CTIPS technical resources Grinding & Cutting Wheel Selection Guide

Electric angle grinders have long been a common tool in many metal working and fabricating trades. With advances in battery technology, and tool design in the cordless arena, even more trades are finding uses for the angle grinder. But what about the abrasive discs? What do you need to consider to select the appropriate cutting or grinding wheel? The following eZtip will seek to assist you in this area. For simplicity, information in this tip will be in reference to wheels from 4"-9".

Straight	For starters, the two most common styles of wheel are the Type 1 straight wheel, and the Type 27 depressed center wheel. Type 1 wheels are intended for cut-off applications, while the Type 27 can be used for cutting or grinding.
Type 1	<ul> <li>The first specification to consider is the diameter of the disk, which should match the size specifications of the grinder itself. Some grinders are given more than one possible size, like 7"-9" for example.</li> </ul>
	• The next piece of information will be the arbor hole size. Discs are available with either a 5/8" or 7/8" arbor hole, or a 5/8-11 threaded arbor.
Depressed Center	• Next, what type of material will you be working on? Are you working on aluminum, steel, stainless steel, or masonry? The work piece material generally dictates what abrasive material the disc should be composed of.
Type 27	• Finally, what is the intended operation for the disc? Are you cutting, doing light notching/side grinding, or are you surface grinding? The application will help determine what thickness the wheel should be. The following two charts will provide you with information on abrasive material

Work piece material	Abrasive		
Carbon steel and various ferrous metals	Aluminum Oxide		
Stainless steel and various pipeline ferrous metals	Zirconia Alumina/Zirconium Aluminum Oxide		
Iron, stainless steel and exotic alloys	Ceramic Aluminum Oxide/Ceramic Blends		
Masonry, aluminum and other nonferrous metals	Silicon Carbide (some aluminum oxide wheels can be used for various nonferrous metals, check wheel specifications)		

and disc thickness, based on work piece material and intended operation.

\* Note: Always be sure the disc you select is rated for at least the same R.P.M.s as your tool or more!\*



Operation	Wheel Thickness
Cutting	.040"090"
Cutting, notching, and light side grinding	1/8"
Light to Heavy-duty grinding on bottom/face of wheel	1/4"





Information sources include W.W. Grainger

If you are still having difficulty choosing a grinding or cutting wheel, please contact us at <u>askzoro@zoro.com</u> or 855-289-9676

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