

ISO 3873:2025-02 (E)

Industrial protective helmets

| Contents | | Page |
|--------------------|--|-------------|
| Foreword | | v |
| Introduction | | vi |
| 1 | Scope | 1 |
| 2 | Normative references | 1 |
| 3 | Terms and definitions | 1 |
| 4 | Physical requirements | 5 |
| 4.1 | Materials | 5 |
| 4.2 | General construction | 5 |
| 4.3 | Accessories and attachments | 5 |
| 5 | Performance requirements | 5 |
| 5.1 | Type I Mandatory requirements | 5 |
| 5.1.1 | Striker drop test | 5 |
| 5.1.2 | Resistance to penetration | 6 |
| 5.1.3 | Resistance to ignition | 6 |
| 5.2 | Type II Mandatory requirements | 6 |
| 5.2.1 | Impact energy attenuation | 6 |
| 5.2.2 | Resistance to penetration | 6 |
| 5.2.3 | Dynamic strength of the retention system | 6 |
| 5.2.4 | Dynamic stability | 6 |
| 5.2.5 | Resistance to ignition | 6 |
| 5.2.6 | Buckle release | 6 |
| 5.3 | Optional requirements | 7 |
| 5.3.1 | Low temperature tests | 7 |
| 5.3.2 | Artificial ageing | 7 |
| 5.3.3 | Electrical Performance | 7 |
| 5.3.4 | Enhanced resistance to penetration | 7 |
| 5.3.5 | Chin strap | 8 |
| 6 | Test requirements | 8 |
| 6.1 | Samples | 8 |
| 6.2 | Conditioning for testing | 9 |
| 6.2.1 | Conditioning cabinet | 9 |
| 6.2.2 | Pre-conditioning | 9 |
| 6.2.3 | Low temperature | 9 |
| 6.2.4 | High temperature | 9 |
| 6.2.5 | Wet | 9 |
| 6.3 | Test schedule | 9 |
| 6.3.1 | Type I helmet | 9 |
| 6.3.2 | Type II helmet | 9 |
| 6.4 | Headforms | 10 |
| 6.4.1 | Striker drop tests | 10 |
| 6.4.2 | Headform drop tests | 10 |
| 6.5 | Impact energy attenuation tests | 11 |
| 6.5.1 | Striker drop test | 11 |
| 6.5.2 | Headform drop test | 11 |
| 6.6 | Penetration test | 14 |

| | | |
|---|--|----|
| 6.6.1 | Apparatus | 14 |
| 6.6.2 | Test procedure | 15 |
| 6.7 | Dynamic strength of the retention system | 15 |
| 6.7.1 | Principle | 15 |
| 6.7.2 | Apparatus | 15 |
| 6.7.3 | Test procedure | 17 |
| 6.8 | Dynamic stability | 17 |
| 6.8.1 | Principle | 17 |
| 6.8.2 | Apparatus | 17 |
| 6.8.3 | Test procedure | 18 |
| 6.9 | Resistance to ignition | 18 |
| 6.9.1 | Principle | 18 |
| 6.9.2 | Apparatus | 19 |
| 6.9.3 | Test procedure | 19 |
| 6.9.4 | Report | 19 |
| 6.10 | Electrical insulation test | 19 |
| 6.10.1 | Apparatus | 19 |
| 6.10.2 | calibration | 20 |
| 6.10.3 | Test procedure | 20 |
| 6.10.4 | Report | 20 |
| 7 | Marking | 20 |
| 7.1 | Markings on the helmet | 20 |
| 7.2 | Additional information | 20 |
| 8 | Instructions for use | 21 |
| Annex A (informative) Recommendations for the materials and construction of helmets | | 22 |
| Annex B (informative) Recommended method of construction of wooden headforms | | 23 |