


Summary of EN 12975 Test Results, annex to Solar KEYMARK Certificate						Licence Number		011-7S1541 R																	
						Issued		2013-07-31																	
Company holding the		OEG Oel- und Gasfeuerungsbedarf				Country		Germany																	
Brand (optional)		Abrand				Website		www.oeg.net																	
Street, street number		Industriestr. 1				E-mail		kerstan@oeg.net																	
Postal Code / City, province		31840 Hessisch Oldendorf				Tel/Fax		49 6343 6624/ 2924																	
Collector Type (flat plate glazed/un-glazed; evacuate tubular)						Evacuated tubular collector																			
Thermal / photo voltaic hybrid collector? (PVT collector)						No																			
Integration in the roof possible ? (manufacturers declaration)						No																			
						Power output per collector module																			
						G = 1000 W/m²																			
						Tm-Ta																			
						0 K		10 K		30 K		50 K		70 K											
Collector name						m²		mm		mm		mm		m²		W		W		W		W		W	
4flex (single tube)						0.11		1 965		71		80		0.14		82		81		77		71		63	
4flex (for 10 tubes)						1.05		1 965		710		80		1.40		822		809		767		706		626	
Performance test method						Glazed liquid heating collector - steady state - indoor																			
Performance parameters related to aperture						η_0		a1		a2															
Units						-		W/(m ² K)		W/(m ² K ²)															
Test results - Flow rate and fluid see note 1						0.783		1.061		0.023															
Bi-directional incidence angle						Yes		<i>Kθ values are obligatory for 50°.</i>																	
Incidence angle modifiers Kθ(θL)						Angle		10°		20°		30°		40°		50°		60°		70°		80°		90°	
longitudinal direction						Kθ(θL)		1.00		0.99		0.98		0.97		0.94		0.90		0.80		0.00			
Incidence angle modifiers Kθ(θT)						Angle		10°		20°		30°		40°		50°		60°		70°		80°		90°	
transversal direction						Kθ(θT)		1.02		1.04		1.06		1.04		0.96		0.79		0.53		0.00			
Stagnation temperature - Weather conditions see note 2						Tstg		240.4		°C															
Effective thermal capacity						ceff = C/Ag		21.51		kJ/(m²K)															
Max. intende operation temperature - see note 3						Tmax,op		n.n.		°C															
Max. operation pressure - see note 3						pmax,op		600		kPa															
Pressure drop table - for a collector family, the values shall be for the module with highest ΔP per m² aperture area																									
Flow rate		kg/(s m²)																							
Pressure drop, ΔP		Pa																							
Optional weather data		Location				Link																			
Testing Laboratory						TÜV Rheinland Energie und Umwelt GmbH																			
Website						www.tuv.com/st																			
Test report id. number						21216473_P/R_Report						Date of test report		2011.03.14											
During the test GDIF/GTOT was always between						0.16		and		0.82															
Comments of testing laboratory:																									
ENGLISH: The reviewed collector type is a so called "custom made" collector. All combinations from ten up to 150 serial connected tubes are possible. For the Performance test a 10 tube collector and for reliability test a 30 tube collector was used. The total gross area of the collector is the sum of the single tubes with an gross area of 0,14 m ² /tube. DEUTSCH: Bei dem geprüften Kollektor handelt es sich um einen so genannten "custom made" Kollektor. Bei dem alle Größen von zehn bis zu 150 seriell verschalteten Röhren möglich sind. Für die Leistungsprüfung wurde eine Kombination aus 10 Röhren, für Gerbrauchstauglichkeitsprüfung eine Kobination aus 30 Röhren verwendet. Die Bruttokollektorfläche addiert sich aus der Summe der Einzelröhren mit einer Bruttofläche von 0,14 m ² /Röhre.																									
Note 1		Flow rate		0.017		kg/(s m²)		Fluid		Water															
Note 2		Irradiance, G = 1000 W/m²; Ambient temperature , Ta=30 °C																							
Note 3		Given by manufacturer																							
																									
														Datasheet version: 4.04, 2013-04-22											
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