

What are the changes under BS AU 145e?

Digits must now be solid black and non-removable

All digits must now be solid black according to the new rules. This means that 3D style digits including highline digits and others using two-tone effects are no longer allowed. Likewise, digits must not be removable.

The digits must be solid black to help ANPR cameras read plates, ensuring a strong contrast between the background and the digits (see the new NIR tests below).



New test : Near infrared contrast

The new near infrared (NIR) test is the biggest change from the current D standard.

ANPR plays an increasingly important role in enforcement and commercial applications. However, 3% of plates are currently misread by ANPR cameras* - that's a potential 1 million vehicles being misidentified every day.

The E rules should reduce that number by ensuring the right NIR contrast between the plate background and plate digits - meaning the plate can be read accurately at speed.

Plates components supplied by a BNMA member manufacturer will have the correct NIR readings. Motor traders are also advised to ensure they're printing solid black digits to be compliant.



*Surveillance Camera Commissioner speech at the national ANPR conference 2017.

New test : Abrasion testing (for durability)

Also newly added to the standard are tests on retro-reflectivity after surface abrasion.

For over 130 consecutive minutes, a 1kg abrasive tool creates 200mm strokes across the centre of the plate. To pass the test, the plate's retro-reflectivity in this 200mm area cannot reduce by more than 19% after abrasion.

To be absolutely certain a plate passes, each plate construction must be checked at three different angles.

Passing these abrasion tests proves that plates can resist debris on the road including grit salt, small stones and eroded road surfaces.



Fixing plates

The new rules on fixing plates provide what are known as 'informative' guidelines on how to fix plates. This is also to prevent ANPR camera misreads.

The informative guidelines to use adhesive pads is recommended but not essential. Motor traders and motorists are advised to fit plates using either double-sided adhesive pads so that screws or bolts cannot interfere with the 'readable area' of the plate, or to follow the BNMA's guide to drilling and fixing if you prefer to use screws.

What is essential in the E rules, as with the previous rules, is that fixings must not "change the appearance or legibility of any of the characters".



Plus all the previous tests under BS AU 145d

The new standard isn't so much a change from the last standard, more of a significant bolstering, with 25% more tests*.

All the tests under BS AU 145d, which are some of the strictest and most extensive in Europe, are still required under BS AU 145e. For example, the weathering test is 2.5 times the length of some European standards and the impact test is far more substantial than other countries in terms of speed, weight and structure of the projectile.

With the addition of the new NIR and abrasion tests under E, UK plates are now subject to some of the most stringent tests on construction in the world.



**The full range of tests includes; colorimetric, retroreflection, resistance to bending, resistance to solvents, thermal resistance, resistance to impact, resistance to abrasion, resistance to corrosion, resistance to weathering and opacity of the characters in near infrared.*