# General Information of Grinding Wheels

## How To Order

When ordering KINIK standard grinding wheels, specify your selection in this order:

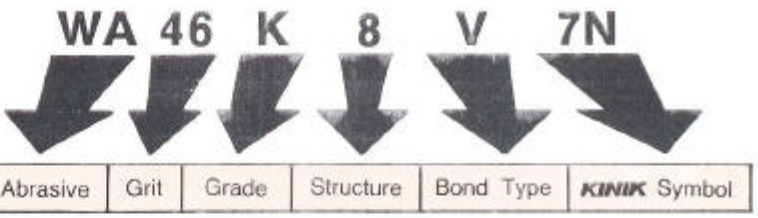
1. Wheel Shape and Face
2. Dimensions
   (1) Diameter (D)
   (2) Thickness (T)
   (3) Hole Size (H)
3. Wheel Specifications
   (1) Abrasive
   (2) Grit Size
   (3) Grade
   (4) Bond
4. Quantity

Note: Wheels are available in both metric & imperial dimensions.

## Standard Wheel Markings

For clarity as well as to avoid mistakes in wheel selection, a standard designation of wheel specification was developed and was inscribed by ISO in 1965. Standards such as CNS of West Germany all employ this uniform standard.

A typical wheel marking includes the following information:




## Abrasive

| Symbols | Characteristics |
|---|---|
| A | Regular aluminum oxide abrasive, hard and tough. |
| 10A | The premium quality of aluminum oxide abrasive. |
| WA, 38A | White aluminum oxide abrasive, hard and brittle. |
| FA,57A | Semi-friable,aluminum oxide abrasive. |
| 32A,SA | Strong sharp monocrystalline aluminum oxide abrasive. |
| PA | Pink aluminum oxide abrasive. |
| RA | Ruby aluminum oxide abrasive. |
| PSA | A blend of PA and SA abrasive. |
| FSA | A blend of FA and SA abrasive. |
| AZ | A modified high zirconia aluminum oxide. |
| C | Black silicon carbide. |
| GC | Green silicon carbide. |
| KG | Micro-crystalline abrasive used primarily for precision grinding of difficult- to-grind steels and alloys. |

Note: Above abrasives may be used in combination to generate characteristics for particular applications.

## Bond Type

| Symbols | Characteristics |
|---|---|
| V (Vitrified) | Most common bond for precision grinding porosity and strength. Wheel made with this bond give high stock removal and their rigidity helps to attain high precision. Not affected by water, acid, oils or ordinary temperature variations. |
| B (Resinoid) | Used for wheels in fabrication shops, foundries, billet shops, sharpening and gumming saws, and in many precision applications. These wheels excel in rapid stock removal as well as in applications requiring better finishes. This bond is also restricted to reinforced resinoid products, cut-off wheels, and for snagging with portable grinders. |
| R (Rubber) | Mainly used for centerless feed wheels & precision ball race grinding wheels. |
| MG (Magnesia Oxychloride) | A notable bond used for cutlery or particularly thin workpieces, marble surface grinding and superfinishing. |

Note: The **KINIK** symbol designates a variation or modification of bond and other characteristics of the wheel.

## Grades: Grade indicates the relative strength of the bond which holds the abrasive grain in place.

| Very soft ◄——► Soft ◄——► Medium ◄——► Hard ◄——► Very Hard | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| D. | E. | F. | G. | H. | I. | J. | K. | L. | M. | N. | O. | P. | Q. | R. | S. | T. | U. | V. | W. | X. | Y. | Z. |

## Grits (CNS & JIS Standard)

| Coarse | | | | Medium | | | Fine | | | | Very Fine | | | | Ultra Fine | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| # 10 | 12 | 14 | | 30 | 36 | 46 | 70 | 80 | 90 | 100 | 240 | 280 | 320 | 400 | 1000 | 1200 | 1500 | 2000 |
| 16 | 20 | 24 | | 54 | 60 | | 120 | 150 | 180 | 220 | 500 | 600 | 700 | 800 | 2500 | 3000 | 4000 | 6000 |

## Structures

| Symbol No. | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Abrasive Ratio % | 62 | 60 | 58 | 56 | 54 | 52 | 50 | 48 | 46 | 44 | 42 | 40 | 38 | 36 | 34 |