

Program Komputer Untuk Perhitungan Kolom Beton Akibat Beban Aksial Tekan Dan Lentur Biaksial Pada Rangka Dengan Pengaku (Braced Frame) Dan Tanpa Pengaku (Sway Frame)

Deskripsi Lengkap: <https://lib.ui.ac.id/detail?id=20439465&lokasi=lokal>

Abstrak

Column calculation on frame system is a long and iterative process. This program is used to calculate column on general aspects, these aspects are slender, biaxial, braced frame and sway frame. This program uses Borland Delphi 7.0 language. Data input consists of material data (f_y , f_c), load data (P_u , M_{1bx} , M_{2bx} , M_{2sx} , M_{1by} , M_{2by} and M_{2sy}), column data (b , h and L) and beam data (b_b , h_b and L_b). The gained result is the table that contains output data of calculation, that is slender limit, $k.L_u/r$, $\phi_c A_g$, $\phi_c B$, k , $\phi_c B$, $\phi_c S$, M_c , A_s , A_s/A_g , ϕ_c , P_n pl, P_n ada, M_n pl, M_n ada for axe x and axe y . For validation, output of calculation can be compared between manual and program calculation. The results of comparison are the biggest error percentage 0,0054% and smallest error percentage 0% (not difference). This is because in manual calculation there is always rounding every step, while in the computer calculation rounding is done at the end of process. Performance of the program is proper and satisfying to be used in short time and accurate.