

# CASE STUDY



The biggest earning movie in 2018 was Marvel Studios' Black Panther which grossed \$700 million in the US alone. That year also marked the death of Marvel Studios' publisher, Stan Lee, who did so much for the comics industry by creating such highly successful characters as The Hulk, Hawkeye, Thor, Captain America, and many more.



## Problem

Mr. Lee has icon status. A bust of him had been created out of relatively delicate, solid polystyrene. The problem was not so much replicating the image accurately, which was done on their 3-D printer, but being able to permanently protect it with a coating that would not only resist impact but also weathering if placed outside.

The client had tried polyurea, but he was dissatisfied with the finish. The bust material was grainy, and he wanted something that would look more like a traditional statue finish that is naturally achieved with solid stone. When he finally has the right coating, he will use his Japanese robot machine to coat his creations to ensure uniformity of spray quality and speed up throughput.

## Solution

Castagra's SG1 is VOC-free, non-toxic, Class A flame retardant, and has a history of being used with movie props. More than 20 years ago it was used on large artificial boulders for productions in Hollywood North.

It is made from renewable castor oil and a naturally-occurring soft rock called gypsum. Castor oil's unique chemistry, with long chain fatty acids, allows for the production of a veggie-plastic that has extremely high adhesion combined with robustness, including resistance to UV and a wide array of corrosive chemicals.

The problem had been creating rock-strewn sets without major moving issues that would have been created with natural, heavy rock. The veggie-plastic coated polystyrene rocks proved a big success, lightweight and mobile.

## Application Results

The polystyrene bust was dry and clean presenting ideal application conditions. Castagra's SG1 was sprayed by Elite Protective Coatings to an average overall thickness of 30-40 mils. Within 30 minutes it was tack free and fully cured within 24 hours.

The finish still reflected some of the basic texture of the substrate, but it provided a pleasing overall patina. Because the coating is a strong polymer, it creates significant skin strength, and its retained elasticity will provide high resistance to any accidental impacts. Castagra's SG1 is notable for being repairable with no time limit provided the original old surface is dry and clean.