

# DIN EN 12331:2004-05 (E)

## Food processing machinery - Mincing machines - Safety and hygiene requirements

---

### Contents

	Page
Foreword.....	3
0 Introduction .....	4
1 Scope .....	4
2 Normative references .....	6
3 Terms and definitions.....	7
4 List of hazards.....	9
4.1 Mechanical hazards .....	9
4.2 Electrical hazards .....	9
4.3 Hazard from loss of stability.....	11
4.4 Noise hazard.....	11
4.5 Hazards from use of gases and direct steam .....	12
4.6 Hazards from non-compliance with ergonomic principles .....	12
4.7 Hazards from non-compliance with hygiene principles .....	12
5 Safety requirements and/or measures .....	12
5.1 General.....	12
5.2 Mechanical safety .....	13
5.3 Electrical hazards .....	23
5.4 Hazards from loss of stability.....	24
5.5 Noise reduction.....	25
5.6 Hazards from use of gases (N <sub>2</sub> , CO <sub>2</sub> and steam) .....	25
5.7 Ergonomic requirements .....	25
5.8 Hygiene and cleaning .....	26
6 Verification of safety requirements and/or measures.....	29
7 Information for use .....	30
7.1 General.....	30
7.2 Operating instruction .....	30
7.3 Operator training.....	31
8 Marking .....	32
Annex A (normative) Noise test code for mincing machines (grade 2).....	33
Annex B (normative) Design principles to ensure cleanability of mincing machines .....	35
Annex C (normative) Common hazards for food processing machines and reduction requirements applicable to mincing machines.....	39
Annex ZA (informative) Relationship of this document with EC Directives.....	40
Bibliography .....	41