speed and application limits are respected.

Lily

ZHEJIANG SALI ABRASIVE TECHNOLOGY CO., LTD

+ +86 136 2679 0828

salimarketing@pcsali.com

Visit us on social media:

[Other](#)

This press release can be viewed online at: <https://www.einpresswire.com/article/941070174>

EIN Presswire's priority is source transparency. We do not allow opaque clients, and our editors try to be careful about weeding out false and misleading content. As a user, if you see something we have missed, please do bring it to our attention. Your help is welcome. EIN Presswire, Everyone's Internet News Presswire™, tries to define some of the boundaries that are reasonable in today's world. Please see our Editorial Guidelines for more information.

© 1995-2026 Newsmatics Inc. All Right Reserved.