Lane Conditions '101' Part 2.
How much oil is on a lane?

The amount of oil on a lane can be described in two ways.
As a volume of liquid i.e. millilitres (ml)
or as a film thickness i.e a 'unit' of oil.

A millilitre is a common liquid measure but what is a 'unit'?
A unit of oil is defined as the film thickness obtained by applying 0.0167 cubic centimetres of oil to 1 square foot of lane surface.*

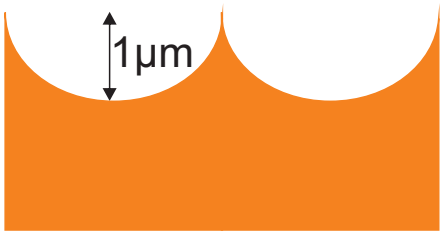
Still confused? Lets eliminate the mix of Imperial and metric measurements. What we end up with is that one unit of oil is a film 0.1796 micrometres thick. In liquid volume terms that's about 116 nanolitres per board. A micrometre (µm) is a millionth of a metre and a nanolitre (nl) is a billionth of a litre.

To put it into perspective, a piece of paper is 557 times thicker than a unit of oil.

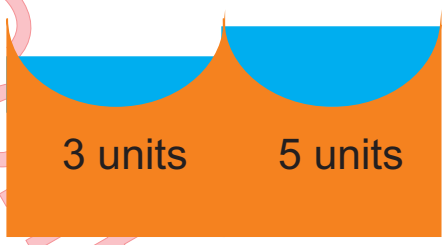
These thin films of oil have to protect the lane surface. So what is the minimum amount of oil that will protect the surface of a lane?

The USBC rules state that there must be a minimum of 3 units of oil applied to the lane in any part of the 'pattern'.

The texture layer that makes up the surface of a lane is, at most,1 micrometre deep.



3 units of oil is just over 0.5 micrometres thick.
So 3 units is not enough.
5 units is a more practical *minimum* as that is a film just over 0.9 micrometres thick and that will cover all but the 'bumpiest' texture.



Remember that this is the *minimum* amount of oil that will protect a lane!

*Brunswick Synthetic Lane Care Manual 2009, page 11