

施工技术

超深地下连续墙钢筋笼制作与吊装技术

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摘要: 为解决超深地下连续墙钢筋笼几何尺寸大、整体刚度小、吊装重量大、定量控制钢筋笼的几何误差困难的问题, 确定吊装机械、吊具验算、高空接长方案将是施工的关键。根据技术规范和工程经验, 设定了天津文化中心交通枢纽地铁工程超深地下连续墙钢筋笼的制作标准; 通过计算分析, 掌握了超长钢筋笼吊装过程中需要注意的技术环节。得出以下结论: 1)制作允许偏差的严格执行有利于超长钢筋笼顺利进入槽孔; 2)采用400 t和150 t履带吊双机吊装可满足起重量的要求; 3)吊具安全验算应包括钢丝绳强度验算, 主、副吊扁担验算和卸扣验算; 4)超长钢筋笼必须采用分段制作、分段吊装、高空接长的方案, 焊接与接驳器连接相比, 质量和可操作性更高。

关键词: 超深地下连续墙 钢筋笼 吊装

Technology for Manufacturing and Hoisting of Rebar Cages for Extremely deep Diaphragm Walls

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Abstract: The rebar cages of extremely deep diaphragm walls always have large geometric dimensions, small integral rigidity, large hoisting weight and great difficulty in quantitative control of errors. The selection of the hoisting machines, the checking of the hoisting tools and the connection of the rebar cages at high position in the air are the key points in the construction of diaphragm walls. The manufacturing standard for the rebar cages of the extremely deep diaphragm walls of Tianjin Cultural Center Metro works is established on basis of technical specifications and engineering practice. The key points of the hoisting of the extra long rebar cages are obtained by means of calculation and analysis. Conclusions drawn are as follows: 1) The strict control of the errors in the manufacturing of the rebar cages is the key to guarantee the successful inserting of the rebar cages into the diaphragm wall trenches. 2) The combination of a 400 t caterpillar crane and a 150 t caterpillar crane can meet the hoisting requirements. 3) The safety checking of the hoisting tools includes the steel cable strength checking, the pole checking of the major and assistant cranes and the hook checking. 4) Extra long rebar cages must be manufactured section by section, hoisted section by section and connected at high position in the air. Compared to connection by connectors, welding is better in terms of quality and operation.

Keywords: extremely deep diaphragm wall rebar cage hoisting

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1. 邢泊, 姚宇. 新型无骨架隧道衬砌模板台车洞内安装方法[J]. 隧道建设, 2011,31(6): 737-742
2. 刘苏明, 石达强. “站桥合一、先桥后站” 盖挖地铁车站关键施工方案的比选与优化[J]. 隧道建设, 2011,31(6): 743-748
3. 张宏斌. 地下连续墙施工中钢筋笼吊装技术[J]. 隧道建设, 2010,30(增刊1): 446-450
4. 程瑞明, 怀小刚. 超深地下连续墙施工技术及常见问题处理[J]. 隧道建设, 2007,27(2): 64-67,82

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