

Industrial Knot Wire Wheel Brush

Technical Data Sheet (TDS)



1. Product Basic Information

Product Name: Industrial Knot Wire Wheel Brush
Dimensions / Specifications: 180 * 22 * 5/8"-11 UNC
Main Applications: Used for heavy-duty rust removal, weld cleaning, and surface preparation in heavy industries such as pipelines, steel structures, shipbuilding, and repair.

2. Technical Specifications Table

Items	Specifications / Standards & Notes
Diameter	180 mm (approx. 7 inches) Suitable for 7-inch (180mm) and larger grind machine
Face Width	Approx. 16 ~ 22 mm Working width of the wire knot expansion
No. of Knots	76 Knots Classic twist knot design for high cutting force
Thread Size	5/8"-11 UNC Suitable for US standard / export-type high-speed angle grinders
Wire Material	High Carbon Steel Wire / 304 Stainless Steel Extremely high tensile strength, wear-resistant, and break-resistant
Wire Diameter	0.50 mm (0.020") / 0.35 mm customizable 0.50mm is the heavy-duty cleaning standard, providing powerful impact force
Trim Length	38 mm Ensures excellent flexibility and resistance to impact fatigue
Max. RPM	9,000 RPM Strictly prohibited from overspeeding; recommended operating speed: 5,000 - 9,000 RPM

3. Product Features & Structure

- 1. High-Performance Knot Twist Structure:** Constructed from multiple high-strength spring steel wires twisted into a 'flower knot' style. Compared to standard crimped wire brushes, the twist knot structure offers higher rigidity and aggressiveness, making it perfect for the aggressive removal of stubborn contaminants and heavy corrosion.
- 2. 5/8"-11 Integrated Nut Design:** Featuring an integrated, high-strength hexagonal nut with a US standard 5/8"-11 thread. This ensures a secure lock on high-speed rotating tool spindles, preventing slippage and maximizing safety.
- 3. Thickened Double-Clamping Plates:** The base of the wire knots is tightly locked by dual-sided, thickened, cold-rolled steel clamping plates and an anti-shedding ring. This ensures no wire fly-out or shedding under the high centrifugal force of 8,500 RPM, increasing fatigue resistance by over 30%.

4. Main Application Fields

- **Pipeline & Natural Gas Engineering:** Root cleaning of pipeline butt welds, interpass grinding, rust removal, and anti-corrosion coating preparation.
- **Heavy Steel Structures & Bridges:** Bevel oxide scale removal before welding, and weld slag cleaning post-welding.
- **Shipbuilding & Containers:** Removal of heavy rust, old paint coatings, and marine bio-fouling on ship hulls, decks, and containers.
- **Foundry Industry:** Deburring and sand-blast scale removal on large castings and forgings.

5. Safety Instructions

- **Personal Protective Equipment (PPE):** Operators must wear full-face shields or impact-resistant goggles,

cut-resistant gloves, dust masks, and safety protective clothing to prevent injuries from high-velocity metal chips or wire fragments.

- **Strictly Prohibited Overspeeding:** The maximum operating speed of this wire brush is 8,500 RPM. It must never be mounted on high-speed hand tools or bench grinders that exceed this limit.

- **Pre-operational Test Run:** After initial installation, the new wire brush must undergo a no-load test run for at least 1 minute in a safe area with protective barriers. Check for abnormal vibration, noise, or loosening before starting actual operations.

- **Rotational Direction Tip:** When the wire brush becomes dull from one-sided wear, it can be re-installed in reverse to run in the opposite direction. This achieves a 'self-sharpening' effect of the wire tips, doubling its service life and maintaining high cutting efficiency.