

## Research Title

<sup>\*1</sup> Mohammed Ali Al-Ansari, <sup>2</sup> Name Name Title, <sup>1</sup> Name Name Title,

<sup>1</sup> Structures Department, Building Research Directorate, Baghdad, Iraq.

<sup>2</sup> Civil Engineering Department, University of Technology, Baghdad, Iraq.

## ABSTRACT

The wide range of structural problems resulting from the corrosion of rebar in the structural sections make it one of the important problems ...

**Keywords:** Corrosion, Durability, ..., ..., ....

\* Corresponding author: Mohammed Ali Al-Ansari - [mohammedaliansari@yahoo.com](mailto:mohammedaliansari@yahoo.com)

## 1. INTRODUCTION

The countries of the Arabian Gulf region are exposed to the problem of corrosion of reinforcing steel in reinforced concrete structures more severely as a result ...

### 1.1 Corrosion of Steel Reinforcement in Concrete

Corrosion of steel is an electrochemical process that occurs at the surface between ...

1. Steel decomposes from the anode in the form ...

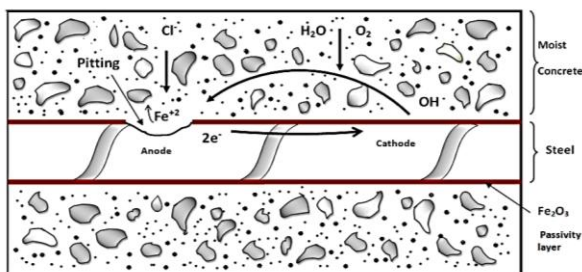


Figure-1: The process of corrosion of steel in concrete

if section within the sloped portion of ... as in Eq. (2):

$$V_p = f_{ps \text{ assumed}} A_{ps} \frac{e_{mid} - e_{anchor}}{L_{ps} - X_{between \ deviators}} \quad Eq. (2)$$

The resulting iron oxide is highly water-absorbing and poorly adheres ... as in Table-1.

Table-1: Some international and Arab codes specify reinforced concrete with a maximum aggregate size of 20 mm and a compressive strength of more than 25 N/mm<sup>2</sup>

Code of design [17] 1997	IS 456:2000	8110: Part 1:1985	ACI 318- 2011	Limits
0.42	0.45	0.45	0.4	Water to cement ratio (max limit)
35 for walls and tiles 0.4 for the rest	50	50	50 for walls and tiles 62 for the rest	(mm) Concrete cover (min limit)

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