

Behaviour and load bearing capacity of composite slab enhanced with shear screws

Deskripsi Lengkap: <https://lib.ui.ac.id/detail?id=20437880&lokasi=lokal>

Abstrak

Horizontal shear interaction between profiled steel sheeting and concrete in composite slab is obtained through various means, such as frictional resistance due to indentation or embossment in the sheeting, interlocking at the steel and concrete interface resulting from curvature and shape of the sheeting profile under bending, and anchorage devices such as welded shear studs and crippled sheeting at the end of the span. Permanent end pour stops may provide some restraining effect to the slipping of the concrete, and hence may enhance the composite action. Despite the use of many types of devices, most reported test results of typical length composite slabs still exhibit partial shear interaction. This paper reports the enhancement of the horizontal shear interaction at the concrete-profiled steel sheeting interface of composite slab by using shear screws. Six full scale bending tests were conducted of which three specimens with different slenderness were enhanced with self drilling screws while another three were without screws. The test results show that the failure mode of composite slab can be improved to ductile type and the load carrying capacity can be increased by the presence of the shear screws. The load performance of the slab is also affected by the slenderness, which is the ratio of shear span to effective depth.