



Seal Courses

Seal courses are used to control water so that concrete for footings and pile caps can be placed in the dry condition. Seal courses may also be used at the bottom of open ended Cast-In-Steel-Shell (CISS) piles to maintain water control, especially when high hydraulic heads and permeable soil plugs are present. Occasionally the use of a seal course is included in the design of the footing or pile cap, and is shown on the plans. Seal courses used to facilitate the construction of falsework or structure excavations will not be shown on the plans but can be used by the Contractor in lieu of dewatering methods.

Specifications for seal courses shown on the plans are different than for those done at the Contractor's option. For seal courses, the topics of *Water Control and Foundation Treatment*¹, *Concrete Placed Under Water*², and *Payment*^{3 & 4}, are covered in different sections of the Standard Specifications (SS).

The thickness of the seal course within a cofferdam depends on the hydrostatic head. Seal course thickness calculations can be found in the *Caltrans Foundation Manual, Appendix I*.

When seal course concrete is shown on the plans (with limits and thicknesses), there is typically an item for seal course concrete in the Engineer's Estimate. If not, then it should be addressed in the provisions for *Structural Concrete, Bridge Footing*.

Full compensation for seal course concrete, not shown on the plans for excavations and cofferdams, is considered to be included in the price paid for structure excavation or the contract price paid for the item of work requiring excavation, and no separate payment is made.

Seal course limits and thicknesses need to be shown.

¹ 2010 SS, Section 19-3.03D, *Water Control and Foundation Treatment*, or 2006 SS, Section 19-3.04, *Water Control and Foundation Treatment*.

² 2010 SS, Section 51-1.03D(3), *Concrete Placed Under Water*, or 2006 SS, Section 51-1.10, *Concrete Deposited Under Water*.

³ 2010 SS, Section 19-3.04, *Payment*, or 2006 SS, Sections 19-3.07, *Measurement*, and 19-3.08, *Payment*.

⁴ 2010 SS, Section 51-1.04, *Payment*, or 2006 SS, Section 51-1.22, *Measurement*.