

PILING ON THE PRESSURE

Piling hammers made by BSP-TEX help build the foundations of the modern world – and they're powered by Cat® engines.

What goes up must drive down. This simple principle underpins every major construction in the world today. Beneath each office block crowding the skylines in London, New York or Shanghai sit up to 80,000 tonnes of carefully positioned steel piles, proving a strong, stable platform for the massive weight of concrete, glass and steel above them. To drive each of those piles deep into the ground you need a piling hammer, like the ones made by BSP-TEX International Foundations. And what drives a BSP-TEX piling hammer? A Cat® diesel engine of course.

SOLID FOUNDATIONS

BSP-TEX can trace its history back to 1905 in Millwall, London, UK, before the company moved to Great Blakenham in Suffolk in 1920. But the practice of using driven piles to provide deep foundations has been known for over 4,000 years. The ancient Aztecs used piles to support their temples; Julius Caesar's engineers created a bridge across the Rhine using them. Even the glory of Venice is based on tens of thousands of wooden piles driven into the muddy waters of the lagoon.

Those early piles would have been driven into the ground by weights lifted by human or animal power. The steam hammer came along in the 1800s. From then, the sky was the limit.

AN EXACT SCIENCE

Ray Ransom, BSP-TEX's Sales Director, draws a simple analogy. "You drive a pile into the ground just like you drive a nail into wood. BSP-TEX provides the hammer. The skill lies in positioning the pile exactly where it needs to be and driving it down to the correct depth, transferring the load of the building to where it can be supported. Sometimes you can drive a pile until it rests on a rock bed. Where there isn't a rock bed, you drive the pile until friction with the ground provides the right amount of support." It's an exact science, involving both years of experience and the geological surveys, and when the pile has been driven to the correct depth and force, the result is called a set.



REGION:

Ipswich, Suffolk, UK

SCOPE OF ENGINE USE:

Cat® 9.3B, C15 or C18

CAT® DEALER:

Finning UK & Ireland

WEBSITE:

tex-holdings.co.uk



FEATURED TOPIC:
Industrial Engines

Piles can be made of steel, concrete, plastic and wood, according to the environment and the load they need to take. Plastic piles, for example, are ideal for canal supports as they won't rot in the wet, muddy conditions. Where strength and longevity are critical, the choice is usually steel or concrete, while wood remains popular in countries where the raw material is easy and cheap to source.

CLEANER, MORE RELIABLE POWER

After steam-powered hammers the next step in technology was the diesel hammer, explains Ransome. "A diesel hammer is essentially a huge two-stroke, single-cylinder diesel engine positioned on top of the pile, where the hammer is the weight of the falling piston." Though it's still used in some parts of the world, the diesel hammer has nowadays given way to more efficient, environmentally acceptable hydraulic technology.

"A BSP-TEX piling hammer is a frame that holds a machined drop weight within nylon runners; the weight is lifted by hydraulic power and then drops onto the drive cap above the pile," Ransome continues. "Drop weights for a piling hammer can be anything from one tonne to 40 tonnes. They're lifted by a remote hydraulic power pack. That means you can position the power pack up to 130 metres away, which can be useful in a crowded construction site."

CATERPILLAR, FINNING AND BSP-TEX: A POWERFUL COLLABORATION

BSP-TEX uses Cat power exclusively for its 12-40 tonne CG and CGL range, and Ransome lists a few of the reasons: "Cat engines are compact for their power rating; they're quiet, meet tough emissions standards and fit neatly into our Hydropack (a robust welded steel frame) together with ancillaries like the hydraulic pump, control systems and diagnostics. They're reliable and can take a lot of wear and tear on site. We export around the world, so wherever they are, customers know there's a local Cat dealer to support them." BSP-TEX piling hammers can be powered by Cat 9.3B, C15 or C18 engines, which means that clients can choose the correct power rating and emissions standard, including EU Stage V, for their region and needs.

Ransome is also full of praise for BSP-TEX's UK dealer, Finning. "We make about one piling hammer per week, and we export to every continent, so we need a responsive supplier that understands our business and its unique demands. It's a good relationship."

BUILDING A STRONG REPUTATION

BSP-TEX showcase projects include the Maracaibo Bridge in Venezuela and the London Eye Ferris wheel. Meanwhile, Ray Ransome and team are busy providing estimates for a variety of construction projects around the world, testimony to the company's growing reputation. From towering skyscrapers to sheet pile walls for docks, BSP-TEX and Cat diesel engines make a great support act.



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LET'S DO THE WORK.™