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“Safety Precautions”

on the Use of Electroplated Diamond and CBN Stemmed Wheel

These “Safety Precautions” apply to electroplated diamond and CBN stemmed wheel (hereinafter, “stemmed wheel”) for attachment to grinding machines or portable grinders. (They do not apply to wheels except electroplated shafts.)

In order to prevent disasters and ensure safe use, be sure to first read these “Safety Precautions,” as well as items stated on the inspection sheet (Certification of Analysis) and instruction manuals for the grinding machines and portable grinders.

Also, refer to “Grinding Machine Safety Essentials” issued by the Japan Industrial Safety & Health Association (JISHA).

Please keep these “Safety Precautions” in a convenient location even after reading them.

Incorrect handling may cause accidents or injuries. In these “Safety Precautions,” we refer to two stages—“Warning” and “Caution”—to describe the degree of danger or disability that can be expected if items are mishandled.

“Warning”: Incorrect handling may cause death or serious injury to the user.

“Caution”: Incorrect handling may cause minor injuries to the user or physical damage to the item.

“X” : Means → **DON'T**

“ ! ” : Means → **DO**

Warning

“X” : **DON'T** touch the stemmed wheel during rotation with your hand or part of your body.

Touching or being caught in the machine may cause serious injury.

DON'T touch with your hand or part of your body, as you will risk getting burned when the dry-type grinding method is used, the stemmed wheel may be hot immediately after grinding.

“ ! ” : **DO** install the wheel guard securely as specified by the grinding machine manufacturer.

Incorrect installation may cause the stemmed wheel or work-piece to break, and any scattering pieces may hit workers and cause serious injury. Also, DO wear safety glasses during operation. In particular, if you are operating a portable grinder that does not have a wheel guard, be sure to wear protective headwear and safety shoes as well.

“ ! ” : **DO** take steps to prevent spread of dust and mist and wear a dust mask because inhalation of dust or mist generated during grinding may cause respiratory problems.

Warning

“X” : **DON'T** exceed the maximum rotation speed of the stemmed wheel or the permissible rotation speed of the grinding machine or portable grinder. Damage to the stemmed wheel may cause the wheel or work-piece to scatter, leading to the danger of serious injury.

Please refer to the table for maximum rotation speeds of stemmed wheel.

Outer diameter (mm) of abrasive layer (diamond/CBN) part	Maximum rotational speed (min ⁻¹)
≤ 7	100,000
$7 < \leq 10$	67,000
$10 < \leq 15$	45,000
$15 < \leq 20$	33,000
$20 < \leq 25$	27,000
$25 < \leq 30$	22,000

Warning

“ ! ” : **DO** turn power off when attaching or detaching the stemmed wheel to the chuck of the grinding machine or portable grinder. Unexpected machine startup may cause serious injury.

“X” : **DON'T** force the stemmed wheel against the work-piece when using a portable grinder. Bending or breakage of the axle may cause serious injury.

“ ! ” : If abnormal sounds or vibrations occur , immediately separate the stemmed wheel from the work-piece and stop the machine. Continued operation may cause damage to the stemmed wheel and/or work-piece or cause them to scatter , leading to the danger of serious injury.

“X” : **DON'T** use in environments where there is a danger of ignition or explosion if sparks may be generated during operation of the stemmed wheel. Sparks are most likely to occur during dry-type grinding, so please take due care.

Caution

1 . Work environment , clothing , protective equipment

“ ! ” : If the stemmed wheel or work-piece break and scatter , the scattering fragments may cause serious injury even if a wheel guard is attached. **Do** wear protective eyewear, dust masks, safety shoes, protective headwear, and the like during operation.

“ ! ” : **DO** wear work clothes with closely fitting collars and/or sleeves during operation. Touching or getting caught in the wheel during rotation could result in serious injury,

“ ! ” : **DO** adopt a stable posture and take care not to get fingers and work clothes caught in the wheel during operation when using a stemmed wheel attached to a portable grinder.

2. Before use

“X” : **DON'T** undertake additional processing to change the shape of the stemmed wheel.
Please contact an Asahi Diamond sales representative if such a change is required.

“ ! ” : **DO** make sure that the dimensions of the stemmed wheel conform to the dimensions (outer diameter, shaft diameter) specified for the grinding machine or portable grinder.

“X” : **DON'T** use if dimensions do not conform.

“ ! ” : **DO** check the appearance of the stemmed wheel (for cracks, chipping, scratches, defective bonding of the abrasive grain layer, etc.). In particular, if the stemmed wheel is to be operated after being in storage, check the blade edge, signs of burns, loading, glazing, pulling out, lifting of the abrasive grain layer, chipping, cracking, etc. Also check whether the stemmed wheel is bent or warped.

“X” : **DON'T** use if abnormalities are detected. Instead, replace with a new stemmed wheel.

“ ! ” : **DO** remove the rust-prevention layer before use if the axis of the stemmed wheel.

“ ! ” : **DO** be used or grinding the outer circumferences or the tips of the abrasive layer, depending on the operating method, Therefore, confirm in advance that the shape of the stemmed wheel is suitable for the intended use.

3. Mounting

“X” : **DON'T** make the overhang (protruding) part longer than necessary when attaching the stemmed wheel to a machine. Also ensure there are no rattles or runout.

4. Grinding operation

“ ! ” : **DO** test the operation without applying load for 1 to 3 minutes, and also check that the stemmed wheel is free of runout, abnormal sounds, or vibrations before starting operation.

“X” : **DON'T** use if abnormalities are detected.

“ ! ” : When performing wet grinding, make sure that the coolant is sufficiently applied to the surface of the work-piece.

“X” : **DON'T** perform truing or dressing of the stemmed wheel. If sharpness deteriorates, replace with a new one.

5. Storage and handling

“ ! ” : **DO** remove the stemmed wheel for storage after using.

“ ! ” : **DO** store in a dry place away from falling or crashing objects If the stemmed wheel is made of metal core, apply a rust-prevention agent before storage.

For further inquiries, please contact an Asahi Diamond sales representative or the following.