cbdg
CONCRETE BRIDGE DEVELOPMENT GROUP

Aims, Funding Methods, and Current Research

Dr Colin K Jolly
Member of Council
Member of House Committee

Aims of the CBDG

The philosophy of CBDG is

- to develop the wider and better use of concrete in the national bridge programme
- to promote excellence in the use of concrete in the design and construction of bridges
- to encourage the development of innovative ideas and concepts
- to identify and support research and development needs.

Funding Methods

The CBDG has a Technical Committee which

- assesses research required in this area
- offers direct funding of small projects wherever possible
- offers seedcorn funding for the larger projects

Current Research

The CBDG has

- provided £45.1K for completed projects
- committed £24.5K for projects in progress
- recognised overlap within the bridge research fraternity
- welcomes the opportunity to rationalise and co-ordinate future work

Fully Funded University Research

Title	Contractor	Value £K
Effect of Reinforcement Corrosion on structural Performance	University of Birmingham	4.3
Assessment of Concrete Structures with Defects	University of Birmingham	
Interpretation of Results of Bridge Load Tests	University of Birmingham	
Response of Concrete Bridges to Seismic Loading	University of Birmingham	5.0
Review of Design Guidance for Integral Bridges	University of Birmingham	
Compression Membrane Action	Queen's University Belfast	5.0
Long-term Monitoring of Concrete Structures	University of Luton	4.5
Appraisal of Bond / Anchorage Rules	Cranfield University	3.0

Financially Supported University Research

Title	Contractor	Value £K
Prediction of Behaviour & Strength of RC Structures Under Repair	University of Southampton	5.0
Shear Resistance of RC Pile Caps	University of Southampton	5.0
Evaluating the Real Strength of RC Slab Systems	Queen's University Belfast	5.0
Use of Self-Compacting Concrete in Bridges	University of Paisley	3.0

Fully Funded Industry Research

Title	Contractor	Value £K
The Use of Fibre Composites in Concrete Bridges	Dr J L Clarke	3.2
Advice Note on Joining Bridges	TRL	3.5
Shear Tests on Infill Decks	TRL	14.0
Deteriorated RC Bridge Structures Involving Bond Tests	W S Atkins	7.5
Models for Specification for Durability	Taywood Engineering	1.6
Assessment of Concrete Bridges	Prof G Somerville	3.0
Use of Sacrificial Anodes	Various	2.0
Use of High Strength Concrete in Bridges	BRE (N Waleed)	3.5

Non-funded Internal Research Support

Title	Convenor
Model Contract for Procurement of Testing	Dr D Pearson-Kirk
Impregnation of Concrete Structures	Dr D Pearson-Kirk
Guidance Notes on Eurocodes	Dr P Jackson
Fast Construction	Prof R McLelland
Specifications for Durability	Dr T Kay
Integral Bridges	Mr N Hewson
Current Practice Sheets	CBDG House Committee

Non-funded External Research Support

Title	Representative	Cooperating Bodies
CONREPNET	Prof B Barr	BRE
Advice Note – Cathodic Protection	Dr D Pearson-Kirk	HA (N Loudon)
BD43 – Impregnation of Concrete Structures	Dr D Pearson-Kirk	HA (N Loudon)
Advice Note – Coatings for Concrete	Dr D Pearson-Kirk	HA (N Loudon)

Cranfield UNIVERSITY

The Royal Military College of Science

Engineering Systems Department

Research Relevant To Bridges

by

Prof Geoff C Mays

Dr Richard D Barnes

Dr Colin K Jolly

Current Materials Research

- Bonded external reinforcement for strengthening concrete bridges
  - carbon and steel plates for bending and shear
  - fatigue and creep performance of adhesive bonded joints
  - quality control and evaluation of adhesives
- Durability of lightweight concrete elements in bridge structures
- Structural integrity of repaired concrete bridge elements
- Effect of confinement on anchorage and lap bonding
- Design of novel lightweight and demountable bridges
- FRP / concrete composite piles and bridge piers

Current Load Response Research

- Fibre optic monitoring of road bridge performance
- Vulnerability of bridges to terrorist attack
  - response of concrete elements to blast loading
  - direct impact loading
- Bridge resonant dynamics and its use to monitor component integrity