

XINHENGDA

SCULPTURE ART

Material Selection Guide

Choosing between 304, 316, 316L, Corten weathering steel, fiberglass resin and solid wood

The grade and material decision costs very little at the quotation stage and a great deal once a piece starts to pit or chalk. This guide sets out what separates the options and which position each one suits.

- Minimum order: 1 piece across the whole range
- Size: set from your drawing or from the dimensions of the space
- Materials: stainless steel, bronze, weathering steel, iron, fiberglass, resin
- Workshop: 12,000 square metres in Pingshan District, Shenzhen
- Enquiries answered within 24 hours, seven days a week

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What Actually Separates the Two Grades

Both grades are austenitic stainless steels with roughly 18 percent chromium and 8 to 10 percent nickel. The difference is molybdenum. 316 carries about 2 percent of it and 304 carries none. Molybdenum is what resists chloride attack, and chloride is what causes the small brown pits that appear on a mirror surface and cannot be polished out without thinning the panel.

Where 304 Is the Right Answer

Inland gardens, courtyards, lobbies, malls, corridors and almost every interior position. 304 holds its surface in rain, sun and frost indefinitely with nothing more than occasional washing. Specifying 316 for a suburban garden piece adds cost for a duty the material will never see. Most of what leaves our workshop is 304 for exactly that reason.

Where 316 or 316L Earns the Difference

Within roughly a kilometre of the sea, on any roof or terrace exposed to onshore wind, beside a chlorinated pool, and in any position where the piece is wetted by treated water. Fountains are the clearest case: the water is recirculated, treatment chemicals concentrate, and the steel is wet continuously. That is the hardest duty a sculpture faces.

When the L Matters

316L is the low carbon version. On a large sculpture the welds can run for metres, and low carbon content keeps the heat affected zone beside those seams as corrosion resistant as the panel itself. For a small piece with short seams, standard 316 is fine. For a monumental welded form in a marine setting, 316L is the safer specification.

What Grade Cannot Fix

Iron contamination. If a stainless piece is ground with a wheel that has been used on carbon steel, or stored where construction dust settles on it, it will rust in spots regardless of grade. That is why passivation after welding and clean handling on site matter as much as the grade on the order.

How to Specify It

Tell your supplier the position, not the grade. Say the piece sits eight hundred metres from the coast, or that it stands in a chlorinated reflecting pool. A supplier who then quotes 304 without comment is telling you something useful about how they work.

Quick Reference

304 stainless steel	Inland gardens, courtyards, lobbies, malls and interiors. Holds its surface with no coating.
316 stainless steel	Coastal positions, roof terraces in onshore wind, poolside and any piece wetted by treated water.
316L stainless steel	Large pieces with long continuous welded seams in marine or poolside positions.
Corten weathering steel	Landscape masses, screens, water bowls and lawn edging where a warm unpainted mass is wanted.
Fiberglass reinforced resin	Modelled, cartoon and figurative forms, coloured work, and anywhere weight on the floor matters.
Cast resin	Interior pieces where colour and translucency live inside the material.

Solid wood

Interiors needing natural grain and hand carved depth.

Brass

Small interior objects where the warmth of the metal itself is the point.

Frequently Asked

Can you tell 304 and 316 apart by looking

No. They are visually identical, which is exactly why the grade has to be confirmed against the order before cutting rather than assumed from the appearance of the sheet.

Does 316 look different once polished

No. Polished 304 and polished 316 are indistinguishable. You are paying for behaviour over years, not for appearance on delivery.