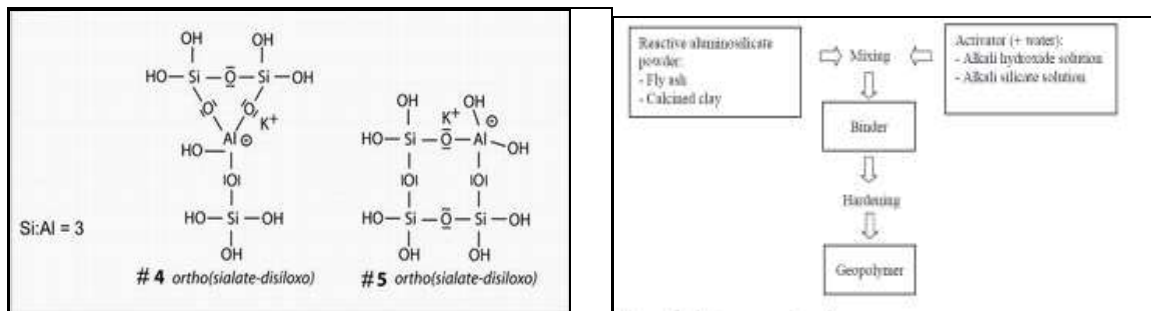


(Edition 1.0, February 2020)

**A Booklet on Factory Made Reaction Generating Liquid
for Field Production of Geopolymer Concretes**



Inorganic Polymer (Geopolymer, Sodium Alumino-Silicate)



N. P. Rajamane PhD, R Jeyalakshmi and their Team,



K Gnana Prabhakaran, CEO, KSPL, Madurai and their Team,



S M Patted, EO, Ravikumar R&D Engineer, CASHUTEC NK, Raichur and their Team

**Released at ICI-BC National Seminar on "Geopolymer Concrete Technology"
Tuesday, 18th February 2020, Dayananda Sagar College of Bengaluru – 560 078**

Rs 100/-

A Booklet on Factory Made Reaction Generating Liquid for Field Production of Geopolymer Concretes

SRM Team

Mr N. P. Rajamane PhD, Head, CACR, rajamanenp@yahoo.co.uk
Mrs R Jeyalakshmi PhD, Professor of Chemistry, rajyashree64#gmail.com
Mr M Dhinesh, Ex-Scientific Officer, CACR, gen2210@gmail.com
Mr Baskar Sundararaj, Technical Officer, CACR, baskar.sundararaj5@gmail.com
Mrs T. Revathi, Ex Project Officer, CACR, revarukku@gmail.com
Dr (Mrs) M. Sivasakthi, Ex-Senior Research Fellow, CACR, sivasakthi.msc09@gmail.com
Mrs Rinu Jose, Ex-Senior Research Fellow, CACR, rinujs23@gmail.com
Mr Bharat Rajendran, Junior Research Fellow, CACR, bharathrajendran15@gmail.com
Mrs Adithya Lal, Junior Research Fellow, CACR, sivasakthi.msc09@gmail.com
Mr C Boopalan, PhD scholar, CACR, and Chief, CBN Consulting Engineers, Chennai, cgboopal@gmail.com

KSPL Team

Mr K Gnana Prabhakaran, Managing Director, KSPL

CASHUTEC Team

Mr S M Patted, Executive Officer, CASHUTEC
Mr Ravikumar, Engineer (R&D), CASHUTEC
Mr Surendra Patil, Engineer (R&D), CASHUTEC



Centre for Advanced Concrete Research
Institute of Science and Technology
Kattankulathur 603203 Tamil Nadu
www.srmuniv.ac.in



Kuttuva Silicates Private Limited
(KSPL), Theppa Kulam Colony
Madurai – 625001 Tamil Nadu



Centre For Ash Utilization Technology
And Environmental Conservation (CASHUTEC)
Raichur-584170, Karnataka

Preface

Geopolymer concrete (GPC) is an Ecofriendly alternate to Portland cement based conventional concretes. The liquid portion of these new concretes is the Sodium Silicate Solution formulated by mixing of the commercially available standard Sodium Silicate Solution and on field prepared Sodium Hydroxide solutions. This method of preparation of solution required for GPCs was becoming a main obstacle for adoption of GPC technology in large scale in Civil Engineering application fields. Therefore, a special formulation for this Reaction Generating Liquid (RGL) with capabilities to geopolymerise the various combinations of Fly Ash and GGBS to produce structural based concrete mixes was developed for mass production in factory environment. The utility of such RGL produced at Kuttuva Silicates Pvt. Ltd. (KSPL) Madurai, based on the R&D project taken up at the Centre for Advanced Concrete Research (CACR) of SRMIST is described in this technical booklet.

It is now possible for any field engineer to develop their own GPC mixes for any particular applications using Fly Ash and GGBS as Geopolymer Source Material (GSMs) and the factory made RGL as mixing liquid. The generalised specifications of the RGL and suggestion for development / design of Geopolymer concrete mixes are presented in this booklet.

The users of RGL are requested to be in contact with the SRM team with their specific need if any, and share their experiences of using RGL in their projects so that practically more adaptable RGL can be factory produced thereby making the GPC as more preferable concrete in the construction field in order to reduce the carbon footprint of the developmental activities of the infrastructure in India.

Thursday, 16 Jan 2020,

NP Rajamane & Team

Contact Details for RGL Production Technology:

- (1) Shri K.K.G. Prabhakaran, Managing Director, Kuttuva Silicates Private Limited, No 5 A, New Theppa Kulam Colony, Madurai HO, Madurai - 625001, (Near Annai Chandra Marriage Hall Opposite To Kannan Departmental Stores) Email: ceo@kuttuvasilicates.com, kkgprabhakaran@gmail.com, Mobile: +91 9840960845 / +91 452 2312293
- (2) N P Rajamane PhD (Ex-CSIR-SERC), Head, CACR, SRMIST (Mob: 9840076821, Email ID: rajamanenp@yahoo.co.uk
- (3) Mrs R Jeyalakshmi PhD, Co-PI in CACR and Professor in Chemistry, SRMIST (Mob: 9444107321, Email ID: rajyashree64@gmail.com

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