

Asphalt Binders (Glues)

Asphalt Cement: the pure form of asphalt; must be heated to be liquid

	AR 4000 / PG 64-16	moderate climate areas
	AR 8000 / PG 64-10	hotter climates, heavy vehicle areas (i.e., intersections)
	AR 16000 / PG 70-10	special heavy load, hot climate situations
	PBA-6A or 6B	polymer-modified asphalt
	Asphalt Rubber	asphalt cement with ground tire rubber

Cutback Asphalt: asphalt cement made liquid by a “cutter” oil

	Slow Cure (SC)	uses an oil as the cutter
	Medium Cure (MC)	uses kerosene as the cutter; not available in urban areas of CA

Asphalt Emulsion: finely-chopped asphalt cement in soapy water

	Slow Set (SC)	fog seals, tack coats
	Medium Set (MS)	cold mix and soil stabilization
	Rapid Set (RS)	chip seals
	Quick Set (QS)	slurry seals

What is PG Asphalt?

The Performance Graded (PG) system focuses on addressing the three specific pavement distress modes of permanent deformation (rutting), fatigue cracking, and low temperature cracking. PG asphalts are intended to provide enough stiffness at high temperatures to help the mix resist permanent deformation and rutting; enough elasticity at low temperatures to prevent low temperature thermal cracking; and enough flexibility at intermediate temperatures to minimize fatigue cracking.

Which PG Asphalt do I use?

PG asphalts are selected on the basis of the temperature range that the pavement is expected to be exposed to. Based on statewide weather data, nine climate regions of similar temperature extremes have been defined. PG asphalt grade selection is then made on the climate region. See Figure 1 for a map of the nine climate regions and the PG asphalt grade specified for each.

In addition to the four grades in Figure 1, the PG system also permits the use of PG 70-10 and four PBA polymer modified asphalts as an option for designated routes and special situations. For a complete listing of PG and PBA asphalt grades permitted for use in California by region, see Table 1.

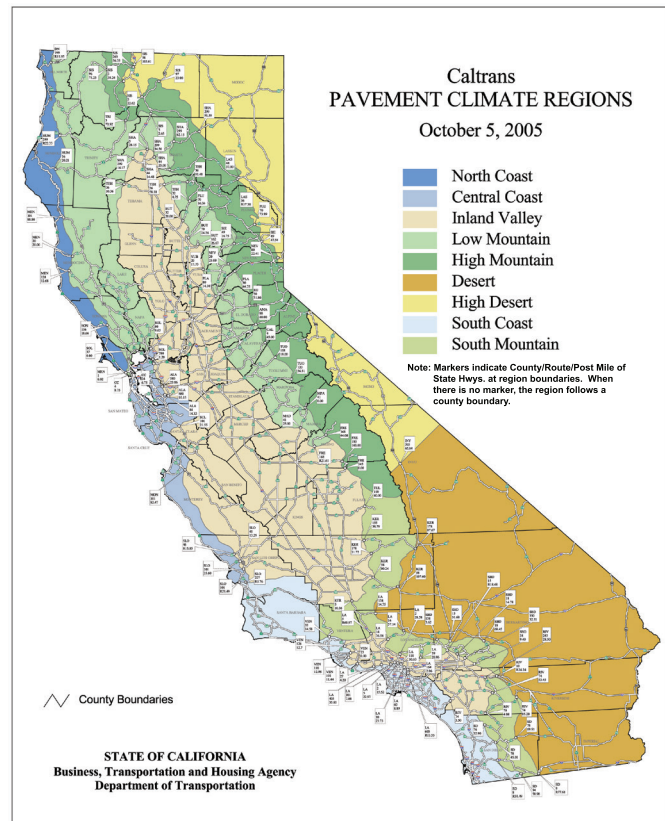


Figure 1: Caltrans Pavement Climate Regions

Table 1. Asphalt Grade Selection Under the PG System in California

Climate Region	PG Grade	Binders for Designated Routes and Special Situations
Central Coast Inland Valley South Coast	PG 64-10	PG 70-10 PBA 6a* (modified PBA 6a)
North Coast Low Mountain South Mountain	PG 64-16	PBA 6a* (modified PBA 6a)
High Desert High Mountain	PG 64-28	PBA 6a PBA 6b
Desert	PG 70-10	PBA 6a* (modified PBA 6a) PBA 7