

# DIN EN 12975-1:2011-01 (E)

## Thermal solar systems and components - Solar collectors - Part 1: General requirements (includes Amendment A1:2010)

---

<b>Contents</b>		<b>Page</b>
Foreword .....		3
Introduction .....		4
1	Scope .....	5
2	Normative references .....	5
3	Terms and definitions .....	5
4	Symbols and units .....	5
5	Durability and reliability .....	5
5.1	Materials and design .....	5
5.2	Required tests .....	6
5.3	Pass criteria .....	6
5.3.1	General .....	6
5.3.2	Internal pressure for absorber .....	7
5.3.3	High temperature resistance .....	7
5.3.4	Exposure .....	7
5.3.5	External thermal shock .....	7
5.3.6	Internal thermal shock .....	7
5.3.7	Rain penetration .....	7
5.3.8	Mechanical load test .....	7
5.3.9	Thermal performance .....	8
5.3.10	Freeze resistance test .....	8
5.4	Procedure .....	8
6	Safety .....	8
7	Collector identification .....	8
7.1	Drawings and data sheet .....	8
7.2	Labelling .....	9
7.3	Installer instruction manual .....	9
Annex A (informative) Description of solar collectors materials and manufacture .....		10
A.1	General .....	10
A.2	Absorbers .....	10
A.3	Transparent covers .....	11
A.4	Insulation materials .....	11
A.5	Reflectors .....	11
A.6	Diffusion barriers .....	11
Annex B (informative) Environmental protection .....		12
B.1	Heat transfer fluid .....	12
B.2	Insulation materials .....	12
B.3	Recycling of the collector materials .....	12
Annex C (informative) Tests to be repeated in collector design modifications .....		13
Bibliography .....		14