

**INSTRUCTIONS TO AUTHORS FOR PREPARING CAMERA READY
MANUSCRIPTS FOR
the Proceedings of the
International Conference on Modern Bamboo Structures (ICBS-2007)
Oct. 28-30, 2007, Changsha, China.**

All the papers of submitted to ICBS-2007 will be subjected to peer review for format and technical merits. The satisfactory papers will be included in the “Proceedings of the International Conference on Modern Bamboo Structures,” which will be published by a credible publisher to be contracted. Manuscripts will be photographically or electronically reproduced exactly as they are received. It is essential to adhere strictly to the instruction given below. Papers must be in English and should adhere the following page limits:

General papers:	up to 10 pages including figures, tables, and references;
Invited papers:	up to 12 pages including figures, tables, and references;
Keynote papers:	up to 18 pages including figures, tables, and references.

Typing Instructions

1. **Quality:** Electronic submission is required. The manuscripts should be in MS word format or PDF format.
2. **Margins:** please set margins to give the print area of 164mm wide and 237mm high.
 - Please use A4 size paper. Use 30mm margin on top and bottom; and 23mm for both left and right side margins, except for 1st page, start title at 50 mm from the top.
3. **Typeface:** Use single spaced Times New Roman font (or similar) with a font size of 12 points for the paper body. (Note the instructions are in Times New Roman, single spaced, 12 points.) The entire text of the paper must be full (left and right) justified.
4. **Title:** The title of the paper must appear centered on the first page in all **BOLD** face capital letters.
5. **Authors' Names:** The name, affiliation, and address of the authors must follow and be separated from the title by two lines of space. This block of information must also be centered, but not in bold face letters.
6. **Main Headings:** such as **INTRODUCTION**, etc., should be in **Bold and CAPITAL**, centered. Keep headings short, succinct and meaningful. Avoid using article words in titles, such as “the”. If necessary, use subheadings, in bold with only the first character in capital (such as **Specimen Details**), but flush left, and single spaced with the text followed.
Example:

Experimental Program

Specimen Design

The specimen used in this study was made at the USC laboratory, at the KAP subbasement, using the standard procedure per PCA recommendations. The typical size of the specimen is.....

7. **Paragraphs:** Provide one space after headings and paragraphs. Each section must be separated from the end of the previous section by two lines of space. No indentations.
8. **Equations:** Equations must be typed. Indent equations five spaces or 12.5mm from the left margin. A reference number enclosed in parentheses and typed flush with the right margin must be included for each equation. In the text, refer to equations as, for example, Equation 1, or Equations 3, 4, and 5.
9. **Tables and figures** (including photos) must be inserted in the text, but in a way that separates them from the text by at least one lines of space at both the top and bottom. Tables and figures must be inserted in the text as close to the point of reference as possible, but authors must make sure that one table does not run over to the next page. The title of each table must precede the table. The captions for each figure must be typed below the figure. Titles and captions must be typed single spaced, across the full width of the table or figure, if necessary. All photographs (counted as figures) and illustrations must be clear and be of high quality for direct photographic reproductions.
10. **Acknowledgement** must be listed in a separate section before the references.
11. **References** must appear in a list in the references section at the end of the paper. The citation in the text must give the last name (s) of the author (s) followed by the year of publication enclosed in parentheses, e.g., (Mahin and Xiao, 1999). If there are more than three authors in one citation, give the last name of the first author only followed by "and et al.", (e.g., Mahin and et al., 1999). If there are two references by the same author (s) with the same year of publication, they must be distinguished by a or b, e.g. (Mahin and Xiao, 1999a), according to which comes first in the reference list, according to alphabetical order of the title of work. References must be listed alphabetically by the last name of the first author. When two or more references by the same author(s) are listed, they must be listed chronologically by year of publication, the earliest first.

Example of reference:

Mahin, S. and Xiao, Y., 1999, "Guidelines for Submitting Camera-Ready Papers to the Sixth ASCCS International Conference in Los Angeles, 2000," ASCCS Standards, March, p.20-30.

12. **Pagination:** Do not include them in the main body of the manuscript.
13. **Units:** Primary units will be SI.

See next page for the examples of 1st page, pages with figures, as well the last page.

Fig.3(b) shows the condition of N-SRC-0.3 after the excursion of the loading cycle corresponding to a peak push drift ratio of 8.0%, where the column was still able to carry the applied axial load and more than 60% of the maximum lateral force. Compared to the normal-strength column, the high-strength RC model column H-RC-0.3 developed more stable response reaching an ultimate drift ratio of 6.0%. The lower end of the column was suddenly penetrated by a shear crack along with hoop rupture, rebar buckling and concrete crushing, as shown in Fig.3(c), during the push loading to approach the third peak at drift 6.0%. The high-strength SRC model column, H-SRC-0.3, exhibited very stable behavior until a drift ratio of 8.0%, where the test was terminated. As shown in Fig.3(d), despite spalling of cover concrete throughout the entire length at drift ratio 8.0%, the column was able to carry the full applied axial load and the loss in lateral load carrying capacity was insignificant. It was noticed that steeply inclined cracks were developed over the entire length of the two SRC specimens. At large deformation, the faces of the SRC specimens parallel to the loading direction bulged out for about 6mm. This is considered as the consequence of the H-shape steel deformation that “squeezed out” the concrete within the flanges.

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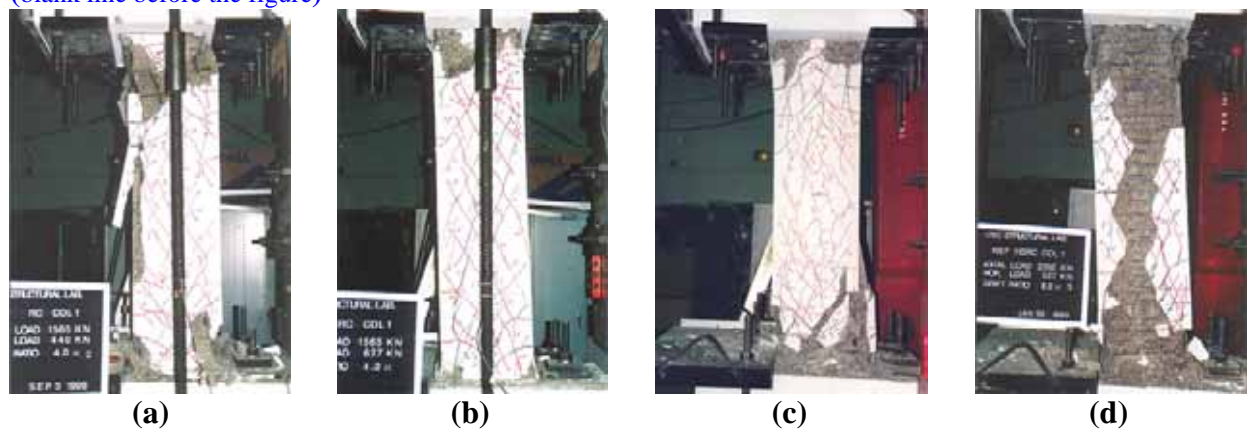


Fig.3. Condition of Specimens after Testing

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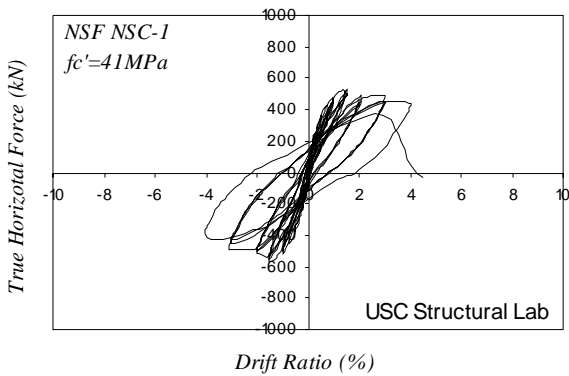
Hysteretic Response

Fig.4 and Fig.5 show shear force – drift ratio hysteretic relationships for the RC and SRC model columns with normal-strength and high-strength concrete, respectively. The envelopes of the hysteresis loops of the RC and SRC specimens are compared in Fig.6 (a) and (b) for normal and high strength concrete, respectively.

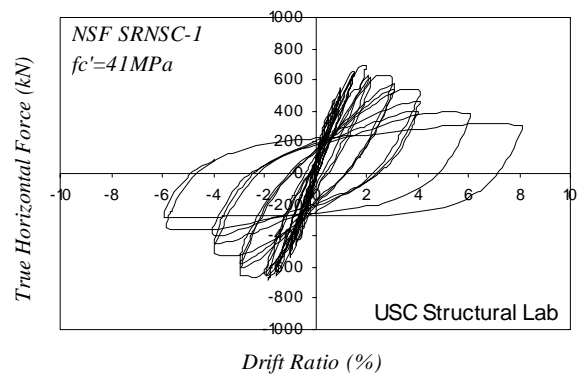
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As shown in Fig.4(a), the hysteresis loops of the normal-strength RC model column, N-RC-0.3, are relatively stable until the first cycle corresponding to a peak drift ratio of 4.0%. The column developed the maximum load carrying capacities at peaks of drift ratio 1.5% in both push and pull directions. Crushing of cover concrete at the column ends was also noticed at this stage. The load carrying capacity of the column became unreliable after suffering a sudden shear failure during loading to approach the second peak at drift ratio 4.0% in the push direction. As shown in Fig.4(b) and Fig.6(a), the SRC model column, N-SRC-0.3, developed much larger load carrying capacities compared to its counterpart RC column, N-RC-0.3. The hysteresis loops are relatively stable a drift ratio of 3.0%. Gradual degradation in the peak forces can be seen for the subsequent cycles of loading corresponding to larger drift ratio. The SRC column did not lose any axial load carrying capacity nor suffer any drastic physical damage such as rupture of loops even at a drift ratio as large as 8.0%. However, the hysteretic response hinted that more

transverse confinement is needed in order to maintain the shear force carrying capacity of the column at large deformation.



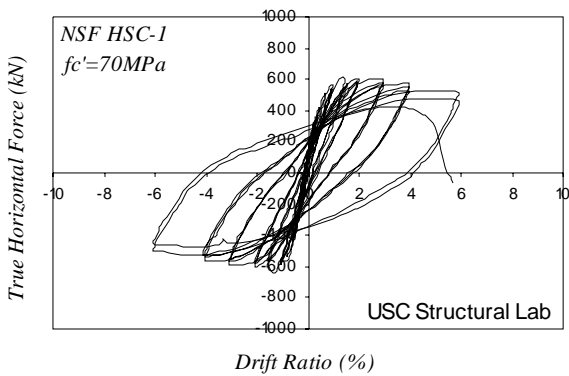
(a) N-RC-0.3



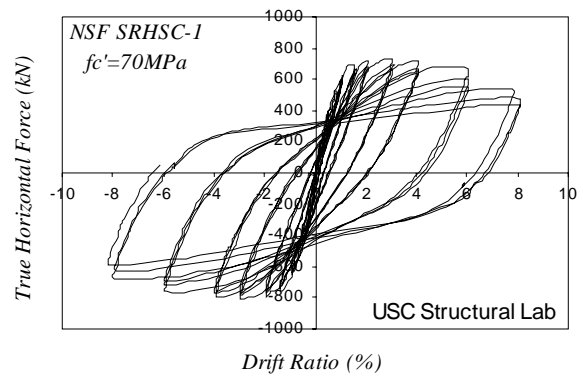
(b) N-SRC-0.3

Fig.4. Response of Normal-Strength Model Columns

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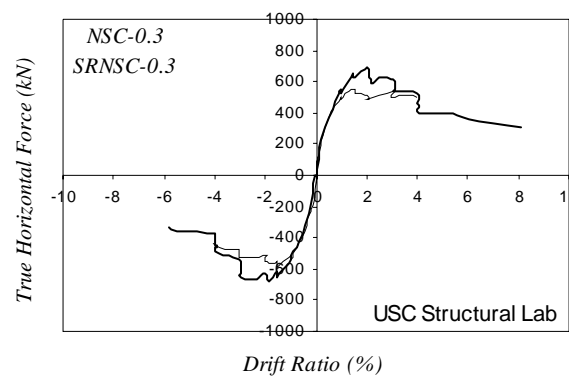
(a) H-RC-0.3



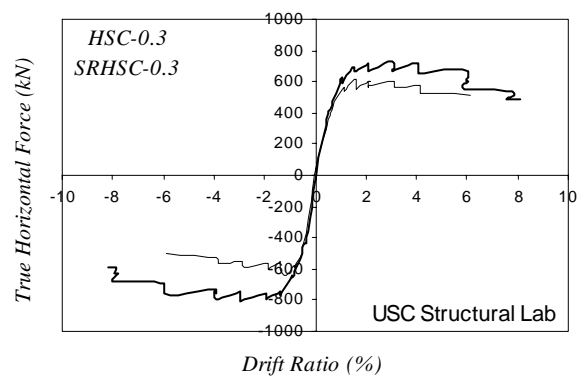
(b) H-SRC-0.3

Fig.5. Response of High-Strength Model Columns

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(a) Normal-Strength Concrete



(b) High-Strength Concrete

Fig.6. Effects of Encased Steel Shape in RC columns

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Satisfactory response up to the second cycle at a peak drift ratio of 6.0% for high-strength RC model column, H-RC-0.3, is shown in Fig.5(a). The column developed its maximum load carrying capacity at drift ratio 1.5%, similar level of deformation as the normal-strength model column. Comparing Fig.4(a) and Fig.5(a), it is clear that the high-strength RC model column exhibited stable and improved behavior than its counterpart normal-strength column. A sudden shear failure during the loading to achieve the third peak at drift ratio 6.0% caused the deterioration of the hysteresis loop and the loss of load carrying capacity of model column H-RC-0.3, as shown in Fig.5(a). High-strength SRC model column, H-SRC-0.3, developed the most impressive hysteretic response, as shown in Fig.5(b). The column achieve its maximum load carrying capacity at peaks corresponding to drift ratio 3.0% in both push and pull direction. The stable hysteresis loops shown in Fig.5(b) indicate little degradation of load carrying capacity until drift ratio 6.0%. Although peak shear forces at 8.0% are apparently, the degradation is less than 20% from the maximum shear forces developed by the column. The increased load carrying capacity and improved deformability of the high-strength SRC model column compared with its counterpart RC column are also clearly demonstrated in Fig.6(b).

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CONCLUSIONS

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Test results of six relatively large-scale model columns subjected to cyclic shear in double-bending condition and constant axial load indicated that improved seismic behavior can be achieved with the use of encased steel in reinforced concrete columns. The performance becomes even more promising when high-strength concrete is used. The research study is still ongoing with the ultimate goal of establishing design guidelines for steel reinforced concrete columns.

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ACKNOWLEDGEMENTS

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Priestley, M.J.N.; Verma, R.; and Xiao, Y., (1994), "Seismic Shear Strength of Reinforced Concrete Columns," *ASCE Structural Journal*, American Society of Civil Engineering, July, pp.2310-2329.

Priestley, M.J.N.; Seible, F.; Xiao, Y.; and Verma, R., (1994), "Steel Jacket Retrofit of Squat RC Bridge Columns for Enhanced Shear Strength - Part 1 - Theoretical Considerations and Test Design," *ACI Structural Journal*, July-August, pp.394-405; "Steel Jacket Retrofit of Squat