

Crossing the Funder Valley Using the Patented Match-Cast Incremental Launching Method

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Summary

With a total length of 724 m Funder Bridge is the longest existing bridge in Denmark located entirely on land. The twin hollow box girder bridge was erected using the known incremental launching method using temporary piers. Generally, it is only possible to launch curved girders if they have a constant radius. The challenge here consisted of finding a solution to launch a girder which begins with a constant radius of curvature but ends on a spiral curve (using the patented "match-cast" incremental launching method). Erection also required innovative auxiliary works such as an A-Frame spanning the Funder valley as no temporary piers were allowed inside this nature reserve or a double sector launching port which allowed for faster production of the segments.

Keywords: Bridge, incremental launching, spiral, patented match cast, auxiliary piers, A-Frame, design

1. Introduction

Funder Bridge is part of the 12 km long motorway section closing the gap in the East-West connection between Herning and Århus. With a length of 724 m it is Denmark's longest existing land bridge. It is realized by the bridge construction division of DYWIDAG Bau GmbH in a consortium together with ZÜBLIN Scandinavia A/S (DYWIDAG 90%, ZÜBLIN 10%). The bridge consists of two separate concrete box girders with constant span lengths of 85 meters and pier heights up to 30 meters. Incremental launching was chosen as an environmentally friendly but still economical



Fig. 1: Funder Bridge August 2009