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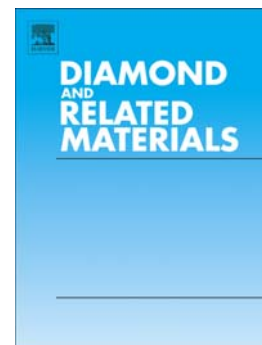
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**Influence of the silicon and oxygen content on the properties of non-hydrogenated
amorphous carbon coatings.**

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Abstract:

This work reports the development of non-hydrogenated magnetron-sputtered silicon and silicon-oxygen containing amorphous carbon coatings with increasing silicon and oxygen contents respectively. The Si content of a-C:Si coatings increases linearly with the increase of the power applied to the Si target up to 24 at.%, while to the system a-C:Si:O the O content increases with the increase of the oxygen flow to a maximum of 27 at.%. The hardness of the a-C:Si coatings shows two distinct trends with the increase of the Si content, a decrease of hardness for Si contents lower than 10 at. % and an increment above this value is observed. The coatings of the system a-C:Si:O present a decrease of hardness and Young modulus with the increase of the O content. The tribological performance of the coatings is

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