ISO 8253-1:2010-11 (E)

Acoustics - Audiometric test methods - Part 1: Pure-tone air and bone conduction audiometry

Contents

Page

Foreword v

Introduction vi

1 Scope 1

2 Normative references 1

3 Terms and definitions 2

4 General aspects of audiometric measurements 4
4.1 General 4
4.2 Standard reference zero for the calibration of audiometric equipment 5
4.3 Requirements on audiometric equipment 5
4.4 Qualified tester 5
4.5 Test time 5
4.6 Conditions for audiometric test environments 5
4.7 Measurement uncertainty 6

5 Preparation and instruction of test subjects before audiometric testing and positioning of transducers 6
5.1 Preparation of test subjects 6
5.2 Instruction of test subjects 7
5.3 Placement of transducers 7

6 Air conduction hearing threshold level determinations using fixed-frequency audiometry 7
6.1 General 7
6.2 Manually controlled threshold determination 8
6.3 Hearing threshold determination with an automatic recording audiometer 10
6.4 Computer-controlled threshold determination 12

7 Air conduction hearing threshold level determinations using sweep-frequency audiometry 12
7.1 General 12
7.2 Presentation of test tone 12
7.3 Familiarization 12
7.4 Hearing threshold level measurement 12
7.5 Calculation of hearing threshold level at a specified frequency 12

8 Bone conduction hearing threshold audiometry 13
8.1 Method of audiometry 13
8.2 Occlusion 13
8.3 Airborne sound radiation from the bone vibrator 13
8.4 Vibrotactile sensation 13
8.5 Procedures for testing with masking in bone conduction audiometry 13

9 Screening audiometry 14
9.1 General 14
9.2 Procedure for the screening test 14

10 Audiograms 15

11 Permissible ambient noise 16
11.1 Permissible ambient noise for threshold determinations 16
11.2 Psycho-acoustic check on ambient noise 16

12 Maintenance and calibration of audiometric equipment 20
12.1 General 20
12.2 Intervals between checks 20
12.3 Stage A -- Routine checking and subjective tests 20
12.4 Stage B -- Periodic objective checks 21
12.5 Stage C -- Basic calibration tests 22

Annex A (informative) Measurement uncertainty 23

Bibliography 28