

**METODE PELAKSANAAN DAN PRODUKTIVITAS CRAWLER CRANE
PADA PEKERJAAN ERECTION GIRDER BAJA (STUDI KASUS:
JEMBATAN PELAYANAN INTAKE, BENDUNGAN TAMBLANG)**

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INTISARI

Bendungan Tamblang memiliki bangunan intake setinggi 40 m yang dilengkapi dengan jembatan sebagai akses untuk perawatan bangunan tersebut dan direncanakan menggunakan girder baja sebagai struktur utamanya dengan bentang 42 m. Sehingga terdapat pekerjaan *erection girder* baja dalam Pembangunan jembatan tersebut, umumnya pekerjaan *erection* menggunakan *crawler crane* membutuhkan area yang luas. Namun luas bidang kerja yang terbatas menjadi tantangan tersendiri dalam pembangunan jembatan tersebut. Penelitian ini bertujuan untuk mengevaluasi metode pelaksanaan, menganalisis produktivitas *crawler crane* saat pelaksanaan pekerjaan erection girder baja, dan menganalisis *safety factor* daya dukung tanah, *crawler crane*, *sling* dan *hook*.

Pengumpulan data sekunder berupa *shop drawing*, layout area jembatan pelayanan *intake*, data tanah, dan data teknis *crawler crane*. Pengumpulan data primer berupa dokumentasi pelaksanaan di lapangan dan pencatatan durasi pelaksanaan erection girder baja.

Hasil analisis menunjukkan pelaksanaan *erection girder* baja jembatan pelayanan *intake* Bendungan Tamblang berjalan sesuai dengan perencanaan, tepat waktu yaitu 1 hari lebih cepat, dan tidak ada kecelakaan kerja. Analisis faktor aman (*Sf*) pada daya dukung tanah, *crawler crane*, *sling* dan *hook* dinyatakan aman karena rerata nilai *Sf* sebesar 5,2 melebihi nilai *Sf* yang ditentukan oleh perusahaan, yaitu sebesar 2. Analisis produktivitas *crawler crane* 180 ton menunjukkan selisih perbedaan antara nilai produktivitas di perencanaan dan lapangan sebesar 1 segmen/hari.

Kata kunci: *crawler crane*, faktor aman, *erection*, girder baja

***IMPLEMENTATION METHODS AND PRODUCTIVITY OF CRAWLER
CRANES ON STEEL GIRDER ERECTIONS (CASE STUDY INTAKE
SERVICE BRIDGE, TAMBLANG DAM)***

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ABSTRACT

Tamblang Dam has a 40 m high intake building equipped with a bridge as an access for maintenance of the building and is planned to use steel girders as the main structure with a span of 42 m. So that there is a steel girder erection work in the construction of the bridge, generally erection work using crawler cranes requires a large area. So that there is steel girder erection work in the construction of the bridge, generally erection work using crawler cranes requires a large area. However, the limited work area is a challenge in the construction of the bridge. This study aims to evaluate the implementation method, analyze the productivity of crawler cranes during the implementation of steel girder erection work, and analyze the safety factor of soil bearing capacity, crawler cranes, slings and hooks.

Secondary data collection in the form of shop drawings, intake service bridge area layout, soil data, and crawler crane technical data. Primary data collection in the form of field implementation documentation and recording the duration of steel girder erection.

Based on the results of the analysis that has been carried out, it is concluded that the implementation of the steel girder erection of the Tamblang Dam intake service bridge is in accordance with the planning, on time, and zero accidents. The results of the safety factor analysis (Sf) were declared safe because the average Sf value of the bearing capacity of the soil, crawler crane, sling and hook was 5.2, exceeding the Sf value determined by the company, which was 2. Based on the analysis of the calculation of the productivity of the 180-ton crawler crane, there is a difference between the productivity value in the planning and the field of 1 segment / day.

Keywords: *crawler crane, safety factor, erection, I Beam*