

# Shooting in the BLACK

AMMO TEST: SMK BLACK

A brand new range of pellets that's already selling in its millions, despite only being launched a few months ago! **Nigel Allen** takes a closer look to see what all the fuss is about...



When the distributor of a new pellet claims they've sold over 2.5 million of them in the first four weeks on sale, you can't help but want to give them a go – so over the past month or so, I've been busy shooting all three configurations of SMK's new Black range of ammo. Designated BS45 in .177 calibre, and BS55 in .22, there are three types – Domed, dubbed the all-rounder; Flat, a wadcutter for CO2 and target work; Pointed, for hunting. They look extremely well-made, yet are very reasonably priced, with tins of 250 costing just £2.99 for the BS45s (black tin lids), and £3.99 for the BS55s (orange tin lids).

The USP of the Black range, its unique selling point and the reason behind the name, is the fact that the pellets are manufactured with the inclusion of graphite, the metamorphosed mineral that's used for the lead in writing pencils. Don't confuse the mineral with the chemical element of metallic lead, though – they're two completely different things!

So you may be wondering why SMK should want to specially develop a lead airgun pellet with a helping of graphite in its mix – and the answer's easy, if not a little obvious. For a number of complex scientific reasons, graphite powders have long been valued in industrial applications for their dry, self-lubricating properties, so it makes absolute sense to incorporate them into airgun pellets in an effort to reduce the friction between the projectile and barrel.

Less friction in the barrel translates to more power and I must say that in both springers and PCPs, the BS45 and BS55 Black ranges often returned above-average muzzle energies in all but a handful of rifles I tested them in over my Skan chrono. Typically, I'd see increases of between 0.2 and 0.6ft/lb compared to other brands of a similar

**Above:** The new Black range from SMK comes in three configurations in both .177 and .22: Pointed, Flat and Domed

Average weight in grains	
14.91	8.21
14.94	8.22
14.95	8.22
14.90	8.24
14.95	8.24

	BS45 DOMED	BS55 DOMED
HEAD	0.175" / 4.5mm	0.216" / 5.49mm
SKIRT	0.184" / 4.67mm	0.226" / 5.74mm

weight. Shot-to-shot consistency was also good, which is always something I look for in any pellet.

Sportsmarketing claim that the inclusion of graphite improves other properties of the Black pellets; essentially it hardens them up. This not only means that the pellets are less likely to deform in transit, and so maintain a good fit and seal when loaded into the breech, but the extra hardness factor also improves the penetration qualities as the pellet doesn't deform so easily on impact with the target. There are two schools of thinking here: some hunters prefer a softer lead pellet for the very fact that it so easily deforms on impact with the quarry to dissipate maximum 'shock', while others – particularly those who favour heart/lung shots – would pick the extra penetration qualities that a harder pellet offers.

While I've still got loads more testing to do with the entire range, I've concentrated my main efforts on the Black Domed roundhead – after all, it's probably going to be the type that sells the most.

On the scales, the Black Domed is extremely consistent in both calibres. I weighed five, random samples of 10 pellets, and you can see from Table 1 that there was hardly any deviation in the pellets' average weight. At around 8.2 grains, the BS45 all-rounder is pretty much your typical .177 weight, although the BS55 (at 14.9 grains) is a few tenths heavier than a typical .22; I always think of 8.3 and 14.5 grains as being 'normal' for .177 and .22, respectively.

SMK's claim that harder pellets get less deformed in the tin is certainly true. Using a micrometer, I individually measured the heads and skirts of a few dozen pellets, again picked out at random, and the readings were extremely consistent, with no pellets showing 'crimped' skirts or 'flatted' head bands, although I'm sure that the protective foam insert in the tin lid also contributes to this.

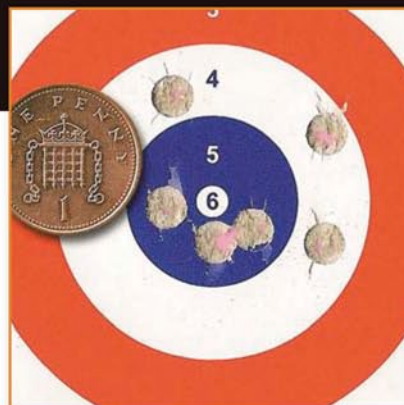
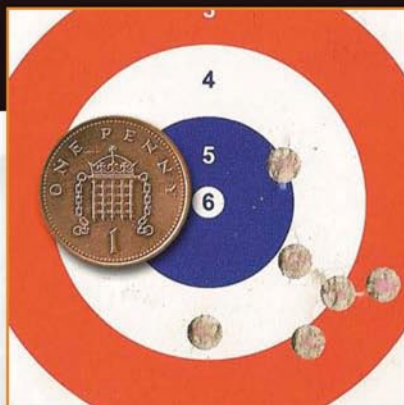
The exact dimensions are shown in Table 2 and you can see that both the BS45 and BS55 have undersize heads, with the skirt of each being over bore size. This will be another reason that accounts for their slightly



**Below left and inset:** A micrometer was used to measure head and skirt size to exacting tolerances



**Left:** Typical target cards shot at 45m with an Air Arms MPR-FT with the .177 Blacks (left), and at 30m with a tuned SMK XS19 Supergrade (right)



more efficient muzzle energy readouts over the chrono – their heads do not drag in the bore, while the skirts create a very tight air seal.

Of course, all these stats may look good on paper in the lab, but it's the paper out on the *range* that really matters – so I was keen to see how the dark grey-coloured Domed all-rounders performed in terms of group size. Like any pellet, Blacks performed better in some guns than in others, but generally speaking, there was no particular rifle that sprayed them all over the place.

As far as the PCPs were concerned, the best results in .177 were obtained from a Lothar Walther-barrelled Air Arms MPR-FT, which was able to print 35mm groups at 45 metres in calm conditions. The best .22 springer was my tuned-up XS19 Supergrade, which printed similar-sized groups at 30 metres, although most of the .22 springers in which I tested the pellets gave pretty comparable results. Typical targets at these distances are shown above, and although I haven't yet done an in-depth study of the trajectory lines, early indications would suggest that the BS45 and BS55 Domed follow standard flightpaths; I'd therefore recommend zeroing at 25 yards with the .22s, and 30 yards with the .177s as a starting point.

To see how the harder make-up of these Blacks fared in terms of penetration, I undertook an unscientific experiment of shooting them into blocks of modelling clay at close-range, comparing their results with those of some similarly weighted roundheads I had in the darkest depths of my ammo store – specifically AGS Elite PPA in .177 (8.2 grains) and Milbro TR in .22 (14.65 grains). The results can be seen to the right.

In both calibres, the muzzle energy of the test rifle was slightly more in the case of the Black ammo, but I deliberately didn't try to find comparison pellets that matched power levels – after all, I see the improved performance of the graphite-based SMK ammo as being one of its key attributes.

Finally, I should touch on one area which initially

concerned me – namely the condition of the bore after shooting the SMK Blacks. I had wondered if the graphite would cause the rifling to 'lead up' – or perhaps 'graphite-up' – more than might be the case with conventional lead pellets.

On cleaning the barrel of my main test rifle after shooting a full tin's worth of pellets – 250 – the pull-through swab was certainly more black (by virtue of the graphite particles), but at no point had I detected any drop-off in downrange accuracy due to excessive fouling in the rifling.

I've since shot many more rounds through one of my 'guinea pig' rifles without cleaning the bore, and can report that I've yet to notice any fall-off in accuracy. I'm sure I'll have to clean it at some point, but that's no problem; it's something I have to do after shooting conventional lead rounds for any length of time. And, at any rate, if the barrel's being lined with a graphite deposit that's going to improve the friction properties between barrel and projectile, I'm not really worried if my barrel is looking a little dirtier than normal! ●

