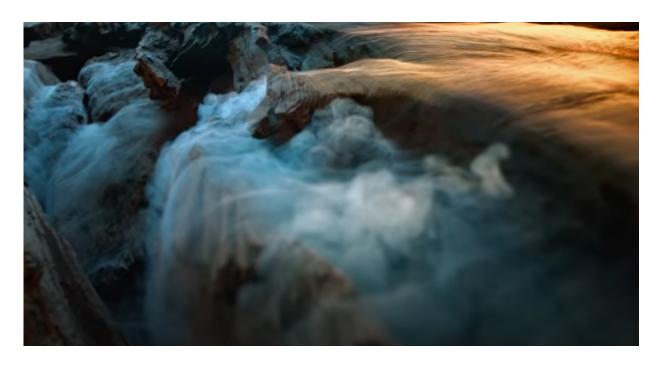
The title to Amazon's Lord of the Rings prequel was announced January 19th. The title is forged out of molten metal and redwood. The goal was to shoot everything in-camera.

Initially, we tested wood that was treated with fire-resistant chemicals, but realized that molten aluminum or bronze completely incinerated the test pieces. Working with Landon Ryan at his fine art foundry, we ended up creating molds of the redwood slabs that were cast in sand and scenic'd to replicate the original pieces and withstand temperature of over 1800 degrees. Shooting with motion control and at high speeds we were able to push the sense of scale of the wood pieces and molten metals. Liquid nitrogen gave us miniature scale fog as well as an explosive reaction with the molten metals. Adding ground sparkler powder in the troughs of the letters created miniature fireworks inside the flames of the flowing metal.







Redwood







Root of same tree

After looking at multiple species of wood, old growth redwood became the ideal candidate because of its grain structure and tone. Fortunately, we sourced a giant redwood that was cleared from a northern California forest floor years ago and buried deep in the warehouse at GL Veneers.



The Rings of Power

CNC carving Sandblasting Waxing

Title Reveal

The different slabs of wood were planed flat before CNC carving the letters. We started with the hero piece that would hold all the cast metal letters in the final shot. Recessed letters were cut into this piece to receive the cast metal letters for the final shot. For the pour shots, we cut inverse shapes of the metal letters into matching pieces of wood at different scales as needed per shot. The scale differences called for varying degrees of sandblasting to increase depth with larger scale letters. (Some of the letters were 3' across and some were 14") The final wood pieces were heated and waxed so that the silicone mold would release.



Selecting slabs for different scale carvings



Hero piece for final shot



Detail of Letter for pour



Detail of Letter for pour



Heated wax applied before silicone mold poured

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Silicone molds
Sand Casts
Scenic work



Pouring silicone over wax redwood base



Sand casting prior to scenic work

After the wood forms were CNC'd, sand blasted and waxed, silicone molds were created to then make polymer sand castings. Those castings were scenic'd to match the original wood pieces. We made multiple casts of each scale because even the the sand would get charred from the molten metals and we could usually only get one pour per letter. The final shot is with the aluminum letters. They were heated in the kiln and quickly placed into the recessed forms. The camera pulls back to reveal the title as liquid nitrogen is poured over the entire piece.



Silicone mold, retaining grain of wood



Steel frame for polymer sand casting



Final, painted sand casting

3D printing
Aluminum Casts
Tumbling/polishing







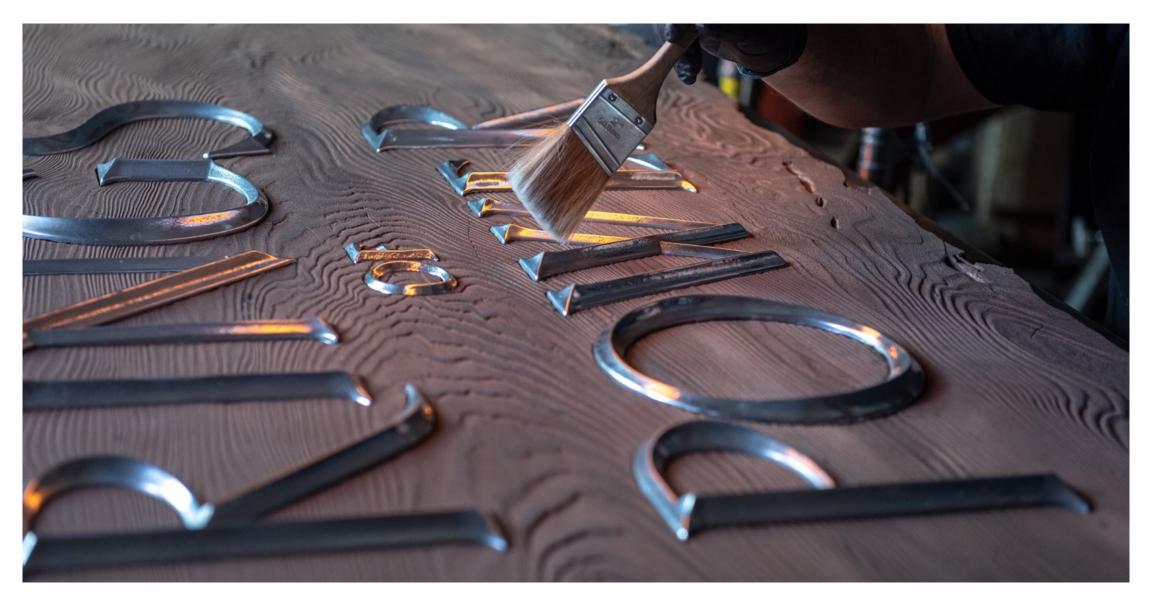
Sand mold with molten aluminum casting the letters



Rough aluminum cast letters



Tumbled and polished aluminum letters



To create the metal letters, we first 3D printed the letters. Then, sand cast molds were made to cast the final letters out of aluminum. To make sure the letters would match the size of the CNC carved letters in the wood (since these would have to perfectly align when inset into the wood for the final shot), we had to predict the shrinkage of the cast aluminum upon cooling. We cast multiple sets of the aluminum letters to determine how much tumbling and polishing would provide the finish that felt properly aged and had the right amount of 'pitting' to give them the texture appropriate for Middle Earth. The final shots of the letters reveal engraving. This is the one element added in post because final engraving designs were approved after the shoot.





