















#### 4. CONCLUSION

To properly strengthen RC railway viaduct columns against earthquake loads, the test program for RC columns confined HTA under cyclic lateral loads and axial compression was conducted. The test results obtained are summarized as follows:

1. Retrofitted RC columns by HTA plates are effective in restoring the flexural strength and ductility capacity of earthquake-damaged concrete columns.
2. The compressive strength of the confined concrete columns is improved as HTA plate thickness increases. The improvement in compressive strength attributed to HTA plates is greater HTA plate thickness increases.
3. In all retrofitted specimens, the rate of stiffness deterioration under large reversed cyclic loading was lower than that of the corresponding original columns. However, the initial stiffness of retrofitted columns was lower than that of the original columns.

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