TRATOS CAVI

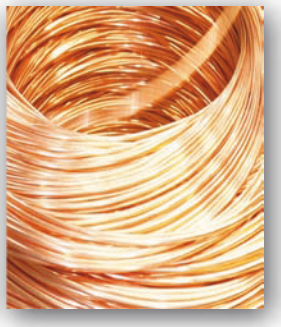
ENERGY

TRATOSDEDALUS

- PV3 (3.000 h)
- PV20 (20.000 h)

CABLE FOR USE IN PHOTO-VOLTAIC INSTALLATIONS






TRATOSDEDALUS

APPLICATIONS of TratosDedalus in photo-voltaic installations

TratosDedalus cable was speciallt studied and designed for use in photo-voltaic installations for energy production.
It can be used internally or externally, in fixed or mobile positions and also in tubes and ducts.

System connected to the electricity supply

Systems installed on roof

For private use between 2 kW and 50 kW

For businesses use between 10 kW and 1 MW

Installation in fields

For industrial and financial use between 100 kW and 10 MW

Isolated System

Installations in fields or on roof between 1 kW and 100 kW

GENERAL CHARACTERISTICS

Resistant to corrosion from chemical agents and abrasion

Wide temperature range
-40°C to +120°C

Optimal behaviour in case of fire
Flam propagation and emission of toxic/corrosive gas.

Long term test
PV3 (3.000 h) - PV20 (20.000 h)

Resistant to UV rays and ozone

Ease of assembly
Installation possible internally and externally.
In industrial and agricultural installations and in inflamable locations.
Laying also possible in ducts and tubes with protection (cl.2).

Environmental compatibility
Halogen free.
Also in terms of ease of recycling and disposal it saves energy.

QUALITY

The sites and the factories of Tratos Cavi S.p.a. are certified according to the standard ISO 9001 for the quality management system (Activity and products).

Dedalus is approuved by IMQ

TRATOSDEDALUS

Conductor
Tinned Copper
Cl. 5 - IEC 60228
(DIN VDE 0295) (CEI EN 60228)

Insulation
HEPR type G21
(mix type EI8-CEI EN 50363)

Sheath
EVA type M21
(mix type EM4 CEI EN 50363)
Insulation and sheath are completly bonded and compatible (two layers of insulation)

PHYSICAL DIMENSIONS

nominal cross-section	nominal conductor diameter (mm)	nominal outer diameter (mm)	nominal weight (kg/km)	minimum bending radius (mm)	maximum pulling tension (mm)	current capacity at 60°C (A)
4	2,5	5,9	75	23,6	60	55
6	3,0	6,4	125	25,6	90	70
10	4,0	7,6	160	30,4	150	98
16	5,0	9,4	217	37,6	240	132
25	6,0	10,8	346	43,2	375	176
35	7,5	12,4	427	49,6	525	218
50	9,0	14,4	602	57,6	750	276
70	11,0	16,3	805	65,2	1.050	347

LONG TERM TEST

PV3	3.000 h
PV20	20.000 h
Temperature	120 °C
% < 50 ellongation	

ELECTRICAL CHARACTERISTICS

Nominal Voltage	0.6/1 kV (A.C.)
Maximum working voltage in photovoltaic system	D.C. up to 2.0 kV
Maximum A.C. working voltage	0.7/1.2 kV
Maximum D.C. working voltage	0.9/1.8 kV
Voltage Test	6 kV A.C./10kV D.C. (15 minutes)
Current Capacity	According to DIN VDE 0298 Part 4 - IEC 60287
Test	According to HD 22.2 - conductor resistance; voltage test in C.A. e D.C.; dielectric strength; surface resistance; spark test on the insulation; insulation resistance at 20 °C; at 90 °C in water and at 120 °C in air. CEI EN 50305 Part 6 – D.C. stability (10 days, 85 °C, salt water, 1.5 kV D.C.)

MECHANICAL CHARACTERISTICS

Normal pulling tension	15 N/mm^2 in use, 50 N/mm^2 during installation
Minimum bending radius	4 x D (D=cable diameter) see table
Abrasion	According to DIN EN 53516 (on sand-paper)
Hardness (Shore A)	85 according to CEI EN 53505
Rodent resistance	Complete certainty can be obtained by using tubes for the protection of the cable and using special cable tipes with a metallix covering of either spiraled wires or a metallic braid

THERMAL CHARACTERISTICS

Maximum ambient working temperature	+120°C (fixed and mobile installation)
Minimum working temperature	-40°C (fixed and mobile installation)
Maximum conductor temperature	+120°C
Maximum short-circuit temperature	+250°C (on conductor, maximum 5 seconds)
Low temperature resistance	Bending test at low temperature: according to CEI EN 60811-1-4. Impact resistance: conforming to CEI EN 50305

CHEMICAL CHARACTERISTICS

Resistance to minaral oil	24 h, 100 °C according to DIN VDE 0473-811-2-1, CEI EN 60811-2-1
Resistance to atmospheric agents	Ozone resistance: according to CEI EN 50396 test typo B. HD 22.2. Resistance to UV: according to UL 1581 (Xeno-test), ISO 4892-2 (Mehtod A). Water absorption (gravimetric): according to DIN VDE 0473-811-1-3, CEI EN 60811-1-3.
Behaviour in fire	Flame propagation: single cable according to CEI VDE 0482 Part 332-1-2,CEI EN 60332-1-2; bundle of cables according to DIN VDE 0482 Parte 266-2-5, DIN EN 50305-9. low smoke emission: according to DIN VDE 0482 Part 268-2, CEI EN 61034-2 (transmission of light > 70%). Corosivity: according to CEI EN 50267-2-2. Toxicity: according to CEI EN 50305, index (ITC) < 3.
Environmental compatibility	In accordance with the standards for the recycleability and the disposal in addition to saving energy durin production absence of polluting substances and halogens)

TRATOS CAVI ®

TRATOSDEDALUS

Tratos Cavi Spa
Via Stadio, 2
52036 – Pieve Santo Stefano
Arezzo - ITALY
Tel: +39-0575-7941
Fax: +39-0575-794246
e-mail: info@tratos.it

Tratos Ltd - United Kingdom
Park Road . Holmewood Industrial Park
Holmewood . Chesterfield . S42 5UW
United Kingdom
Tel: 01246 858000 - Fax: 01246 858001
e-mail: info@tratos.co.uk
web: http://www.tratos.co.uk/

Tratos Ltd - Germany
Alter Bentheimer Weg 4
48465 Schüttorf - Germany
Tel: 0049-5923-96 99 66
Fax: 0049-5923-96 99 67
e-mail: info@tratoscavi.de

Tratos Cavi Iberica S.L
Bloque 6, 1°D. - Alcobendas
28109 Madrid - Spain
Tel: + 34 9162 55887
e-mail: info@tratos.com.es

Tratos Cavi SpA - China Office
Unit 3, No.879, Shenfu Road
Xinzhuang Industrial Zone
Shanghai, China (201108)
e-mail info.china@tratos.it