

5 Things to know when choosing your Cutting Disc

Cutting discs are also referred to as abrasive wheels or grinding wheels. They are wheels manufactured using abrasive particles which are bound together with different materials, like rubber or silicate, for example.

They are utilised throughout many industry types. And they are susceptible to breakage, so following the manufacturer's safety guidelines and safety procedures is critical.

This guide is designed to help give you a greater understanding of these popular pieces of equipment. Always read the manufacturer's own instructions prior to use.

MULTIMAX
DIRECT

1. Size

1. Markings

Markings are the right place to start. They are very important. Having the information at your fingertips can save you valuable time and money not to mention the peace of mind when it comes to the all-important health and safety side of things.

Cutting discs are marked with the following information:

- Type
- Size
- Specification
- Maximum operating speed
- Restrictions for use
- Other, non-safety related information

Markings must conform to British Standards (BS EN 12413 and BS ISO 525) by law. So, to give you a true understanding of what these labels mean, let's look at them one by one.

Type. This can be seen by way of an ISO number. It indicates the disc's shape.

Size. Disc measurement is denoted in millimetres by diameter x thickness x hole size. So, you might see something like 115mm x 1.0mm x 22.2mm.

Specification. The specification is shown by way of numbers and letters, such as WA 60 K 7 V. This signifies abrasive material type, grit size, grade, structure and bond type.

The following is a generic list of specifications:

Example Referring to Reference code

WA Abrasive material A: regular aluminium

oxide

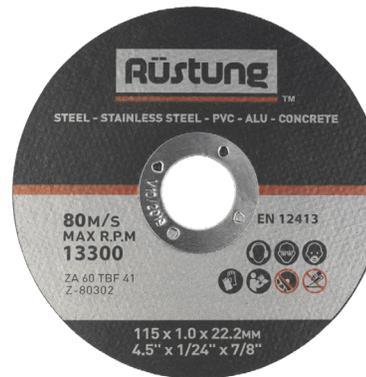
WA: white aluminium oxide

19A: A and WA mix

SD: synthetic diamond

ASD: synthetic diamond, metal coating

FA: semi-friable aluminium oxide



PA: pink aluminium oxide

SA (HA): single crystal aluminium oxide

23A: A and SA mix

AZ: zirconium oxide

C: black silicon carbide

GC: green silicon carbide

RC: C and GC mix

60 Grit size

(Coarse) 10, 12, 14 and so on, to 800, 100, 1200 (Fine)

K Grade (Soft) A, B, C, and so on, to X, Y, Z (Hard)

7 Structure Dense) 1, 2, 3, and so on, to 12, 13, 14 (Open)

V Bond type V: vitrified

B: resinoid

R: rubber

O: MgO

E: epoxy

M: metal

EP: electroplated

Please note that this is just a general guide.

Each manufacturer and product has their own range of markings for materials, grit sizes and so on. The above outlines some of the more common types of markings you will see on discs.



2. Maximum operating speed

This is marked on every disc above 80mm in diameter and is done in one of two ways:

- peripheral surface speed, noted in metres per second (m/s); and
- rotational speed, noted in revolutions per minute (rpm).

For smaller wheels, the maximum speed is marked separately on a notice that you need to keep by the wheel.

The following colours are used in stripes across the middle of the disc:

- 125m/s Blue/Yellow
- 100m/s Green
- 80m/s Red
- 60m/s Yellow
- 50m/s Blue

Restrictions for use

These are marked on the disc using a code indicating the following: Meaning Code

- Not permitted for hand-held and manually guided grinding RE1
- Not permitted for hand-held cutting-off machines RE2
- Not suitable for wet grinding RE3
- Only permitted for totally enclosed working area RE4
- Not permitted for face grinding RE6

You'll find that the code is sometimes accompanied with a corresponding graphic.

3. Other non-safety related markings

Other markings you'll find on cutting discs are:

- the manufacturer's name/trademark
- the test record number which confirms it meets the required safety standards
- the expiry date if the wheel is organically bonded (the shelf-life needs thought prior to purchase)
- a code number which confirms its source and details of manufacture
- a mounting arrow which highlights the heaviest point of the disc. When the disc is mounted, the arrow should be pointing downwards

Notes

4. Important Notes to consider prior to purchase

These tools must be treated with care at all times; whether in use, being handled or stored (in a dry place that isn't subject to extreme temperatures is ideal), all operators must understand not just the markings, but also the hazards that using tools of this nature can bring. They must be inspected regularly; we recommend prior to each use, though the manufacturer's instructions usurp this guide. We suggest clearly marking the date of receipt from the supplier. That way, you can use the discs you've had the longest. If you ever have a disc that is over three years old, speak to the manufacturer to check whether it is still OK to use.

5. It is vital that the right disc is selected for each job.

Every single time. So, it's important to be specific about what it will be needed to do. If you are new to cutting discs altogether, it may help to know that generally speaking, soft wheels are better for use on hard material and hard wheels on soft material. Things like dust, noise and vibration should be given consideration. And there is no better time to do it than prior to purchasing a new one. All operators should be given the appropriate training. And remember to refresh this regularly to be sure the information they have been given is up to date. We stock a wide and diverse range of cutting discs and are always happy to help should you need any more information. We sell accompanying equipment, such as grinding machines, guards and personal protective equipment. We can help guide you through which products work with which so before you make your choice, why not take a look here at the ranges we have to offer.

