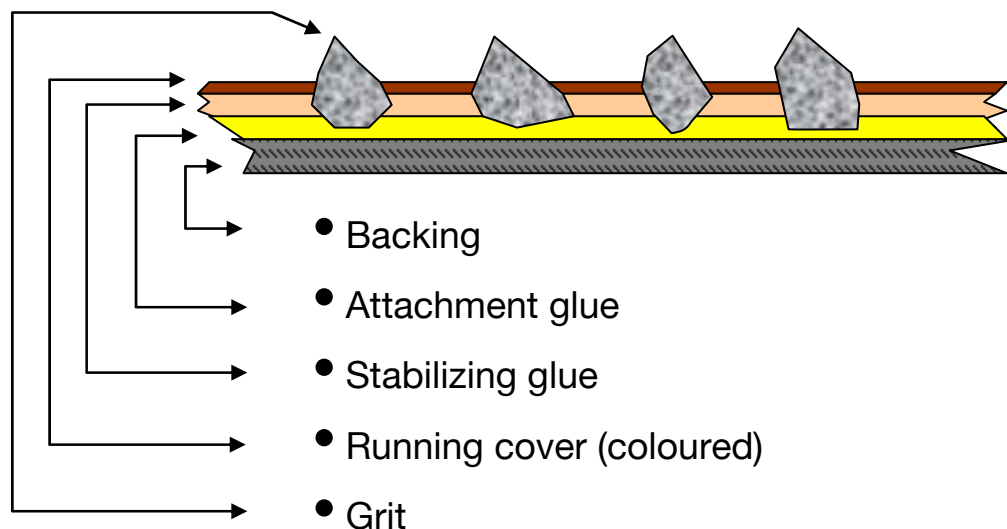


Technical information

- Abrasives -

- Abrasive construction
- Grit wear and characteristics
- Spreading methods
- Grit covering
- The two way belts

Abrasive construction



Backing

Can be made of paper, fibre reinforced paper (F-paper), cotton- or polyester cloth. Paper and F-paper is mainly used for discs while cloth which is more rip resistant is used for belts. Bona's discs are automatically reinforced due to the Velcro (Siafast) on the backside.

Attachment glue

Attaches the grits to the backing. The glue must be of high quality, heat resistant and of the right flexibility.

Stabilizing glue

Stabilizes the grits and keep them in place. Same requirements as above.

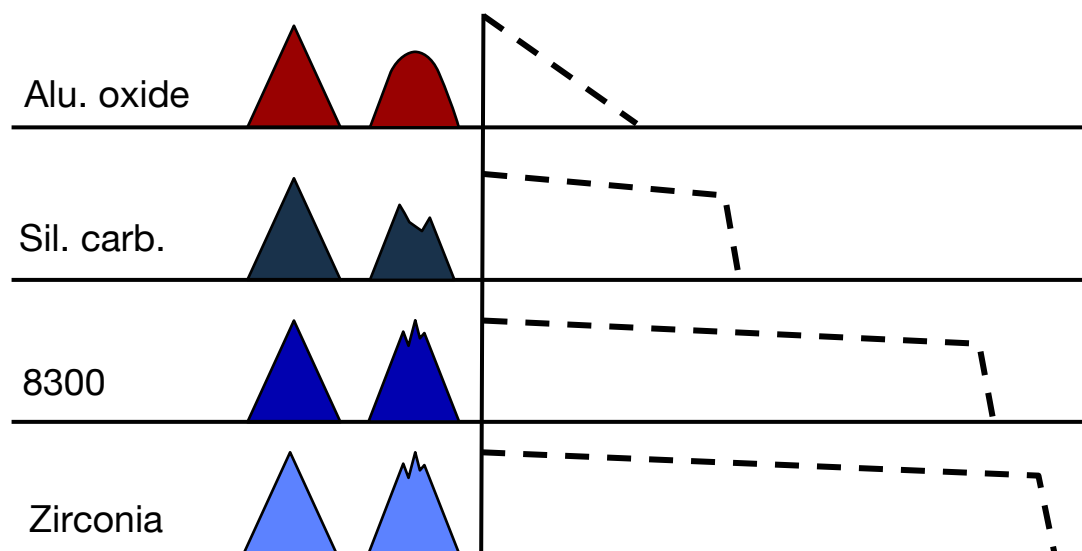
Running cover

Reduces the friction between the floor and the abrasive so that less heat is created. Normally its colour coded depending on what grit quality's used.

Grit

Three main qualities are used, see next page.

Grit wear and characteristics



The chart shows the wear resistance as well as the characteristics of different types of grits commonly used for abrasives.

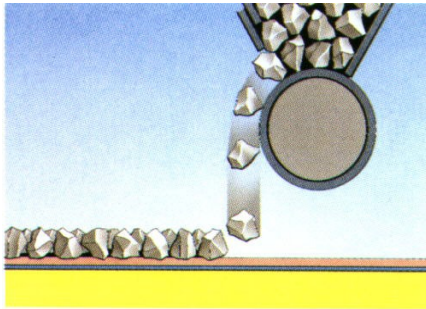
Aluminium oxide abrasives are generally colour coded red/brown and in our range they can be found under quality 8500. This is the most common type of quality used today, more due to price than effectiveness. Aluminium oxide loses its sharpness rapidly much like a crayon, and is worn down relatively quickly compared to other higher quality grits. When the abrasive gets dull more contact with the floor surface is achieved, resulting in more friction creating more heat. Aluminium oxide abrasives can or should therefore not be used on high speed machines like an edge sanding machine, because it will burn the wood. Bona has limited the use of aluminium oxide to belt abrasives only which rotate much slower.

Silicon carbide abrasives are generally colour coded black or dark grey and in our range they can be found under quality 8100. Silicon carbide is a mineral that unlike aluminium oxide doesn't become duller and duller. Instead the grits break when they're worn, creating new edges, making it sharp until totally worn down. Then it "dies" almost instantly. This character also retains the surface friction between the abrasive and the wood ensuring cooler running throughout the entire lifespan, making silicon carbide suitable for high speed machines. 8100 is available in rolls and discs.

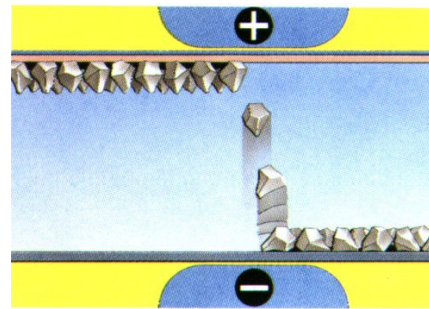
8300 is a world first in abrasives, developed solely for use on wooden floors. It is a unique blend of two grit materials including zirconia. 8300 is an aggressive abrasive which removes old finish like nothing you've seen before, yet it doesn't leave any deep scratches in the wood. Its characteristics are the same as silicon carbide e.g. the grits break when worn. 8300 is however significantly more wear resistant and has about the double lifespan. Compared to conventional aluminium oxide abrasives 8300 lasts up to five times longer giving you better value for money. 8300 is available in rolls, belts and discs.

Pure zirconia abrasives are no longer available from Bona since the introduction of 8300. Zirconia was for a long time known as the second hardest material on earth next to diamonds. Pure zirconia abrasives are extremely aggressive and wear resistant. They are very good when removing old finish but leaves deep scratches that are hard or impossible to remove later when sanding with a finer abrasive. 8300 is the compromise and does not have this character thus considered a better alternative.

Spreading methods



Mechanical spreading

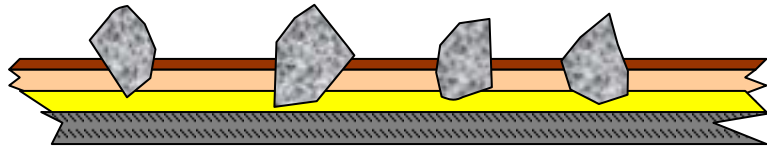


Electrostatic spreading
All grits with the sharp edge
outward.

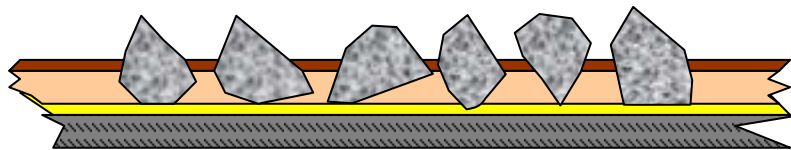
Two different spreading methods are used today. The older method, mechanical spreading means simply letting the grits fall down in the glue randomly thus having no control over what side of the grit will end up pointing upwards. Instead the sharpest edge of the grit will by half of the times end up pointing downwards. This is negative from two aspects; 1. The abrasive won't be as effective as it could be, 2. With the sharp edge pointing down in the glue it may not be able to stick properly and is likely to fall off the abrasive too soon. Mechanical spreading is becoming obsolete but is still applied by some manufacturers.

Electrostatic spreading is the modern way of manufacturing abrasives and applied by Bona. The method reminds of the way lightning is created. Negative electrons that are created in the clouds will be attracted by the positively charged electrons on earth. Equalization is possible when the voltage has built up enough to conduct through the air (over 200.000 V). Same procedure is used during electrostatic spreading but here we use two electromagnets instead that are charged with 50-60 000 V. The grits will first be negatively charged and then attracted by the other pole. The pole will always attract the heaviest part of each grit and they will stick in the glue with the sharpest edge pointing outwards, always!

Grit covering



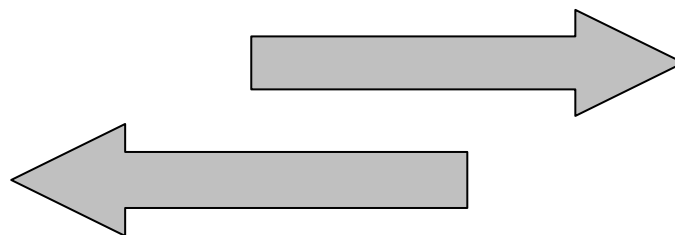
Open coat (O.C) = 40 - 70% covered
No clogging, cooler running



Close coat (C.C) = 80 - 95% covered
For metal and hard surface grinding

Watch out for abrasives made for the metal industry. They have more grits per square centimetre which might sound good at first. More grits better sanding? – No, not true. These kinds of abrasives are impossible to use on wooden floors because they will get clogged immediately. Instead, use an abrasive with an open coat. These abrasives have a greater distance between the grits which prevents material from sticking to it, Look for the O.C. (open coat) marking that is often printed on the backside of the abrasive.

The two-way belts.



Do you throw away the belt when 20% is still left? People that use aluminium oxide belts tend to throw it away much too early. Why? Well, maybe they're obliged to, if they're using belts with an overlapping joint for instance or just unaware of aluminium oxides character. Belts with an overlapping joint can only be used in one direction. When aluminium oxide is worn it gets dull on one side but remain sharp on the other, if you could turn the belt around you'd have an almost fresh abrasive to continue the job with. Well, you can use the belt in both directions; all you need is a belt with a flat joint like any of Bona's belt abrasives. Flat joints take away the risk of chatter marks which overlapping joints are potent for causing. The flat joint is held together by a thin, though extremely strong Kevlar reinforced tape.

As always, no chain is stronger than its weakest link. To achieve top quality, every ingredient is equally important just as when sanding and finishing a floor. Every part of the work must be carried out carefully to achieve that great result. If you rely on your craftsmanship, make sure that you can rely on your equipment to.