DNV·GL

CONDUCTIVITY MEASUREMENTS

Results of conductivity measurements

Dexion Storage Solutions SRL

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Report title:	Results of conductivity measurements	KEMA Nederland B.V.
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Task and objective: Conductivity measurements

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1 INTRODUCTION

DNV GL was asked by Dexion Storage Solutions SRL to perform conductivity measurements on their shelving rack. The reason for these measurements is to be sure that the shelving rack has a low resistance at any point on the shelf surface towards the ground connection on one of the legs. A low resistance to the ground guarantees that no static charge can accumulate on the rack, and that any statically charged object placed in it will be rapidly discharged to the ground.

2 EQUIPMENT TESTED

Static shelving rack HI 280 made out entirely of galvanized steel.

3 METHOD OF MEASUREMENT

A four point measurement method was used to determine the electrical resistance of the shelving rack. The shelving rack has been assembled and grounded according to the instructions provided by Dexion for the measurement. Measurement points where taken between the ground connection point on one leg and the top shelf of the rack, so that the current has the longest path to travel. This will give a conclusive measurement that can be applied for the whole of the shelving rack.

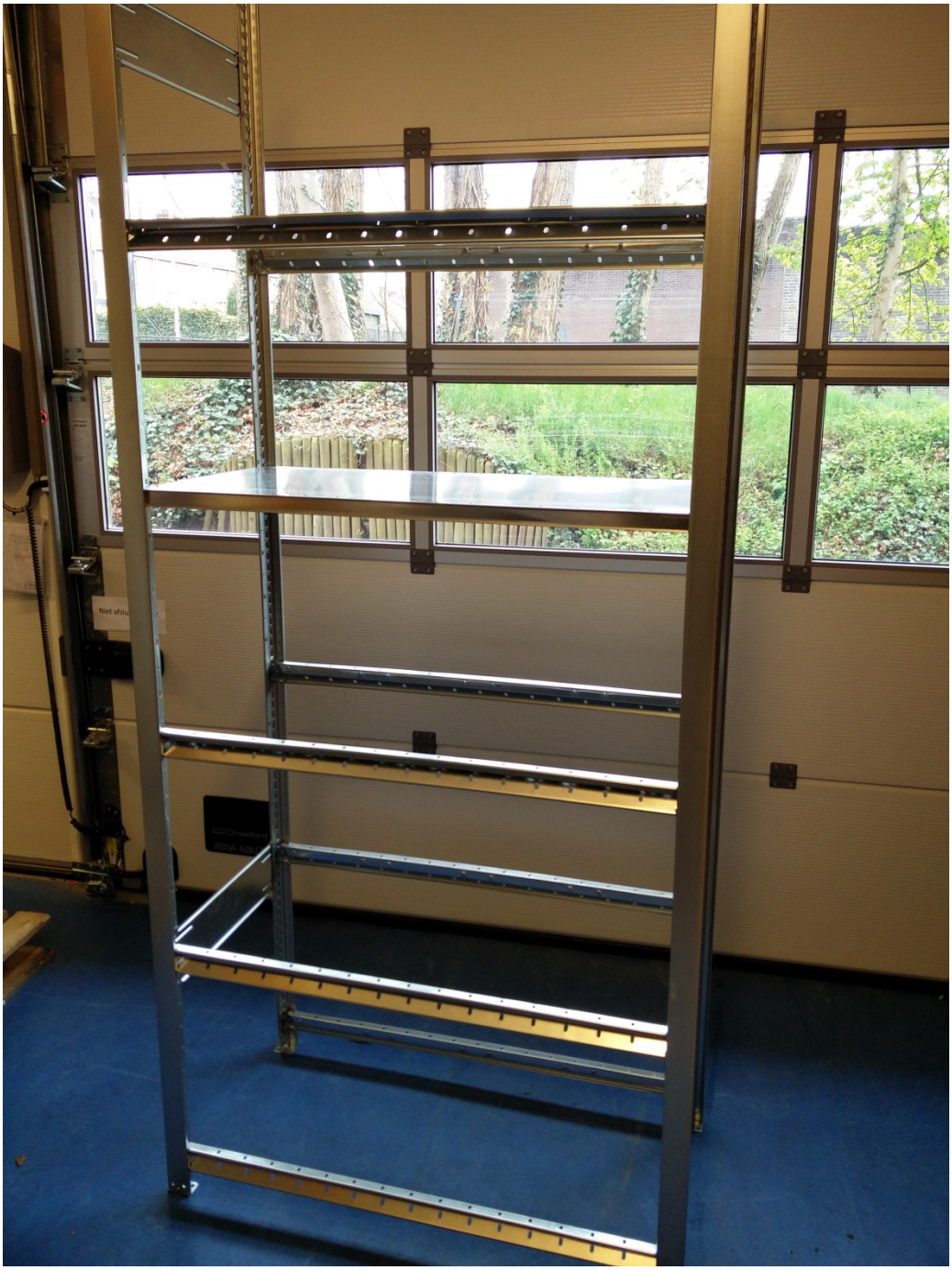
4 RESULTS

The resistance between the grounding point and the top of the shelving rack was measured at a value of 3,1 mΩ. Surface resistivity and bulk resistivity could not be accurately measured, because the resulting resistance was too low in the range of the instrument. The expected value is below 1 mΩ.

5 CONCLUSION

The shelving rack is found to have metallic conductivity, and thus a very low resistance to ground when grounded. As a result of the conductivity, static charges cannot accumulate on the rack when it is grounded, and statically charged objects placed on it will become rapidly discharged. The rack can thus be used to store ESD sensitive components, if they are placed in appropriate antistatic materials

6 PHOTO OF THE TEST SUBJECT



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