

Demolition Method of Reinforced Concrete Using Minimum Amount of Explosives

Yanagita Katsumi (Kajima Corporation, Building Construction Management Div.)

Nakamura Takahiro (Kajima Technical Research Institute)

Ogata Yuji (National Institute of Advanced Industrial Science and Technology)

Nakamura Satoki (Kayaku Japan Co.,Ltd.)

In recent years, the continuous noise and vibration generated by building demolition construction process become the serious problems in the urban area. Hence, the new technologies of demolishing construction method solving the above problems have been demanded and investigated for long time. We developed a new blasting technology enabling us to minimize the risk of noise and vibration problems, by utilizing very low amount of explosive for effective by cutting of R/C elements. We implemented several experiments using test specimens simulating underground beams and piles as well as full-scale members on-site and established charging design formula of explosives in order to obtain effective blasting results on R/C elements. This new blasting method has been implemented on over 20 demolition sites in urban area and verified its practicality in demolition construction works. Furthermore, this blasting method was applied and realized to the new pile-top crushing method using minimum amount of explosives.