

# Re: Scratch resistance of glass

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- *From:* "Neil B." <[neil\\_delver@xxxxxxxxxxxxxxxx](mailto:neil_delver@xxxxxxxxxxxxxxxx)>
  - *Date:* Wed, 23 Jul 2008 08:35:07 -0400
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"NoSpam" <[NoSpam@xxxxxxxxxxx](mailto:NoSpam@xxxxxxxxxxx)> wrote in message  
[news:PiKgk.203\\$ 1.102@xxxxxxxxxxx](mailto:news:PiKgk.203$ 1.102@xxxxxxxxxxx)

"Kevin Cunningham" <[smskjc@xxxxxxxxxxxxxxxx](mailto:smskjc@xxxxxxxxxxxxxxxx)> wrote in message  
[news:8a4c0c59-c700-429a-9b7c-0e242ced2b09@xx](mailto:news:8a4c0c59-c700-429a-9b7c-0e242ced2b09@xx)

On Jul 19, 11:23 am, "NoSpam" <[NoS...@xxxxxxxxxxx](mailto:NoS...@xxxxxxxxxxx)> wrote:

Hello Group,

I have a question to which some of you may know the answer.

Does glass with antireflection coating provide greater resistance to scratching than pure glass?

Which of the following two glasses is more scratch resistant: BK7 or B270?

Thanks for any replies.  
GR.

The anti-reflective coating is different from glass, it helps the light transition from one low refractive index to another higher one. Most coatings are harder than the glass it sits on. Now thats most. Check the web sites of glass manufacturers like Corning, they will list all the characteristics of each glass they make to mind numbing standards.

Kevin Cunningham  
SMS

Hello Group,

## Re: Scratch resistance of glass

Here is a sequence of hardness of MgF<sub>2</sub>, B270 glass and BK& glass. It is measured by Knoop's hardness which may be a measure of scratch resistance of optics in everyday use.

The sequence in increasing order of scratch resistance is as follows:

MgF<sub>2</sub>: Knoop 415

(<http://www.crystran.co.uk/products.asp?productid=241>)

([http://www.reade.com/Products/Fluorides/magnesium\\_fluoride.html](http://www.reade.com/Products/Fluorides/magnesium_fluoride.html))

B270: Knoop 542

(<http://www.uqgoptics.com/pdf/Schott%20B270%20Superwite.pdf>)

BK7: Knoop 610

([http://www.mellesgriot.com/products/optics/mp\\_3\\_1.htm](http://www.mellesgriot.com/products/optics/mp_3_1.htm))

It appears that, contrary to intuition, MgF<sub>2</sub> coating is relatively soft.

GR.

OK, but then the perfectly well-intentioned (and as I've heard before) advice of Kevin about the added resistance of coatings must be reassessed. What's up with that?