



aquapurge

purging compounds
for the plastics industry

Barrel Blitz **UNIVERSAL**

Screw Wear **Identification**

Performed and reported by: John Steadman, Technical Director

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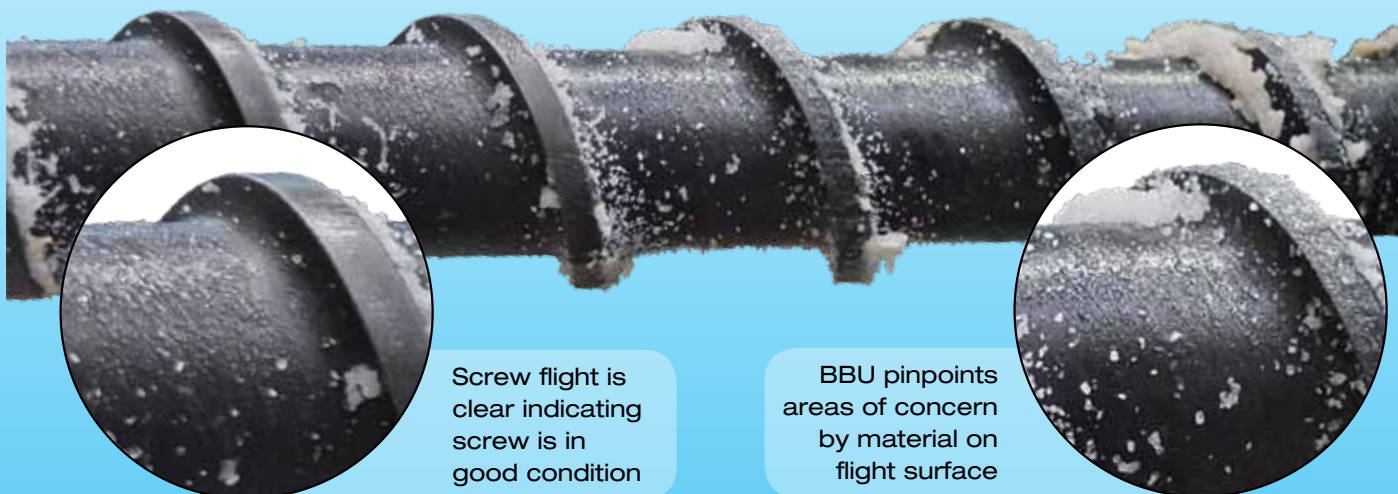
Barrel Blitz Universal (BBU) is our well-known purging compound, which removes carbon and allows fast changeover between different polymers or colours. But it can also be used to diagnose a common moulding problem: **barrel and screw wear**.



BBU scrubs a screw's metering section as clean as a whistle, and what's more it is **self-emptying**: the only material left behind will be in the check ring. BBU makes changing to clear materials a simple task – no mixing in the metering section causing milky mouldings.



This is how BBU diagnoses and **pinpoints** screw or barrel damage. You can see the purging material sticking to the flights where the screw is worn. The filler particles in BBU – which physically scrub debris from the screw – are 0.3-0.7mm in diameter. The distance from the screw flight to the barrel wall on most machines is maximum 0.25mm. If this gap is any larger excessive amounts of polymer slips over the flights (Leak Flow) causing shear heat and extended screw back times. Any BBU left behind on the flights is a sign of a worn screw or barrel.



This increased leak flow is why the BBU on this screw has turned brown and why the BBU is no longer "self-emptying". For this reason it's almost impossible to change to a clear material efficiently if you have a worn barrel. Added to this, shear heating has another negative effect, which is very common with polycarbonate, PMMA and ABS: it creates '**splash marks**', which are usually caused by using 'wet' polymer. If you have splash marks, don't assume that your desiccant dryer is broken: the problem may be increased shear from a worn screw!





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