

3-D conversion for Sector 7

Sector 7 is the first Asian feature shot on 2-D film for conversion to 3-D, for release in digital 3-D format. The gripping all-Korean \$8 million+ science fiction feature focuses on a group of workers on a remote offshore oil platform and their desperate fight for survival when a mutant creature appears from the sea.

In his second collaboration with director Kim Ji-Hoon (*May 18*), Korean director of photography Lee Doo-Man was faced with an unusually steep learning curve. “*Sector 7* demanded a great deal of CG work and an unfamiliar 3-D conversion process. I was, therefore, appreciative of the reliable crew that quickly adjusted to these new techniques,” he says.

The initial plan was to shoot *Sector 7* with a RED camera. “When I received the script, the camera rental and post-

“The look I most wanted to achieve was the rich black high contrast of KODAK VISION2 Expression 500T Color Negative Film 5229, of which I’m a big fan,” continues Doo-Man. “Yet tests revealed that KODAK VISION3 500T Color Negative Film 5219 was our best option as the project needed greater flexibility and finer grain for the 4K Digital Intermediate work and the large number of CG shots.” In his first use of 5219, the DP shot with an ARRICAM ST at 4-perf Super 1.85:1 aspect ratio.

Doo-Man was faced with multiple explosions, and wire work and props for the creature. “We needed a clearly visible horizon for the daylight fight sequence between man and creature, so we set up large green-screens and shot night-for-day. It was hard work for everyone. The climax of the film – a dark night scene on the oil rig in which an actor desperately fights the creature – required greater depth of field for 3-D conversion and frequent high-speed shooting, so I used low, wide-angle shots and exposed at T4. The Cooke S4 primes produced really nice skin tones and reduced many areas of halation.”



production company were already set up, but I realised there would be difficulties with the visualisation,” notes Doo-Man. “The main problem was sharpness. If I wanted to achieve wide slow-motion shots, I would need to carry a separate set of Super 16mm lenses to cover the 2K high-speed recording. Then tests revealed that the sharpness was not as good as expected. Another issue was sensitivity. I did a test shoot of a tungsten-lit scene and the resulting 160ASA sensitivity may not have been an issue with a reasonable budget and ample location lighting. However, *Sector 7* was shot on a tight budget entirely on set and required many high-speed 48 and 120 fps action sequences. We would have had to double the size of the set and quadruple the lighting if we had stayed with RED workflow. Needless to say, we went for film.”

“The most difficult factor for me was the large amount of green-screen shooting,” notes Doo-Man. “We shot into empty spaces for the creature shots. The crew and actors had to imagine there was a creature immediately in front of them, which proved difficult.” VFX work comprised a significant 80-percent of *Sector 7*.

“The 5219 Film is good material and I’m satisfied with the first colour-corrected look after the 4K ARRI scan. I’m also waiting for the next opportunity to use KODAK VISION3 film stock again,” remarks Doo-Man.

Producer Kim Min-Kyoung adds: “Sharpness was an essential requirement for the 3-D conversion, so film was really an inevitable choice. In addition, film has given *Sector 7* a nice skin tone and a more natural look compared to digital. The shooting schedule went to plan and I am content that Kodak film played its role perfectly.”