Abrasive & Saw Blade Guide

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J & E Supply & FASTENER CO.

How to read a grinding wheel, a sanding disc and a saw blade: the marking letters, grit, grade, wheel type numbers, grit scales, paper weight and teeth per inch.

Abrasives and saw blades have **no single dimensional standard**: each maker sizes its own. Our TECH DATA sheets for them print the part's own listing — size, arbor, grit, teeth per inch — **as listed**, and this page explains how to read it. Everything here is stated by at least two independent sources; anything they disagree on is left off.



A bonded wheel marking, read left to right. Makers add more after the grade (structure, bond, their own codes). Not to scale.

Bonded wheel letters — the abrasive in front of the grit

LETTER	ABRASIVE
A	Aluminum oxide
C	Silicon carbide
GC	Green silicon carbide

The letter in front of the grit in a wheel marking (A24N, C24N, GC80). From AA Abrasives, High Speed Training, Benchmark Abrasives; printed where two independent sources agree. Makers use more letters for blends and special grains — their own catalog governs those.

Grinding wheel types — the TYPE number on the wheel

TYPE	SHAPE
Type 1	Straight wheel
Type 11	Flaring cup wheel
Type 27	Depressed-center wheel
Type 28	Saucer-shaped depressed-center wheel
Type 16, 17, 18, 18R, 19	Cones and plugs

From OSHA 29 CFR 1910.211, Tanner Bolt, eReplacementParts, Benchmark Abrasives, Norton catalog, OSHA 29 CFR 1910.215, Cal/OSHA Title 8 §3577; printed where two independent sources agree. Type 29 is left off: sources use it for a flexible wheel, while flap discs also carry it — on our sheets it prints only as listed.

Reading the listing

Wheel size: a grinding wheel's size reads **diameter × thickness × arbor hole** — a 6×3/4×1 wheel is 6″ across, 3/4″ thick, with a 1″ hole. Where the hole is a thread (5/8-11), the wheel screws onto the grinder spindle. (AA Abrasives, Norton catalog, OSHA 29 CFR 1910.211.)

Wheel grade: in a wheel marking like A24N the number is the **grit** — the bigger the number, the finer the grit — and the letter after it is the **grade**, how hard the bond holds the grain: letters early in the alphabet are soft, late letters hard. Grades are not the same from maker to maker. (AA Abrasives, High Speed Training, Benchmark Abrasives.)

Speed: every wheel's **maximum operating speed is on the wheel or its label**, and that label governs. Check the grinder's speed against it before you mount the wheel — never run a wheel on a tool faster than its rating. This page prints no speed for any wheel. (OSHA 29 CFR 1910.215, High Speed Training.)

Safety standard: bonded abrasive wheels (grinding, depressed-center, cut-off, cup wheels, cones and plugs) fall under **ANSI B7.1**, *Safety Requirements for the Use, Care and Protection of Abrasive Wheels*. It does not cover coated abrasives — paper or cloth discs, belts and sheets. (OSHA 29 CFR 1910.215, Cal/OSHA Title 8 §3575.)

Grit scales: a **P** in front of the grit number (P240) is the European **FEPA** scale; a grit with no P is usually the US **CAMI** scale. The two nearly match in coarse grits and part ways in fine grits, so compare like with like when you mix brands. (Woodbin, Seabean, Mibnet.)

Paper weight: on paper-backed sheets and discs the letter after the grit (220A, 60D) is the **paper weight**, from **A, the lightest**, to **F, the heaviest**. Light paper folds and follows shapes; heavy paper stands up to machine sanding. (Wikipedia (Sandpaper), Woodshop News, Preferred Abrasives.)

Saw blades

Teeth per inch: more teeth per inch cut slower and smoother and suit thinner stock; **fewer teeth per inch** cut faster in thick stock. Too few teeth in the cut can strip teeth. Makers give different minimums for how many teeth should be in the cut, so we don't print one — the blade maker's chart governs. (LENOX catalog, Starrett.)

Variable pitch: a pitch written as two numbers (8/12, 10/14) is **variable pitch** — the tooth spacing changes between the two counts along the blade. A single number (18) is a constant pitch. (AIMS Industrial, United Products NZ.)

Blade size: band saw blades are listed length × width × thickness; the length must match your saw. Reciprocating and jig saw blades are listed by length, hacksaw blades by length, hole saws by the hole they cut. Our sheets print those as listed.

Quick answers

What does A24N mean on a grinding wheel?
Read it left to right: **A** is the abrasive (aluminum oxide), **24** is the grit (the bigger the number, the finer), and **N** is the grade — how hard the bond holds the grain, soft early in the alphabet, hard late.

How do I read a grinding wheel size like 6×3/4×1?
Diameter × thickness × arbor hole: **6″ across, 3/4″ thick, 1″ hole**. A threaded hole (5/8-11) screws onto the grinder spindle.

What is the maximum speed of my grinding wheel?
The **speed printed on the wheel or its label** governs. Check the grinder's speed against it before mounting — never run a wheel faster than its rating.

What is the difference between P240 and 240 grit?
A **P** grit is the European FEPA scale; no P is usually the US CAMI scale. They nearly match in coarse grits and part ways in fine grits.

What does 10/14 mean on a saw blade?
Variable pitch: the tooth spacing changes between 10 and 14 teeth per inch along the blade. A single number (18) is a constant pitch.

Reference values drawn from the governing standards. For critical applications, confirm against the standard and the manufacturer's published data. Technical information disclaimer →