

# DIN 31000:1979-03 (E)

## General Principles for the Safety Design of Technical Products

---

### Contents

	Page		Page
<b>1 Scope</b> . . . . .	2	<b>5.8.3 Heat and cold</b> . . . . .	6
<b>2 Purpose and application</b> . . . . .	3	<b>5.8.4 Fluids occurring as a result of operation</b> . . . . .	6
<b>3 Terms</b> . . . . .	3	<b>5.8.5 Dust, vapors, gases</b> . . . . .	6
<b>3.1 Technical products</b> . . . . .	3	<b>5.9 Electric power</b> . . . . .	6
<b>3.2 Hazards</b> . . . . .	3	<b>5.9.1 Hazards due to the direct effects of electric power</b> . . . . .	6
<b>3.3 Proper use</b> . . . . .	3	<b>5.9.1.1 General</b> . . . . .	6
<b>3.4 Safety practice measures</b> . . . . .	3	<b>5.9.1.2 Protection against direct contact</b> . . . . .	7
<b>3.5 Special safety practice aids</b> . . . . .	3	<b>5.9.1.3 Protection in the event of indirect contact</b> . . . . .	7
<b>3.6 Users</b> . . . . .	3	<b>5.9.2 Hazards due to the intended effects of electric power on people and animals</b> . . . . .	7
<b>3.7 Electrical engineering terms</b> . . . . .	4	<b>5.9.3 Hazards due to the indirect effects of electric power</b> . . . . .	7
<b>4 Principles of safety design</b> . . . . .	4	<b>5.9.4 Hazards due to external effects on electrical industrial facilities</b> . . . . .	8
<b>4.1 Aims of Safety practice</b> . . . . .	4	<b>5.9.4.1 Effects from the environment</b> . . . . .	8
<b>4.1.1 Safety practice through intrinsic design</b> . . . . .	4	<b>5.9.4.2 Overload</b> . . . . .	8
<b>4.1.2 Safety practice through intermediate means</b> . . . . .	4	<b>5.9.5 Inscriptions and marking</b> . . . . .	8
<b>4.1.3 Safety practice through instructions</b> . . . . .	4	<b>5.9.6 Nominal operation</b> . . . . .	8
<b>4.2 Special safety practice conditions</b> . . . . .	4	<b>5.9.7 Other requirements</b> . . . . .	8
<b>4.3 Special safety practice measures</b> . . . . .	5	<b>5.9.7.1 Electrical connection and electrical junctions</b> . . . . .	8
<b>4.4 Safety during manufacture</b> . . . . .	5	<b>5.9.7.2 Air routes, leakage paths and distances</b> . . . . .	8
<b>5 General principles and framework provisions</b> . . . . .	5	<b>5.10 Pneumatic and hydraulic equipment</b> . . . . .	9
<b>5.1 Stresses</b> . . . . .	5	<b>5.11 Gas equipment for combustible gases</b> . . . . .	9
<b>5.2 Materials</b> . . . . .	5	<b>5.12 Equipment for liquid and solid fuels</b> . . . . .	9
<b>5.2.1 General</b> . . . . .	5	<b>5.13 Equipment for propellant energy</b> . . . . .	9
<b>5.2.2 Harmful materials</b> . . . . .	5	<b>5.14 Equipment for switching, controlling and regulating</b> . . . . .	9
<b>5.2.3 Age-resistant materials</b> . . . . .	5	<b>5.14.1 Controls and adjusting parts</b> . . . . .	9
<b>5.2.4 Parts subject to the risk of corrosion</b> . . . . .	5	<b>5.14.2 Danger circuits</b> . . . . .	9
<b>5.2.5 Electrical insulation</b> . . . . .	5	<b>5.14.3 Special safety circuits</b> . . . . .	10
<b>5.3 Moving parts</b> . . . . .	5	<b>5.15 Requirements placed on safe operation</b> . . . . .	10
<b>5.4 Surfaces, corners and edges</b> . . . . .	6	<b>5.16 Effectiveness of special safety practice aids</b> . . . . .	10
<b>5.5 Safety when walking and standing, prevention of slipping</b> . . . . .	6	<b>5.17 Electrostatic charge</b> . . . . .	10
<b>5.6 Stability</b> . . . . .	6	<b>5.18 Fuels and working substances</b> . . . . .	10
<b>5.7 Design for transport</b> . . . . .	6	<b>5.19 Ergonomic design</b> . . . . .	10
<b>5.8 Hazards occurring during operation</b> . . . . .	6		
<b>5.8.1 Ejected parts</b> . . . . .	6		
<b>5.8.2 Noise and vibration</b> . . . . .	6		