When cationic slow setting bitumen emulsion CSS - 1 emulsion was mixed with Jaffna Miocene limestone in the preparation of cold mixes in Road Building, no uniform and thorough coating could be observed. Considerable amount of water separation was also noted.

In order to solve this problem of poor coating, a few anti stripping agents of organic and inorganic substances, were tried out with a view to improving such coating Laboratory investigations were carried out in accordance with the American Society for Testing and Materials, ASTM D 244 for coating test, coating ability and water resistance, and ASTM D 1664 for coating and stripping.

When a particular organic oil A, was added in various low proportions by weight of emulsion, the coating ability and water resistance were improved for conformance with the specification limits and water resistance was found to be satisfactory according to ASTM D 244. Inorganic substance which was tried out as anti stripping agent in various low proportions by weight of emulsions, improved the coating up to 92%. The coating could be further improved if both A&B are added to the percentages of 1.0 and 0.5 respectively by the weight of emulsion.

Water resistance of cold mix prepared using the modified bitumen emulsion was fair when the water was sprinkled just after mixing and that was good when water was sprinkled after two hours of mixing. The success of this patches of cold mix using such emulsion when compared with that prepared with cutback bitumen.