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Sandblasting Signs

Although routers and engravers are used to fabricate dimensional signs, they aren't a sign-maker's only option for dimensional sign work. Abrasive blasting is an equally popular fabrication method.

Abrasive blasting uses high-pressure spraying (blasting) of an abrasive onto a partially masked substrate. As the sand is sprayed onto the substrate, it erodes away any unmasked areas of the substrate. Areas that remain masked are protected from the erosion process and remain dimensionally higher than the eroded, blasted areas. Because sand is often the abrasive of choice within the sign trade, the abrasive-blasting process is commonly referred to as "sandblasting," regardless of the actual abrasive used. We'll thus use this terminology in this article as well.

Substrate Selection

As with any sign, substrate selection is an important consideration. When you sandblast, the texture and/or flowing grain you're creating becomes an integral and dominant part of the sign's appearance. The grain can enhance simple design elements or compete with a complex and intricate layout. Plan accordingly; choose a substrate that — when blasted — will yield the texture you seek.

When blasting wood, use boards that have less than a 12% moisture content. Wet wood blasts poorly, weakens glue joints and allows the wood's internal chemicals to leech through the sign's finish. Look for wood that's knot- and stress-free to limit dimensional distortion. Also, wood with a high density is difficult to blast, but is more durable than wood with a low density.

Commonly used wood substrates for sign work are:

Redwood (17-lb. density): Environmental concerns have made commercial redwood panels increasingly scarce and expensive. Two types of redwood exist: coastal redwood and inland redwood. Inland redwood, harvested from naturally fallen trees, is less likely than coastal wood to exhibit harsh ridges (fins); thus, it allows deeper blasting and facilitates background painting.

Western Red Cedar (19-lb. density): Like redwood, this wood is dimensionally stable and weather-resistant. Its texture falls between coastal and inland redwood.

Balsa (10-lb. density): Although it's a very porous wood, this material takes longer to blast than redwood.

Mahogany (35-lb. density): This material takes longer to blast than even balsa and yields a very flat effect. For outdoor use, it must be fully sealed and painted.

Once you've selected narrow, quality planks from the substrate of your choice, butcher-block-laminate (glue) them together. Gluing planks together (as opposed to a single, wide panel of wood) yields a stronger sign that's less apt to warp in the long run. When laminating, make sure that each board fits well with its neighbor. Use plenty of type 2 or 3 glue in the joints and clamp the boards together until dry. Once they are dry, chip the dry glue that's seeped out of the cracks. (Check with your adhesive manufacturer for more specific lamination advice.)

Stone Materials are blasted in much the same way as wood. Metal abrasives work best for such applications though; use them at 100 psi. When blasting tile, remember that you need only etch off the glazing; you don't need to deep blast.

Glass is perhaps the "trickiest" substrate to blast because — unlike all others — it is actually blasted in reverse. That is, you blast the back side of the glass — not the front. Even though you're blasting the back surface though, it's still a good idea to completely mask the front. Doing so protects the glass from scratches. More fabrication hints: Use a rubber mask on glass if you're creating a deep blast; a 4-mil vinyl or sandblast mask is suitable for light blasting work.

High-Density Urethane, although durable, is very easy to blast — not surprising, since it's also extremely easy to hand-carve. Sometimes sign-makers complain that its blasted pieces, which are full of static, make a mess, but because of its ease-of-use, the material is fast gaining popularity as a substrate.