Oxidized Bitumen

Oxidized bitumen is mainly used for industrial purposes, such as roof insulation, flooring, industrial mastics, pipe coating, and paints. Oxidized bitumen is categorized based on softening points and penetration rate. For example, oxidized bitumen 85/40 is a type of bitumen whose softening point is 85±5 degrees Centigrade and its penetration rate is 40±5 dmm.

Oxidized bitumen is also expected to make up for weight loss under heat. The softening point in oxidized bitumen is much higher than in regular bitumen, causing lower thermal sensitivity. The penetration index (PI) in oxidized bitumen is higher than in road construction bitumen (8>PI>2) because the letter has a gel-like structure due to asphalt accumulation.

The following table shows different grades of oxidized bitumen:

Index	Standard	Oxidized Bitumen Grade					
		30/75	25/85	40/85	25/95	35/105	15/115
Softening Point (Temperature (℃	ASTM D36	5±75	5±85	5±85	5±95	5±105	5±115
Penetration at 25 C (dmm)	ASTM D5	5±30	5±25	5±40	5±25	5±35	5±15
Thermal Loss Percentage	ASTM D1754	0.2	0.2	0.5	0.2	0.5	0.2
Solubility in trichloroethylene	ASTM D2042	99.5	99.5	99.5	99.5	99.5	99.5