

17th Symposium on Earthquake Engineering
November 14-17, 2022
IIT Roorkee, India
Paper No. 499



Connection Design Between Steel Brace and RC Frame Using Post-installed Anchors

Devyani Tewatia¹, Ashwin Kumar P C²

¹Research Scholar, Department of Earthquake Engineering, IIT Roorkee

²Assistant Professor, Department of Earthquake Engineering, IIT Roorkee

Abstract

While retrofitting, existing reinforced concrete (RC) frames using steel braces, it is important to detail every aspect of the frame-brace system carefully. Amongst these aspects, connection design between the frame and brace plays a crucial role as it is governed by force transfer between the brace and RC frame. Post-installed chemical anchors are a good choice for simple, direct, and economically feasible solutions. But this requires critical design; otherwise, the frame-brace system may fail to give the expected performance. This paper describes the design procedure for brace connections, including gusset plate and post-installed anchors.

Keywords: Gusset plate, Post-installed anchors, Retrofitting, Reinforced concrete, Steel brace