

## LIST OF SUPPLEMENTARY REPORTS

No.	Title of report	Org	Author	Remarks
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### **ED** (*Experimental Data*)

1	British Steel data on Cardington fire tests (Existing)	BS	BK	Public domain
2	BRE report on concrete slab test at ambient temperature	BRE	CB	Sent in March

### **AE** (*Analysis of Experimental data to discover trends of behaviour*)

1	Analyses of BS Cardngton test data	BS	MOC	Pending
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### **MD** (*Models Developed with typical results*)

1	BS/TEST1 reference ABAQUS Model using beam general section	EU	AMS	Complete
2	BS/TEST1 ABAQUS Model using UGENS-I shell	EU	MG	Deleted
3	BS/TEST1 ABAQUS Model using UGENS-II (FEAST) shell model	EU	MG	Complete
4	BS/TEST1 ABAQUS Model using Shell elements for beam and beam general section for slab	BS	MOC	Pending
5	BS/TEST1 ABAQUS half-floor Model using elastic shell for slab	BS	MOC	Pending
6	BS/TEST1 ABAQUS half-floor Model using beam general section for slab	BS	MOC	Pending
7	BS/TEST2 ABAQUS Model using Shell elements for beams and beam general section for slab	BS	MOC	Pending
8	BS/TEST2 ABAQUS half-floor Model using elastic shell for slab	BS	MOC	Pending
9	BS/TEST2 ABAQUS Model using beam general section for slab	BS	MOC	Pending
10	BS/TEST3 reference ABAQUS Model using beam general section	EU	AMS	Complete
11	BS/TEST3 ABAQUS Model using UGENS-II shell	EU	MG	Pending
12	BS/TEST3 ABAQUS half-floor Model using elastic shell for slab	BS	MOC	Pending
13	BS/TEST3 ABAQUS half-floor Model using elastic shell with rotational discontinuities	BS	MOC	Pending
14	BS/TEST4 ABAQUS half-floor Model using elastic shell with rotational discontinuities	BS	MOC	Pending
15	Models of all BS Cardington tests using ADAPTIC	IC	AYE	Complete

### **AM** (*Analysis of Model results to understand and discover trends of behaviour*)

1	Analysis of results from BS/TEST1 models, Grillage models	EU	AMS	Complete
2	Analysis of results from BS/TEST1 models, Half-floor models	BS	MOC	Pending
3	Analysis of results from BS/TEST1 models, UGENS shell models	EU	MG	Complete
4	Analysis of results from BS/TEST3 models, Grillage models	EU	AMS	Complete
5	Analysis of results from BS/TEST3 models, Half-floor models	BS	MOC	Pending
6	Analysis of results from BS/TEST3 models, UGENS shell models	EU	MG	Pending
7	Analysis of results from all ADAPTIC models	IC	AYE	Complete

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**TM** (*Theoretical Models developed*)

1	Behaviour of highly indeterminate composite frame structures in fire	EU	JMR,ASU	Complete
2	Fundamental principles of structural behaviour under thermal effects	EU	ASU,JMR	Complete
3	Study of thermal expansion and bowing in a restrained beam	EU	SL	Complete
4	Application of fundamental principles to Cardington restrained beam test	EU	ASU	Complete

**SM** (*Studies with Models verified to be satisfactory*)

1	Effect of increasing live loads on BS/TEST1	EU	AMS	Complete
2	Effect of changing steel section in the BS/TEST1 composite beam	EU	AMS	Complete
3	Effect of changing boundary restraints on BS/TEST1	EU	AMS	Complete
4	Effect of changing slab/beam temperature evolution on BS/TEST1	EU	SL,AMS	Complete
5	FEAST modelling of tensile membrane action	EU	MG	Complete

**SS** (*Generalised Stress and Strain relationships developed for FE models*)

1	Development of generalised stress strain relationships for the concrete slab in grillage models	EU	AMS	Complete
2	Development of generalised stress strain relationships for the concrete slab in shell models	EU	MG	Complete
3	Investigation of membrane-flexure interaction in the Cardington slab at elevated temperatures	EU	MG	Complete

**HT** (*Heat Transfer calculations for models*)

1	Heat transfer modelling for slab temperatures in Cardington tests	EU	SL,ASU	Complete
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**DD** (*Development of Design guidance*)

1	Current status of design guidance	SCI	GN	Sent in March
2	Draft design guide	EU	JMR,ASU	Pending

