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THE APPLICATION OF THE PARAMETRIC PROGRAMMES FOR MODELLING IN PREPARATION FOR ND TESTING AND PREPARATION OF THE TESTING REPORT

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Abstract

In present paper, using the example of testing of hydroenergetic equipment of large dimensions, the application of the SolidWorks parametric programme in drawing and modelling in for preparation for non-destructive testing (NDT) and preparation of a report on the tests performed has been presented.

Keywords - ND testing, parametric modelling, report on testing

1 INTRODUCTION

In our conditions, none or very little attention has been paid to preparation of testing by applying the NDT methods. Both the quality of testing and quality of the report on testing that must include consequentiality and repeatability, which is not a frequent case, depend on preparation. One of the aspects of preparation is to make an outline, either 2D or axonometric, of an object to be tested, with defined space orientation and predetermined benchmarks to define the defects and irregularities detected.

2 NDT METHODS AND DEFECTS

The NDT methods consist of various procedures for establishment of homogeneity or presence of the flaws in the materials of semi-finished products, finished products, devices, plants and installations. The testing should be performed on the objects subjected to checking, without any samples to be taken and their destruction.

These procedures include testing, inspection and checking, which are similar as these are applied to inspect – observe something, to measure something on the object, to determine certain property of the object or to find out if the object has some irregularities,

7 PROCESSING AND ANALYSIS OF THE RESULTS OF TESTING

Processing and analysis of the results of measurement are conducted according to the instructions for the data processing, defined by the method of testing. During processing, and especially during analysis and interpretation of the results, theoretical knowledge and practical experience of the participants in testing are essential. After testing, a protocol on testing conducted should be made that has to be authorized by the Customer who ordered testing.

The protocol in a free form should contain the data on the object that has been tested, method of testing, conditions of testing, the equipment used, testing parameters, findings and other parameters providing conditions of sequentiality and repeatability of testing.

The report on testing and assessment of the state of a part of the object – subject to testing should be prepared according to the protocol on conducted testing and prescribed contents of the report defined by the SRPS ISO IEC 17025 standard (2006) and the standard for the subject testing method, in adequate forms of the report. The outcome of the processing and analysis of the results of check, testing and measurement are the 3D-models, outlines, tables of the data processed, diagrams, selected photos and alike.

8 CONCLUSION

For preparation of ND testing and report on testing, the application of commercial programmes for parametric modelling enables quick 3D-modelling of the testing objects and determination of one or more benchmarks for orientation of the testing objects and accurate determination of detected irregularity or defect.

The possibility to observe the object subjected to testing and a large number of sections make it possible to get rid of preparation of the complex 2D/outlines.

Connection with other computer programmes for text and picture processing, and 3D/models enable preparation of a quality report on testing with defined consequentiality and repeatability required by the 17025 standard.

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THE REICHSTAG ARCHITECTURAL TRANSFORMATIONS

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Abstract

The city of Berlin is one of the most interesting metropolises for many reasons including its rich and turbulent history. In the 1990s Berlin was the largest building site in the Europe after German reunification in 1990. Berlin is today famed for its art quarters and streets with art galleries: it attracts numerous visitors as a top touristic destination. One of the most visited buildings in Berlin is definitely the German Parliament building, the Reichstag. In this paper a short history of the Reichstag building, together with some aspects of its transformation is presented.

Keywords: art and architecture, Berlin, the Reichstag, wrappedReichstag, the Reichstag graffiti

1 INTRODUCTION

The Reichstag is today the seat of the German Bundestag with its powerful political administration. The Reichstag was built in the period 1884 to 1894 by Paul Wallot. In the period from 1894 to 1914 it served as the Imperial Parliament. There are some important years regarding XX century that have marked its history, such as the Reichstag fire in 1933, the end of the war in 1945, then the renovation in 1971 by architect Weingarten, also the wrapping of the Reichstag by artists Christo and Jeanne-Claude in 1995 and finally the renovation in 1999 by Norman Foster. The building is located in the center of Berlin, near the former Wall and is surrounded by huge green areas. The Reichstag experienced several architectural transformations.

The main tourist attraction today is definitely the magnificent glass dome designed by the famed Sir Norman Forster dome, with its ramp, observation deck and restaurants. Tourists are allowed to enter the building through the main entrance via the broad outside staircase and to take a lift up to the roof terrace and Norman Foster's modern glass dome. The highlight of the dome is its spiral ramp. According to Jana Richter, the Reichstag building is,