

A Quick Guide to Buy Clean California's Steel Provisions

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2021 IDEAS² National Award
Sculpture/Installation/Non-building Structure
Moscone Center Expansion—
Pedestrian Bridges, San Francisco
photo: Tim Griffith

Effective July 1, 2022, an Environmental Product Declaration (EPD) complying with the *Product Category Rule (PCR) for Designated Steel Construction Products* must be submitted by successful bidders for structural steel and concrete reinforcing steel products to be used on public works projects contracted by State of California agencies or contracted by the University of California or California State Universities. The EPD must provide facility specific global warming potential (GWP-100) results for the mill facility producing the designated product. The submitted EPD may include industry average GWP impacts resulting from further transportation to a fabrication facility and the fabrication operations themselves, both of which are not included in the thresholds established by the California Department of General Services (DGS).

Contract exceptions may be granted with written justification when the requirements would be technically infeasible, result in the single sourcing of the product, a significant increase in cost, or a significant delay in project completion.

EPDs for eligible steel products must document that GWP-100 levels do not exceed the following thresholds:

Category	Product	GWP-100 threshold at mill gate as published by DGS ^a	GWP-100 threshold if U.S. industry average fabrication is included ^b
Structural Steel	hot-rolled structural sections	1.01 tons/ton	1.22 tons/ton
	Hollow Structural Sections	1.71 tons/ton	1.99 tons/ton
	plate	1.49 tons/ton	1.73 tons/ton
Concrete Reinforcing Steel		0.89 tons/ton	0.98 tons/ton

^a Use this column to determine compliance when an EPD declares mill-only material (cradle to mill gate).

^b Use this column to determine compliance when an EPD declares mill material plus U.S. industry average fabrication impacts (cradle to fabricator gate). Fabrication impacts for structural steel are taken directly from the 3rd-party verified AISC fabrication background LCA report (February 2021) documenting a waste rate of 7.71% (A1 multiplier), transportation (A2) of .0446 tons/ton and fabrication (A3) of .0967 tons/ton. Similar LCA results are available from CRSI for reinforcing bar indicating a waste rate of 3.1% (A1 multiplier), transportation (A2) of .0445 tons/ton and fabrication (A3) of .0154 tons/ton.

Note: these thresholds are not industry average GWP results and cannot be used to compare the relative performance of these steel products to one other. Any evaluation of relative performance can only be determined through a Whole Building Life Cycle Assessment based on professionally established design quantities.

Prepared by the American Institute of Steel Construction (AISC), the Steel Tube Institute (STI), the Concrete Reinforcing Steel Institute (CRSI), and the American Iron and Steel Institute (AISI).



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What Structural Steel products are included?

According to ANSI/AISC 303-16 *Code of Standard Practice for Steel Buildings and Bridges (Code)* and the requirements of the Buy Clean California statute as interpreted, the following products are covered when used as elements of the structural frame that are shown and sized in the structural design documents as essential to support the design loads:

- Hot rolled sections consisting of W-, S-, M- and HP- shapes, channels, angles, and split tees from W-, S- and M- shapes.
- Hollow Structural Sections consisting of carbon or low-alloy steel that is cold-formed and welded (ASTM A500, A847 or A1085) in round, square and rectangular configurations
- Steel plate

Specifically excluded are components of metal building systems, steel joist, cold-formed steel products, decking, and uses of structural sections for sheet and bearing piles, guard rail, light stanchions, pressure vessels, crane rails, handrails, stairs and other applications detailed in *Code* section 2.2 (*Code* Sections 1 and 2, available for free download at aisc.org/2016code).

Further information is available from the Steel Solutions Center (866.ASK.AISC or solutions@aisc.org) and the Steel Tube Institute (www.steeltubeinstitute.org)

What Concrete Reinforcing Steel products are included?

According to the requirements of the Buy Clean California statute as interpreted, reporting of the mill data for the following concrete reinforcing steel products is included:

- Deformed and plain carbon-steel steel bars (ASTM A615/A615M)
- Deformed and plain low-alloy steel bars (ASTM A706/706M)
- Zinc-Coated (Galvanized) Steel Bars for Concrete Reinforcement (ASTM A767/A767M)
- Epoxy-Coated Steel Reinforcing Bars (ASTM A775/A775M)
- Epoxy-Coated Prefabricated Steel Reinforcing Bars (ASTM A934/A934M)

Specifically excluded from the requirements of Buy Clean California are deformed and plain stainless-steel bars (ASTM A955/A995M) and deformed and plain rail-steel and axle-steel bars (ASTM A996/A996M).

Further information is available from the Concrete Reinforcing Institute (info@crsi.org).

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