

# ecolife Cs

## High Temperature Series

ARTS Energy's ecolife high temperature Ni-Cd series are perfectly suited to emergency lighting equipment applications. It has been designed with the aim of ensuring an extended service life of 8 years whilst minimizing the environmental impact.

Indeed a comparative assessment of the environmental impacts of several design options has been conducted for the whole life-cycle of the product.

Therefore ARTS Energy ecolife Cs is an ecodesigned product with the lowest scores in all impact categories, as demonstrated by an independent LCA (\*) specialist.

ARTS Energy ecolife Cs is specially designed to accept a permanent charge in high temperature environment such as emergency lighting equipment. ARTS Energy ecolife Cs delivers an extended life duration of 8 years, compared to the 4 years required by the international standard for luminaires (IEC 60598-2-22).

To meet customers' requirements, ARTS Energy provides custom-designed and standardized battery packs.

For your battery design and system needs, please contact ARTS Energy's engineers.

### Applications

- Emergency lighting
- Professional lighting
- Memory back-up systems
- Security devices

### Main advantages

- Eco-designed product
- Lower environmental profile
- Good charge efficiency at high temperatures
- Permanent charge
- Good storage retention
- Longer life duration

### Technology

- Plastic bonded positive electrode
- Plastic bonded negative electrode



Electrical characteristics			
Nominal voltage (V)	1.2		
Typical capacity (mAh)*	1570		
IEC minimum capacity (mAh)*	1500		
IEC designation	KRMT 23/43		
Impedance at 1000 Hz (mΩ)	8		
* Charge 16 h at C/10, discharge at C/5.			
Dimensions			
Diameter (mm)	22.0 + 0.15/- 0.05		
Height (mm)	41.9 ± 0.3		
Top projection (mm)	0.8 ± 0.2		
Top flat area diameter (mm)	9.0 min		
Weight (g)	45		
Dimensions are given for bare cells.			
Charge conditions Rate	Time (h)	Temp. (°C)	Charge current (mA)
Standard*	16	+ 15 to + 40	150
Permanent		+ 15 to + 40	75
Trickle**			38 to 50
* End of charge cut-off is requested: timer, coulomb meter.      ** Trickle charge follows full charge.			
Maximum discharge current			
Continuous (A) at + 20°C	4.5		
Peak (A) at + 20°C*	40		
* Peak duration: 0.3 second - final discharge voltage 0.65 volt/cell. (*) LCA = Life Cycle Assessment: this is a methodology (standardised under ISO) whose purpose is to measure the environmental impact of a finished product throughout its whole life cycle on several compartments such as Primary Energy Consumption, Global Warming Potential, Air Acidification.			



Advanced Rechargeable Technology and Solutions



## Temperature range in discharge

-20°C to +70°C

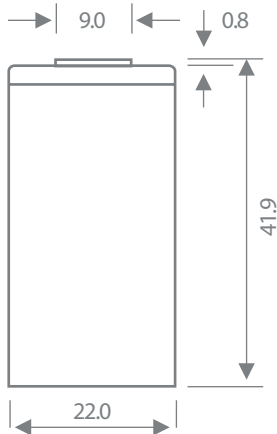
## Storage

Recommended: +5°C to +25°C

Relative humidity: 65 ± 5 %

## Typical performances

For graphs shown, C is the IEC<sub>5</sub> capacity.

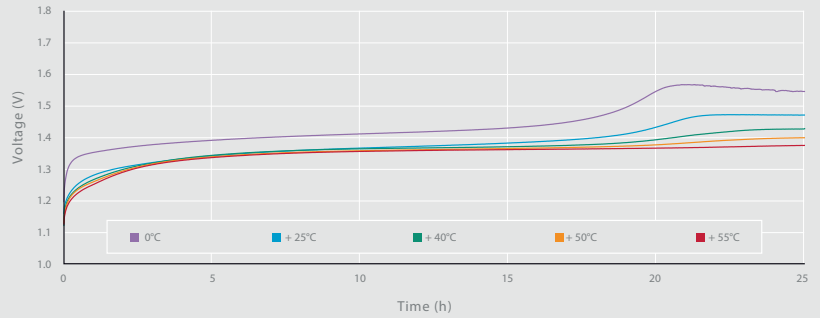


Dimensions are in mm.

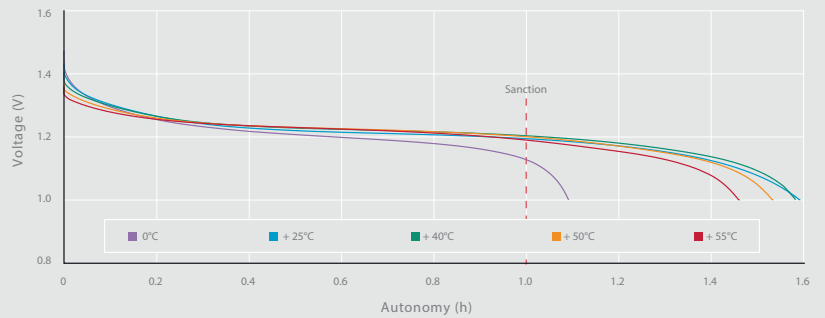
Data are given for single cells. Please consult ARTS Energy for utilization of cell outside this specification.

Data in this document are subject to change without notice and become contractual only after written confirmation by ARTS Energy.

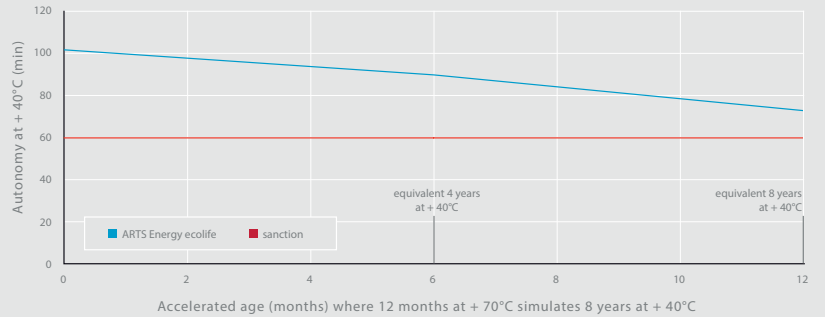
Charge 24h at C/20 at different temperatures



Discharge at 0.6 C at different temperatures after charge 24h at C/20 at different temperatures



Autonomy at +40°C after an accelerated ageing test



Environmental impact calculated by CODDE (EIME V 3.0 - database V 9.0)

Impact indicators	Unit	per g of ecolife	per ecolife Cs
Raw Material Depletion (RMD)	Y-1	8,12E-16	3,65E-14
Energy Depletion (ED)	MJ	0,128	5,76
Water Depletion (WD)	dm3	0,197	8,87
Global Warming Potential (GW)	g ~CO2	4,93	222
Ozone Depletion (OD)	g ~CFC-11	5,27E-07	2,37E-05
Air Toxicity (AT)	m3	3878	1,75E+05
Photochemical Ozone Creation (POC)	g ~C2H4	0,00216	0,097
Air Acidification (AA)	g ~H+	0,00341	0,153
Water Toxicity (WT)	dm3	0,618	27,8
Water Eutrophication (WE)	g ~PO4	0,0087	0,392
Hazardous Waste Production (HWP)	kg	1,22E-05	5,48E-04



10, rue Ampère  
Zone Industrielle  
16440 Nersac, France  
Tél. +33(0)5 45 90 35 50  
[www.arts-energy.com](http://www.arts-energy.com)