

ISO 16001:2017-11 (E)

Earth-moving machinery - Object detection systems and visibility aids - Performance requirements and tests

Contents		Page
Foreword		iv
Introduction		v
1	Scope	1
2	Normative references	1
3	Terms and definitions	1
4	Performance requirements and tests	3
4.1	General requirements	3
4.1.1	Test to determine the detection zone boundary	3
4.1.2	Test body requirements	3
4.1.3	Evaluation of test results	3
4.2	Location and fixing of ODS and VA components	3
4.3	Operator station components	4
4.3.1	Location and images of monitor	4
4.3.2	Warning devices for ODS	5
4.4	System activation and initial check	6
4.4.1	System activation on engine start	6
4.4.2	System activation from stand-by mode	6
4.5	ODS detection time	6
4.6	Continuous self-checking	7
4.7	Warning device disablement for ODS	7
4.8	Electromagnetic compatibility and physical environment operating conditions	7
5	Marking and identification	7
6	Operator's manual	8
6.1	Operator's manual	8
6.2	Other information documents	8
Annex A (informative)	Selection of ODSs and VAs	9
Annex B (normative)	Test procedure for closed-circuit television (CCTV) systems -- Additional performance requirements and tests	17
Annex C (normative)	Test procedure for radar sensors	23
Annex D (normative)	Test procedure for ultrasonic detection systems	28
Annex E (normative)	Test procedure for ultrasonic transponder systems	36
Annex F (normative)	Test procedure for electromagnetic (EM) signal transceiver systems	46
Annex G (normative)	Particular performance requirements and tests for CCTV system with surround view	53
Annex H (normative)	Particular performance requirements and tests for visual ODS	55

Annex I (normative) Test procedure for vision systems based on morphological recognition	62
Bibliography	74