

roadcast

BENTLEY
CHEMICALS LTD

Specialised Product Solutions

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Carol's Other Half..??



Carol & "Jeff"

Who's that guy with TV presenter Carol Smillie? Well, we are all supposed to have two sides to our personality and Carol's other half "Jeff" is... Carol Smillie! The special prosthetic make-up was constructed for 5's "Gender Swap" programme using Bentley's SkinSil and silicone elastomers. The programme transforms the gender of well known personalities with the help of leading special effects experts, and then puts them into real life situations to see if they can successfully act out their new personalities before unsuspecting members of the public. SkinSil has been used by the make-up team because of its superior technical performance and time saving properties.

The Fastest Lifecasting

In 2003 Bentley Chemicals launched SkinSil, a new silicone lifecasting elastomer which quickly began to have a revolutionary impact on the way that the special effects industry traditionally made facial and body "lifecasts." For 2004, Bentley Chemicals is launching an improved and extended range of elastomers - SkinSil Body Double.

SkinSil Body Double "Standard Set" and "Fast Set" are long lasting silicone elastomers which have been developed to give improved technical

performance, bringing major savings over traditional complex and costly methods using alginates and enabling the master mould to be made in a single process.

Richard Watson, managing director of Bentley Chemicals commented, "The launch of the new range of SkinSil Body Double enables us to offer a wider choice of product with a greater range of technical performance. The two products complement each other and give the special effects and make-up specialists much greater flexibility in choosing the



SkinSil Body Double

right product for the job." Both products can be directly applied to the skin using convenient, disposable mixers. SkinSil cures quickly to give remarkable reproduction detail, is clean and easy to use and is much more comfortable for the live model. The elastomers do not distort during or after curing, have practically no shrinkage and have excellent mechanical properties when cured. The life-like moulds can be used to make many

castings from almost any material including plaster, wax, polyester and polyurethane resins and low-temperature metal alloys.

SkinSil Standard Set has a 6 minute working time and can be de-moulded in 30 minutes, while Fast Set has a 90 second working time and can be de-moulded in approximately 5 minutes. Working and de-mould times are dependent upon material, body and ambient temperatures.

Millennium Bronze

"Bolt Tensioning" is the latest, limited edition "boardroom statue" produced by Millennium Bronze. It weighs in at 18 kg, has taken nearly two years to produce and will be limited to a worldwide production run of just ten.

In the sculpture, the diver straddles an oil pipeline carrying out bolt tensioning operations to seal the flange faces

of an oil pipe line. All the moulds were made in RTV 585 by Lakeland Mouldings, and all the bronze work has been cast using Bronze powder and iron filler powder with a Smooth-On SC300 carrier, all supplied by Bentley Chemicals.

Millennium Bronze creates diving related statues, replica helmets and paintings with a difference – they have incredible attention to detail combined with a realistic 'feel' for the underwater world which is only achieved because the artists themselves are professional divers with a

great deal of diving experience. Sven Simpson and Mike Eagles founded the company in the year 2000 to provide an outlet for the statues of offshore divers which were sculpted in their spare time in between working saturation dives.

The amazing detail ensured that they became popular amongst colleagues and soon there were

orders from around the world including the Boardrooms of the foremost diving companies and organisations.

The pieces are individually made and hand finished. It takes about six weeks to create the master for each version. Each one requires detailed hand sculpting along with the equipment accessories which provide the amazing detail. The major part of each item is made in a mould from 'cold-cast' bronze, which permits the patina and quality of bronze to be part of detailed works of art which was previously impossible to achieve.



The finished boardroom statue Bolt Tensioning

From Russia with...



It may have gone unnoticed by much of the international media, but towards the end of 2003 Russia was exporting dinosaurs to the United States! The life-size, animatronic reptiles were all made by the Exhibit Forms Company based in Minsk and packed off to the United States to feature in a "Dinosaur World Tour" in Denver, before heading off to another show in Orlando.

The Russian company used Bentley's flexible foams, polyurethanes and pre-coat systems to develop the life like look for the range of thirteen different dinosaurs. Each

model had built in animatronics which allowed it to move both its head and tail, as well as opening and closing its mouth. The largest dinosaur was over 11 feet high and 18 feet long. Exhibit Forms have developed their business in Russia providing design and manufacturing work in products for the entertainment industry and in education.

Last year, Bentley supplied hundreds of kilos of rubber and plastic for the world's largest animatronic and fully pneumatic T-Rex which was unveiled at Combe Martin Wildlife & Dinosaur Park in North Devon.

Better Dormer

After nearly 12 months of development work, Bentley Chemical's quick cure polyurethane foam "Handi Foam" is now being used in the construction of dormer roofs and windows for the first time. Stormking, the market leader in the design and construction of G.R.P. products for the building industry, have developed the dormers which are more environmentally friendly and have improved insulation properties. The dormers are now being supplied to nearly all the major house building companies.

Stormking worked closely with Bentley on the technical development of the new products. The company could see that the properties of Handi Foam had the potential to not only improve their production processes, but also develop a better end product. "We have a track record of successfully developing innovative design solutions in our sector of the building industry," commented Tony Hardman, manufacturing manager at Stormking, "Handi Foam has enabled



Handi Foam being applied to Dormer

us to develop a superior range of dormers. Production is now more efficient and environmentally friendly and the end product is



Finished Dormers

better with improved insulation properties."

Traditionally the company had been using 70mm slab

sheets of foam – a process which had a number of drawbacks. Production was complex and time consuming as sheets had to be individually cut to suit a wide variety of different dormer shapes and sizes. Achieving a perfect fit was sometimes difficult, which meant that insulation properties could be compromised leading to "cold bridging" (warm air escaping and condensing on an external cold surface). The foam sheets had to be mechanically fixed into place and uniform bonding was difficult, which could lead to damage during transportation.

The introduction of Handi Foam has brought major

benefits:

- It is easily applied and can be sprayed onto vertical or inverted surfaces.
- It bonds to the surface and dries tack free in seconds.
- It can be built up in layers and acts as a strengthening media.
- It has excellent insulation and sound reducing properties.
- "Cold bridging" is eliminated.
- Production wastage is dramatically reduced.

Handi Foam's ease of application, combined with its high performance properties, have meant that it is finding new applications not only in the construction industry, but also in building restoration, renovation and repairs, insulation, cold storage, vehicle refrigeration and marine work.

Handi Foam is available in refillable systems or in three different size disposable kits to suit a variety of applications with yields from 1.8 cubic feet to 50 cubic feet. The foam is also fire retardant to European B2 certification.

STERLING STUFF

Robert Cowley has been making reproduction guns inspired by film special effects for the last eight years. Based in the Isle of Man, Robert's fascination with lethal hardware has now turned into a "paying hobby" with the majority of his work selling to the

United States.

He began his hobby doing figure sculpting with characters from films such as Judge Dredd, but soon turned his talents to reproducing some of the more exotic weaponry often seen in today's blockbusters. Robert



A Prop Replica Sterling

commented, "I have found that using Bentley Chemical's Smoothcast 300 series Colourmatch resin gives us a strong, crisp and clean result with excellent tooling properties. This is essential

for the production of life-like prop replicas such as the Sterling."

Rob Price

A new face has recently joined Bentley Chemical's Technical Sales team at the Company's headquarters in Worcestershire. Rob Price brings with him a wealth of experience in technical research and development, having begun his career with Royal Worcester porcelain giftware as a ceramic artist.

His early work involved landscapes and 3D images on limited editions of giftware. The work gradually became more and more complex and intricate over the years, and he joined Boehm in Malvern as a technician developing special glazes for ceramic bodies, as well as hot cast bronze and ceramic assemblies. Rob later returned to Royal Worcester to produce

ceramic art incorporating bronze parts – figurines and special sculptured pieces.

He began experimenting with the use of resins for giftware moulding and set up a small studio at home to help with the development work. His next move was to the giftware company "Heredities" based in Cumbria, where as art director he was responsible for the company's well known range of cold cast bronze sculptures. Rob then spent ten years as a consultant using his considerable experience to work with a variety of companies to help them manage the whole process of new product development - all the way through from the original creative concept, to final packaging.

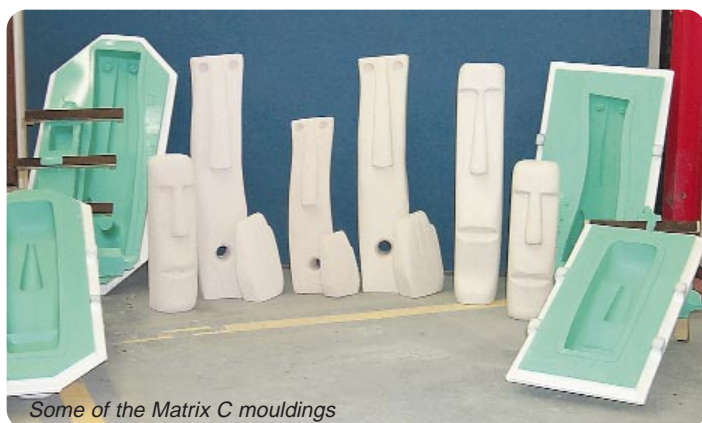


Rob Price

At Bentley, Rob is using his experience to work closely with the company's customers to develop the right product for the job. "I can appreciate some of the issues from a different perspective and I enjoy working on a one-to-one basis on challenging jobs. The work at Bentley is really rewarding because of the very diverse nature of the business and I am excited about the potential for the future."

Rob has already tackled the gorier end of the special effects business, helping to develop more realistic, synthetic human skin and flesh! "We've been working on special life-like ooze layers which can appear underneath the skin in special productions like Casualty and Holby City. There's never a dull moment turning other people's dreams, or nightmares, into reality!"

Easter Production



Some of the Matrix C mouldings

A new range of striking and unusual garden ornaments is being launched this year to bring a bit of culture into a world traditionally occupied by gnomes and toadstools. The product range, which is based on the famous

Easter Island statues, has been developed by Dunure Ltd and has required a major development programme to source the right materials and deliver the required production run.

The ornaments are all

moulded from Bentley's Matrix C and the Company has been heavily involved, providing not only the raw materials, but also working closely with Dunure to help develop the moulding and production capabilities.

So far over 8,000 pieces have been produced with Bentley supplying all the moulding materials and over 175 tonnes of Matrix C.



Production of Easter Island statues

A PIG OF A JOB

It's probably best not to ask why the script of one of the nation's leading TV soaps called for a severed pig's head; you will just have to let your imagination run riot, at least until the relevant episode makes it to transmission! You could even be forgiven for thinking that the head was real, but it isn't. It's made entirely from yes, you've guessed it, prosthetic silicone out of a SkinSil mould.

Ant Harding, a special



The SkinSil Pigs Head

effects props expert, rose to the challenge of producing the pig's head. "The SkinSil was fantastic. It's very easy to work with if you are well prepared, as it does set quickly. As long

as you get a good bond with the bandage, it lasts long enough to take a few good casts too. The detail it picked up was excellent and really made a difference with life like detail all over the mould. It really captured all the natural imperfections of skin which is vital if you want your models to look realistic. I was really pleased with the final result."

Global Expansion

Bentley's reputation as a company that can provide solutions to a wide variety of special moulding challenges, is spreading far and wide. The last twelve months have seen a rapid expansion in exports with silicones and foams finding



You Need Hands...



SFX News

2003 was the most successful year on record for the British Film Industry and the list of new productions which are being supplied with special moulding materials from Bentley Chemicals reflects this. At the time of "going to press" there were at least sixteen current productions using almost the entire range of the Company's materials – silicones, polyesters, polyurethanes, foams, rubbers, plastics and resins. Applications included everything from scenery to costumes and from animatronics to armaments.

Just some of the film productions include Alien v Predator, Crusaders, Phantom of the Opera, King Arthur, Troy, Wimbledon, the Merchant of Venice and Corpse Bride.

their way into a long list of countries. In addition to the countries already mentioned in various articles in this edition of Broadcast, the Company now has established links with Mexico, Sweden, Greece, Luxembourg, Indonesia, Cyprus, New Zealand, the Czech Republic and the Emirates – and the list continues to grow! "Word of mouth is our most powerful marketing tool," commented Peter Turnock, sales and marketing director, "Our reputation as a specialist supplier is now gaining an international momentum. Our expertise, our existing range of products and our willingness to develop new products to meet our client's needs, are all combining to raise our profile in foreign markets. 2004 is set to continue this growth."

Anyone paying a visit to Cadbury Schweppes' offices at Watford will not have failed to notice a particularly unusual feature in the main reception. The eye catching "wall of hands" was created by Oyster Products and features life size hands which are firmly grasping a wide variety of well known brands from the company. "Our usual line of business is mostly shop interiors, fit-outs and offices but this was something a bit



The Wall of Hands

different. It gave us a challenge to create a real visual impact" commented Paul Peggs from Oyster. The wall of hands is made from Bentley's RTV 4408. Oyster Products are currently working on another unusual "hands" commission. This one features some very well known celebrity hands which will all be displayed outside the South Bank studios in London.



When filled Polyester Resin can mimic many different finishes such as Marble, Bronze, Wood and many more. A resin's ability to accept filler powders, and its relative low cost, makes it a choice of many for a reproduction material.

A combination of filler powders is best. The main advantages are:

- adding bulk and reducing the amount of resin required (reducing the cost of a reproduction casting)
- reducing the exotherm of the resin during its curing process
- producing special finishes, such as a marble effect
- improving the post heat distortion of the resin
- adding or reducing the resin's normal weight

To fill a resin with powder will make the resin much thicker and can affect the flow of the resin as a casting medium. To cast large pieces in filled resin will produce a great deal of exotherm which can result in warpage, greater shrinkage and in some cases cracking. To combat these effects, greater quantity of filler powder is required.

A common filler to add to resin is a Microdol powder, such as H100, H400 or H600. This is an ideal filler as it has a good cooling effect on the resin during exotherm but if added in very large quantities will make the resin very thixotropic because it is a fine particle filler. To increase the quantity of powder to a resin and retain the flowability, a second, or even third filler powder of a larger particle size should be used.

It is possible to increase the filler content of resin from 60% filler to 80% and some combinations even higher, without loss of flowability.

My preferred basic filler mix into polyester resin for Marble and general white castings is H600 and ATH (aluminium trihydrate) and for Bronze effect casting H600 + ATH + bronze powder + Antique black powder.

At Bentley Chemicals we can advise on the possible filler types that would best suit your requirements.

Rob Price

Malaga Mountain

A £5 million development half way up a mountain in the south of Spain may seem an unlikely spot to find an application for Bentley Chemical's new package of "performance products" for specialised concrete and plaster work.

The development is a luxurious villa overlooking Malaga and features a swimming pool and balcony with "marble" balustrades, fountains and statues. The "marble" work is all being supplied by David Sharp Studios of Derbyshire and has been made from Bentley's Matrix NEO, a new easy to use gypsum-based polymer casting system incorporating special fillers to replicate the look of marble.

David Sharp, who started his career building film sets and scenery in Hollywood, commented, "Our main business has traditionally been supplying columns, tablature and statues made from limestone. Using this method is a new departure for us and Bentley has been very good in helping us to develop the potential of the new materials."

Bentley's package of concrete and plaster performance products features Matrix C, a new polymer additive which dramatically improves both the physical and performance properties of cements and mortars, as well as Matrix NEO, which outperforms regular gypsum products.



Rowland Way
Hoo Farm Industrial Estate
Kidderminster
Worcestershire DY11 7RA
Telephone +44 (0) 1562 515121
Facsimile + 44(0) 1562 515847
Email: info@bentleychemicals.co.uk
Website: www.bentleychemicals.co.uk
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