

Re: Diamond cutting

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- *From:* Uncle Al <UncleAl0@xxxxxxxxxxxxxx>
 - *Date:* Wed, 18 Jan 2006 15:14:41 -0800
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"ricarrios@xxxxxxxxxx" wrote:

>
> Dear friends
>
> I have recently heard that it is not appropriate to cut steel with
> diamond wheels, because the high wear of the cutting wheel. The reason
> which explains this fact is that carbon from the diamond diffuses to
> the steel (carburizing), when sufficient heat is produced (cutting
> without lubrication or refrigeration). Is this assesment true? We
> normally cut steel with Alumina or SiC wheels when preparing specimens
> for metallography.

Any metal that carbides rapidly catalyzes the conversion of diamond to graphite. Like tin pest, volumetric allotrope conversion can be catastrophic. Merely rubbing bright molybdenum with micronized diamond dust forms darker Mo carbides.

If you must cut ferrous alloys and need a hard point, use c-BN.

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Uncle Al

<http://www.mazepath.com/uncleal/>

(Toxic URL! Unsafe for children and most mammals)

<http://www.mazepath.com/uncleal/qz.pdf>

- *References:*

- ◆ ***Diamond cutting***

- ◆ *From:* ricarrios@xxxxxxxxxx

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