



सीएसआईआर-केन्द्रीय विद्युतरसायन अनुसंधान संस्थान  
**CSIR-CENTRAL ELECTROCHEMICAL RESEARCH INSTITUTE**

(वैज्ञानिक तथा औद्योगिक अनुसंधान परिषद् Council of Scientific & Industrial Research)  
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**CSIR-CECRI**

Touching Lives Through Electrochemistry

**REPORT**

**Project title** : Evaluation of corrosion protection efficiency of migrating inhibitor for reinforced concrete structures.

**Sponsorer** : Primadonn Buildtech Private Limited, Chennai

**Objective** : To evaluate the efficiency of migrating corrosion inhibitor in concrete

**Product** : Primadonn Classic Dura Conguard – Corrosion inhibiting for concrete

**1. Influence of inhibitor on properties of concrete**

Property	Value		Remarks
	Concrete without inhibitor	Concrete with inhibitor	
<b>Slump (mm)</b>	83	92	As per ASTM C1582/C1582M – 11 (2017), the slump value is > 75mm and < 200mm.
<b>Setting time (min)</b> Initial Final	330 469	365 540	As per ASTM C1582/C1582M – 11 (2017), the setting time values are within the permissible limits (allowable deviation from control, not more than 3:30 (h:min) earlier or later).
<b>Fresh density (kg/m<sup>3</sup>)</b>	2,585	2,599	-
<b>Cylinder compressive strength (MPa)</b> 3-day 7-day 28-day	5.71 8.36 15.41	4.64 6.82 12.83	As per ASTM C1582/C1582M – 11 (2017), the compressive strength of concrete with inhibitor is within the permissible limits (not less than 80% of control concrete).
<b>Flexural strength (MPa)</b> 3-day 7-day 28-day	1.47 1.28 1.67	1.21 1.30 1.87	As per ASTM C1582/C1582M – 11 (2017), the flexural strength of concrete with inhibitor is within the permissible limits (not less than 80% of control concrete).

**2. Uniformity and equivalence characteristics of inhibitor**

2.1 Properties
<b>Colour</b> - Pink
<b>Odour</b> - Pungent
<b>pH</b> - 11.89

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