

Brilliant efficiency

Halogen lighting from GE



GE imagination at work





Contents

- 4 Introduction
- 6 European Union legislation
- 8 Energy efficient incandescent replacement
- 10 High performance reflectors
- 16 Capsules
- 18 Linear halogen
- 20 Packaging guide

Instant powerful bright light

GE halogen lamps are compact, high output, crisp, white light sources that deliver superior colour reproduction.

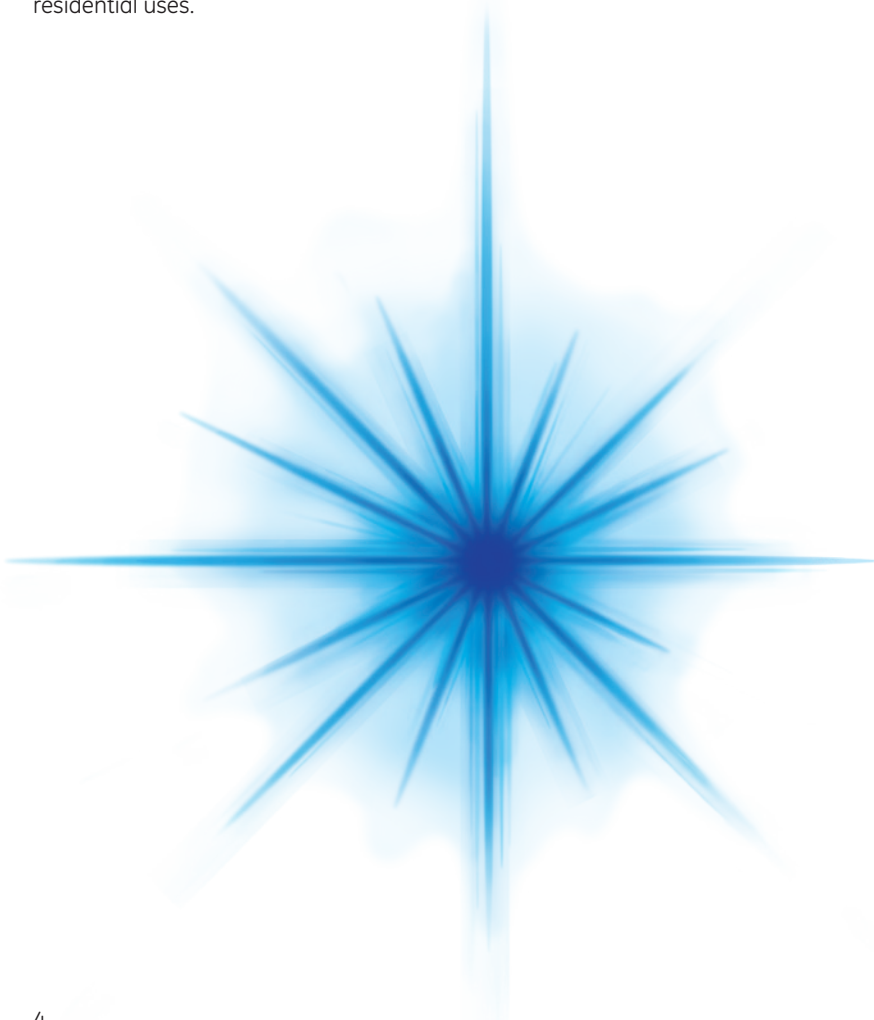
GE invented halogen lighting in 1958 and has been continuously perfecting the technology since then. Halogen lights are the ideal replacement for inefficient incandescent lamps, as their way of operation and dimensions are exactly the same.

The latest GE halogen lamp range covers every application from simple incandescent replacements to sophisticated display lighting schemes.

Our products offer the following key benefits:

- Up to 40% energy saving compared to conventional lamps
- Instant (re-)start – full light output immediately after switch on
- Crisp white light (CCT up to 3000K)
- Excellent colour rendering, close to natural light (100% CRI)
- Long lasting bright light – more than 90% lumen maintenance
- Fully dimmable
- Environmentally friendly technology – mercury and lead free, no electromagnetic emission
- No need for special disposal, exempt from WEEE directive

GE halogen lighting is perfect for accent, display and general lighting, in a wide variety of commercial, industrial and residential uses.



Energy efficient halogens

High performance reflectors

Miniature marvels

Linear halogen

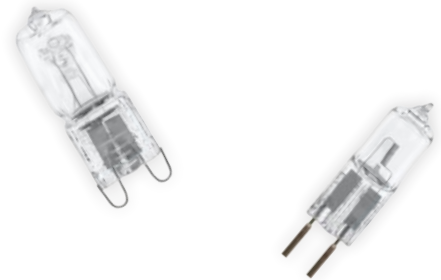
GE's Energy Efficient Halogen (EEH) range is a direct replacement for standard incandescent lamps.



GE's halogen reflector range provides compact, high output light sources with a wide scope for creative lighting.



GE's miniature halogen capsules are perfect for stylish lighting and low energy modern living.



Linear halogen lamps provide a powerful light source for compact fittings used for floodlighting, architectural lighting and security.



European Union legislation

Energy-saving is now official

On September 1st 2009 a European Union regulation came into effect, preventing the manufacture of certain types of inefficient lamps for the EU market.

The new legislation has been implemented to increase the use of efficient lamps by public and industry, thereby lowering carbon emissions and energy consumption.

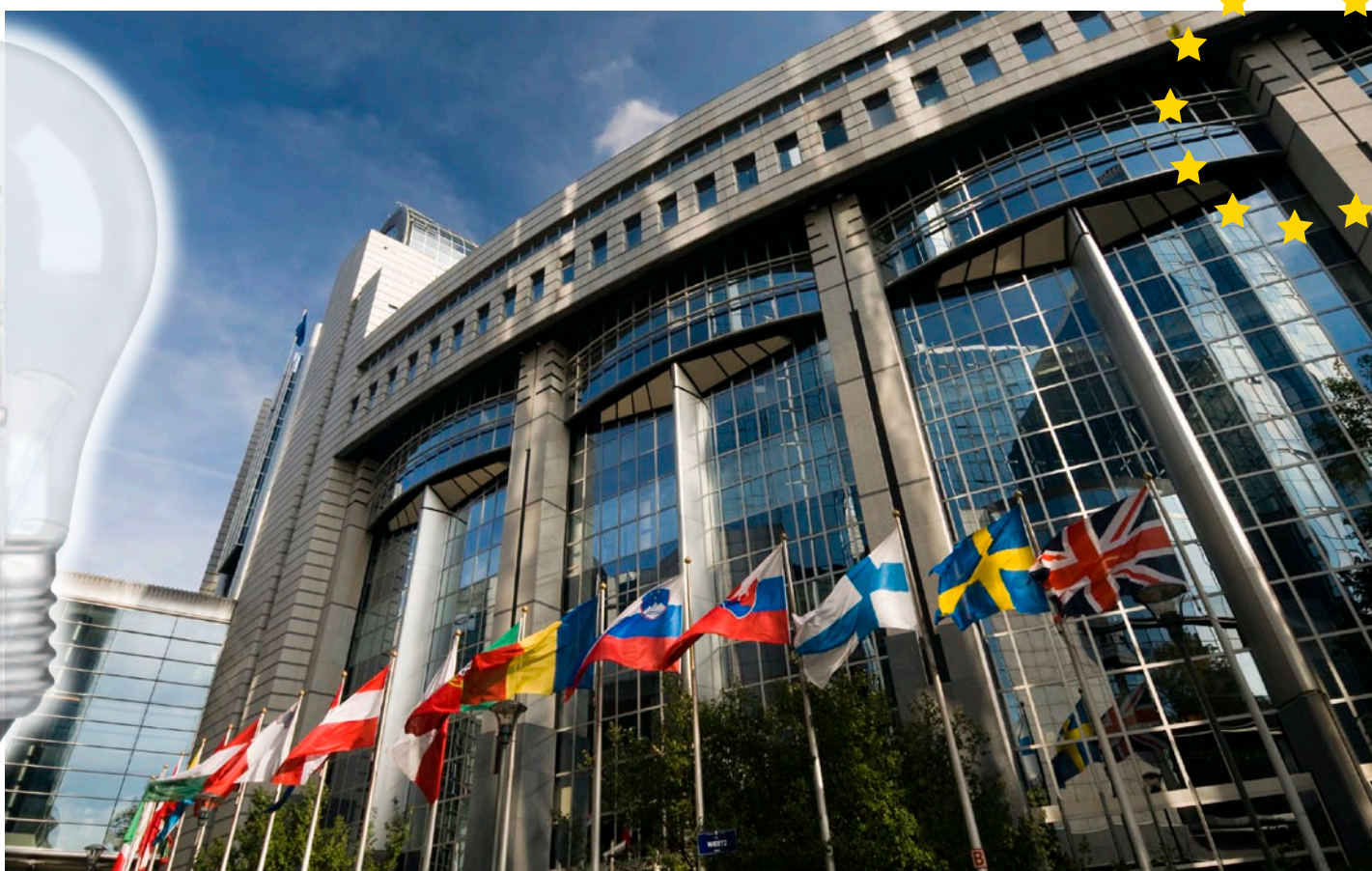
Initially minimum performance standards have been defined for non-directional household lamps (DIM1), determining minimum energy efficiency requirements, bulb performance (e.g. lifetime and

light output) and product information that must be displayed on packaging and published on official websites.

Existing retail and commercial inventories can continue to be sold until they are exhausted.

Products that are not included in the scope of the EUP regulation:

- Coloured lamps (according to specified colour coordinates)
- Directional lamps (reflector lamps)
- Lamps with lumens lower than 60lm and higher than 12,000lm



Find out more

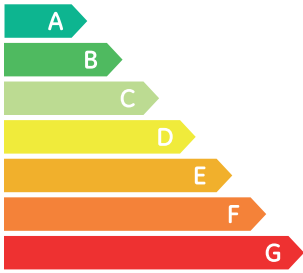
<http://ec.europa.eu/energy/lumen/>

Making change happen

DIM1 and DIM2

The European Union legislation covering the sale of domestic lighting is the Domestic Implementing Measure, or DIM. DIM regulates all aspects of the conversion of domestic lighting lamps to energy-saving alternatives, and includes packaging. It is divided into 2 parts - DIM1 for non-reflectors and DIM2 for reflectors. Changeover will happen according to an agreed timetable.

The DIM 1 Directive on Non-Directional Light Sources regulates the requirements to be fulfilled in order for the product to carry the CE mark.



Energy classes

Electrical products, including mains voltage lamps (except reflectors) are graded from A-G and the energy grade must be displayed on appliances or packaging.



DIM1 Regulation in place Non-directional lighting



DIM2 Not finalised* Directional lighting



*September 2010

DIM1 - timetable for change		CLEAR		FROSTED	
Stage	Date	Phase out	Replace with	Phase out	Replace with
1	01/09/2009	100 - 500W DEQ Class D/E	Class C 1,000 hour range	All frosted lamps	Class A
		75W	Class C		
2	01/09/2010	60W	Class C		
3	01/09/2011	40W	Class C		
4	01/09/2012	Less than 40W	Class C		
5	01/09/2013	Increase quality	Min. 2,000 hr life 'C' class		
6	01/09/2016	All clear lamps*	Class B		

*No end date for 'C' Class G9 & DEQ products

*High wattage DEQ and 1000W T38 are exempted

Energy efficient halogens (EEH)



- Instant on, **full light output at start-up**
- **Exact same size** and matching appearance to incandescent lightbulbs
- Consume up to 30% less electricity than incandescent lamps
- Last twice as long as incandescent
- Lumens are maintained throughout the life of the product
- Excellent colour rendering; light close to natural
- Unlike some compact fluorescent products, EEH lamps are 100% retrofit with the incandescent lamps they replace
- Can be used with dimming switches
- Do not contain environmentally-damaging lead or mercury





GE's Energy Efficient Halogen (EEH) range is a direct replacement for standard incandescent lamps.

They provide a crisp white light with up to 30% energy saving with similar lumens. Available in standard GLS, candle, spherical and reflector shapes, GE EEH lamps are the environmentally friendly solution where the features and light quality associated with incandescent bulbs is required.

Making the switch

Quick reference guide on how to move to halogen lights



						
	Standard GLS	HaloGLS				
	40W	28W D			•	•
	60W	42W C			•	•
	100W	70W C			•	•
150W	100W C			•	•	
	Standard Candle	HaloCandle				
	25W	18W D		•	•	
	40W	28W D	•	•	•	•
60W	42W C	•	•	•	•	
	Standard Spherical	HaloSpherical				
	25W	18W D		•	•	•
	40W	28W D	•	•	•	•
60W	42W C		•	•	•	
	Standard R50	HaloR50		•		
	40W	28W				
	Standard R63	HaloR63				•
	60W	42W				
Standard R80	HaloR80				•	
60W	42W					
100W	70W				•	

Wattage [W]	Volts [V]	Cap	Product Description	Product Code	Lumen [lm]	CCT [K]	Life [h]	Diameter [mm]	Length [mm]	EEC	Pack Qty
-------------	-----------	-----	---------------------	--------------	------------	---------	----------	---------------	-------------	-----	----------

Energy Efficient HaloCandle

18	230	E14	18W HALO C CL E14 230V	76940	170	2700	2,000	36	100	D	10
28	230	E14	28W HALO C CL E14 230V	76936	340	2800	2,000	36	100	D	10
42	230	E14	42W HALO C CL E14 230V	76575	630	2800	2,000	36	100	C	10
28	230	E27	28W HALO C CL E27 230V	76934	340	2800	2,000	36	96	D	10
42	230	E27	42W HALO C CL E27 230V	76573	630	2800	2,000	36	96	C	10
18	240	E14	18W HALO C CL E14 240V	76937	170	2700	2,000	36	100	D	12
28	240	E14	28W HALO C CL E14 240V	76930	340	2800	2,000	36	100	D	12
42	240	E14	42W HALO C CL E14 240V	76569	630	2800	2,000	36	100	C	12
28	240	E27	28W HALO C CL E27 240V	76929	340	2800	2,000	36	96	D	12
42	240	E27	42W HALO C CL E27 240V	76568	630	2800	2,000	36	96	C	12
28	240	B15	28W HALO C CL B15 240V	76932	340	2800	2,000	36	98.5	D	12
42	240	B15	42W HALO C CL B15 240V	76571	630	2800	2,000	36	98.5	C	12
18	240	B22	18W HALO C CL B22 240V	76938	170	2700	2,000	36	97	D	12
28	240	B22	28W HALO C CL B22 240V	76931	340	2800	2,000	36	97	D	12
42	240	B22	42W HALO C CL B22 240V	76570	630	2800	2,000	36	97	C	12



Energy Efficient HaloSpherical

18	230	E14	18W HALO S CL E14 230V	76567	170	2700	2,000	45	76	D	10
28	230	E14	28W HALO S CL E14 230V	76561	340	2800	2,000	45	76	C	10
42	230	E14	42W HALO S CL E14 230V	76553	630	2800	2,000	45	76	C	10
18	230	E27	18W HALO S CL E27 230V	76565	170	2700	2,000	45	73	D	10
28	230	E27	28W HALO S CL E27 230V	76559	340	2800	2,000	45	73	C	10
42	230	E27	42W HALO S CL E27 230V	76551	630	2800	2,000	45	73	C	10
18	240	E14	18W HALO S CL E14 240V	76562	170	2700	2,000	45	76	D	12
28	240	E14	28W HALO S CL E14 240V	76555	340	2800	2,000	45	76	C	12
42	240	E14	42W HALOS CL E14 240V	76548	630	2800	2,000	45	76	C	12
28	240	E27	28W HALO S CL E27 240V	76554	340	2800	2,000	45	73	C	12
42	240	E27	42W HALOS CL E27 240V	76547	630	2800	2,000	45	73	C	12
28	240	B15	28W HALO S CL B15 240V	76557	340	2800	2,000	45	75.5	C	12
18	240	B22	18W HALO S CL B22 240V	76563	170	2700	2,000	45	72.5	D	12
28	240	B22	28W HALO S CL B22 240V	76556	340	2800	2,000	45	72.5	C	12
42	240	B22	42W HALOS CL B22 240V	76549	630	2800	2,000	45	72.5	C	12



Wattage [W]	Volts [V]	Cap	Product Description	Product Code	Lumen [lm]	CCT [K]	Life [h]	Diameter [mm]	Length [mm]	EEC	Pack Qty
-------------	-----------	-----	---------------------	--------------	------------	---------	----------	---------------	-------------	-----	----------

Energy Efficient HaloReflector

28	230	E14	28W HALO R50 E14 230V	76546	340	2900	2,000	50	86		10
42	230	E27	42W HALO R63 E27 230V	76543	630	2900	2,000	63.5	101		10
42	230	E27	42W HALO R80 E27 230V	76540	630	2900	2,000	80	121		10
70	230	E27	70W HALO R80 E27 230V	76537	1300	2900	2,000	80	121		10
28	240	E14	28W HALO R50 E14 240V	76544	340	2900	2,000	50	86		8
42	240	E27	42W HALO R63 E27 240V	76541	630	2900	2,000	63.5	101		6
42	240	E27	42W HALO R80 E27 240V	76538	630	2900	2,000	80	121		6



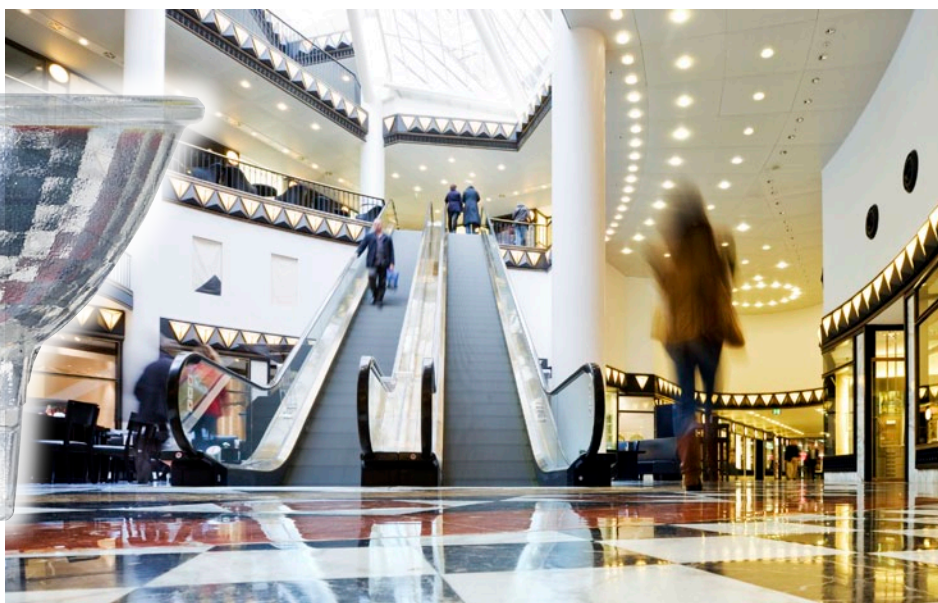
Wattage [W]	Volts [V]	Cap	Product Description	Product Code	Lumen [lm]	CCT [K]	Life [h]	Diameter [mm]	Length [mm]	EEC	Pack Qty
-------------	-----------	-----	---------------------	--------------	------------	---------	----------	---------------	-------------	-----	----------

Energy Efficient HaloGLS

28	230	E27	28W HALO A CL E27 230V	76957	340	2800	2,000	50	97.5	D	10
42	230	E27	42W HALO A CL E27 230V	76953	630	2800	2,000	50	97.5	C	10
70	230	E27	70W HALO A CL E27 230V	76948	1300	2900	2,000	50	97.5	C	10
100	230	E27	100W HALO A CL E27 230V	76944	1800	2900	2,000	50	105	C	10
28	240	E27	28W HALO A CL E27 240V	76954	340	2800	2,000	50	97.5	D	8
42	240	E27	42W HALO A CL E27 240V	76950	630	2800	2,000	50	97.5	C	8
70	240	E27	70W HALO A CL E27 240V	76945	1300	2900	2,000	50	97.5	C	8
100	240	E27	100W HALO A CL E27 240V	76941	1800	2900	2,000	50	105	C	8
28	240	B22	28W HALO A CL B22 240V	76955	340	2800	2,000	50	96	D	8
42	240	B22	42W HALO A CL B22 240V	76951	630	2800	2,000	50	96	C	8
70	240	B22	70W HALO A CL B22 240V	76946	1300	2900	2,000	50	96	C	8
100	240	B22	100W HALO A CL B22 240V	76942	1800	2900	2,000	50	104	C	8



High performance reflectors



- Up to 43% energy saving using energy saver MR16 IR lamps
- Crisp white light (CCT up to 3000K)
- Excellent colour rendering, close to natural light (100% CRI)
- Long lasting bright light – more than 90% lumen maintenance
- Precise beam control - wide range of options
- Up to 6,000 hours of operating life - three times more than conventional products

GE's halogen reflector range provides compact, high output light sources with a wide scope for creative lighting.

As with other GE halogen lamps, they combine the advantage of very high light quality, intensity and control with efficient use of energy. For lighting designers we offer a wide variety of wattages, beam angles and technical types to enable the greatest flexibility and creativity in application design. For users, upgrading from standard halogen reflectors to GE energy saving reflectors can give a significant saving over the lifetime of the lamp.

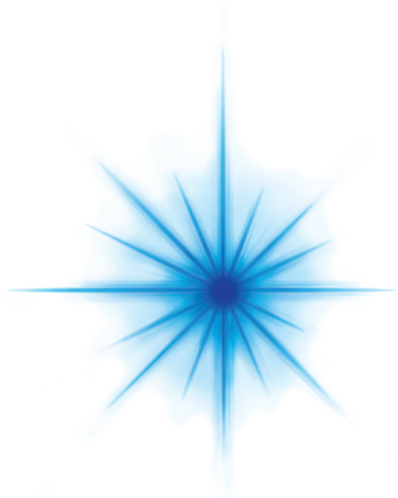


Choosing high performance reflectors

	Low voltage				Mains voltage		
	Dichroic coated reflector (cool beam)				Aluminized (heat forward)	GU10	PARs
Product name	MR16 IR	Precise™ ConstantColor	Precise™ Bright	MR16 Start	Precise™ Alutech™	MR16 Mains Alutech	PAR16
50 mm diameter							
35 mm diameter			Precise MR11	MR11 Start		MR11 GU10	
79-111 mm diameter					AR111		PAR20, PAR30
	Superior performance and energy saving		Long life precision lighting	Traditional reflectors	Special applications	No transformers required	

See the savings

Compare the running cost of standard halogens with energy savers.



Watts	Annual consumption**		Savings
	(kWh, 1000 hours/year)	Cost (€)*	

kWh costs: €0.20

Standard MR16	35	35	€7	€3	43%
MR16 IR	20	20	€4		
Standard MR16	50	50	€10	€3	30%
MR16 IR	35	35	€7		
Standard MR16	50	50	€10	€4	40%
Precise™ ConstantColor™ MR16 IR	30	30	€6		

* Additional cost avoidance through less frequent relamping.

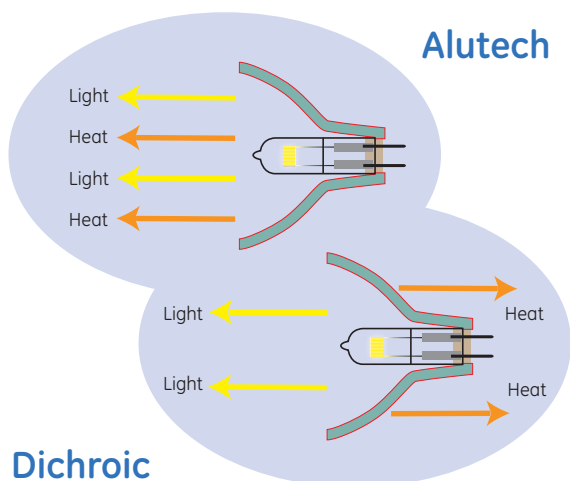
** Annual Consumption is based on typical domestic usage of 1,000 hours per year. Additional yearly savings would be achieved in commercial environments where typical annual usage would be 5,000 hours per year.

Alutech or Dichroic?

Heat control is the key to the difference between Alutech and Dichroic.

To light heat sensitive objects, dichroic is the choice as much of the heat emitted by the filament is transmitted out through the back of the reflector.

Alutech is the opposite - heat is mostly reflected forwards, away from sensitive material or components behind the lamp.



ConstantColor™

See the difference - light where you need it

A second coating of 'Titania and Silica' on the rear of ConstantColor™ reflectors reduces distracting transmitted light ("backlight").

Infra-red light - heat - is still efficiently transmitted from the rear however, giving the coolbeam effect.



GE ConstantColor™ MR16

No wasted 'backlight'.

Standard MR16

Light transmitted from the rear is wasted.

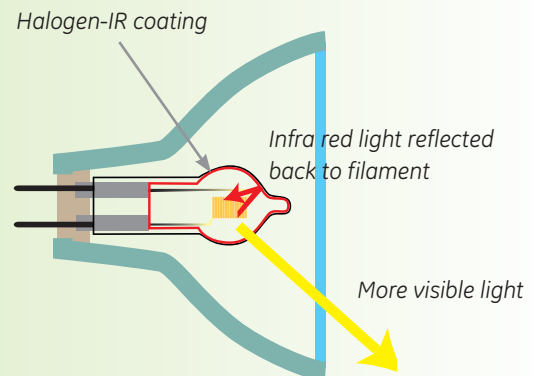
High performance reflectors

GE's advanced technology

Halogen-IR

Standard incandescent and halogen lamps lose approximately 76% of the input energy by radiating heat, and convert only 8% into useful light. The Precise™ IR halogen capsule has multiple layers of very durable, thin, interference film which redirects heat, which would otherwise be wasted, back onto the lamp filament. This increases the filament temperature and allows it to give off more visible light for the same input power.

The increased burning efficiency provides the same light performance with a significantly reduced power input, alternatively allows a longer lamp operating life or a combination of both.

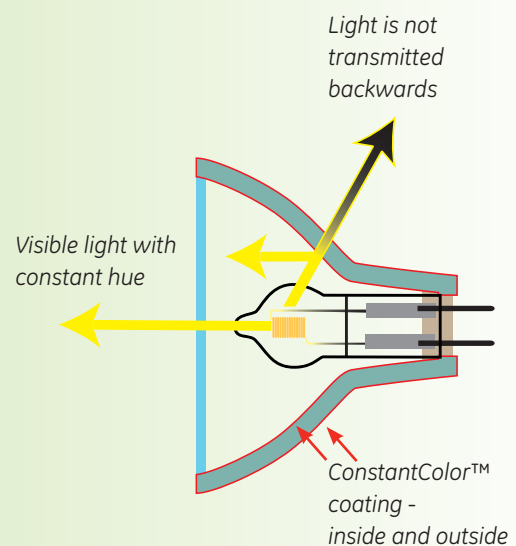


GE ConstantColor™ - bright throughout life

GE ConstantColor™ halogen lamps have a unique glass reflector coating that provides consistent colour performance throughout their rated life. It is GE's Thin Film Technology that makes this possible. Conventional halogen products utilise a reflector coating that is gradually degraded by the heat emitted by the filament, so the quality of light changes. Unlike any other product on the market, GE's ConstantColor™ lamps withstand temperatures of 500°C without a change in reflector qualities. The result is close to 90% maintained light output over life and identical colour temperature from lamp to lamp.

With coating applied to both inside and outside the reflector, wasted backlight is virtually eliminated. The small amount of light that does escape through the reflector is a consistent hue which will not vary from lamp to lamp through life, ensuring replacements do not appear different from existing lamps.

Excess heat is handled the opposite way: the coating allows 66% of the infrared light (i.e. heat) to pass through the back of the reflector, so that it is not projected onto displays.



Wattage (W)	Volts (V)	Cap	Product Description	Product Code	Candela (cd)	Beam Angle (°)	CCT (K)	Life (h)	Diameter (mm)	Length (mm)	Pack Qty
-------------	-----------	-----	---------------------	--------------	--------------	----------------	---------	----------	---------------	-------------	----------

Precise™ MR11 - Open

20	12	GU4	M62/FTD	19626	550	26	2900	3,500	35.3	40	10
35	12	GU4	M66/FTF	19635	2300	21	2900	3,500	35.3	40	10
35	12	GU4	M199/FTH	19634	1300	26	2900	3,500	35.3	40	10



Precise™ MR11 - Closed

12	12	GU4	M264/FTA/CG	19639	3960	8	3200	2,000	35.3	45	10
20	12	GU4	M251/FTC/CG	19636	1800	17	2900	3,500	35.3	45	10
20	12	GU4	M262/FTD/CG	19625	490	26	2900	3,500	35.3	45	10
35	12	GU4	M266/FTF/CG	19627	2070	21	2900	3,500	35.3	45	10



MR11 Start - Closed

20	12	GU4	FTD/M262/CG	17200	490	26	2800	2,000	35	40	10
35	12	GU4	FTF/M199/CG	17201	1150	26	2900	2,000	35	40	10

Precise™ ConstantColor™ MR16 IR

20	12	GU5.3	Q20MR16HIR/CCG10	77900	6000	10	2900	5000	50.7	50.5	10
20	12	GU5.3	Q20MR16HIR/CCG24	77901	2300	24	2900	5000	50.7	50.5	10
20	12	GU5.3	Q20MR16HIR/CCG36	77902	1000	36	2900	5000	50.7	50.5	10
30	12	GU5.3	Q30MR16HIR/CCG10	79584	10000	10	2950	5000	50.7	50.5	10
30	12	GU5.3	Q30MR16HIR/CCG24	79585	3350	24	2950	5000	50.7	50.5	10
30	12	GU5.3	Q30MR16HIR/CCG36	79586	1600	36	2950	5000	50.7	50.5	10
35	12	GU5.3	Q35MR16HIR/CCG10	77904	12000	10	2950	5000	50.7	50.5	10
35	12	GU5.3	Q35MR16HIR/CCG24	77905	4200	24	2950	5000	50.7	50.5	10
35	12	GU5.3	Q35MR16HIR/CCG36	77906	2000	36	2950	5000	50.7	50.5	10
45	12	GU5.3	Q45MR16HIR/CCG10	77907	14000	10	3000	5000	50.7	50.5	10
45	12	GU5.3	Q45MR16HIR/CCG24	77908	5200	24	3000	5000	50.7	50.5	10
45	12	GU5.3	Q45MR16HIR/CCG36	77909	2300	36	3000	5000	50.7	50.5	10



Precise™ MR16 IR

20	12	GU5.3	MR16 IR 20W 12V WFL	77657	1000	36	2900	5,000	50.7	50.5	10
30	12	GU5.3	MR16 IR 30W 12V WFL	62163	1600	36	2950	5,000	50.7	50.5	10
35	12	GU5.3	MR16 IR 35W 12V WFL	77658	2000	36	2950	5,000	50.7	50.5	10

Precise™ ConstantColor™ MR16 - Open

71	12	GU5.3	EYJ/CC	20841	5500	25	3050	4,000	50.7	46	10
71	12	GU5.3	EYC/CC	20840	2000	42	3050	4,000	50.7	46	10

Precise™ ConstantColor™ MR16 - Closed

20	12	GU5.3	ESX/CG	20858	3150	15	3000	5,000	50.7	50.5	10
20	12	GU5.3	BAB/CG	20857	475	40	3000	5,000	50.7	50.5	10
35	12	GU5.3	FRB/CG	20864	7500	12	3000	5,000	50.7	50.5	10
35	12	GU5.3	FRA/CG	20860	3200	20	3000	5,000	50.7	50.5	10
35	12	GU5.3	FMW/CG	20859	900	40	3000	5,000	50.7	50.5	10
50	12	GU5.3	EXT/CG	20872	8400	15	3000	6,000	50.7	50.5	10
50	12	GU5.3	EXZ/CG	20871	2900	25	3000	6,000	50.7	50.5	10
50	12	GU5.3	EXN/CG	20867	1500	40	3000	6,000	50.7	50.5	10
50	12	GU5.3	FNV/CG	20865	850	55	3000	6,000	50.7	50.5	10
71	12	GU5.3	EYF/CG	20876	10400	15	3000	4,000	50.7	50.5	10
71	12	GU5.3	EYJ/CG	20874	4550	25	3000	4,000	50.7	50.5	10
71	12	GU5.3	EYC/CG	20873	2000	40	3000	4,000	50.7	50.5	10



Precise™ Bright 5000 MR16 - Open

20	12	GU5.3	M69/BAB	88231	480	36	3000	5,000	50.7	46	10
35	12	GU5.3	M81/FMW	88229	1390	36	3000	5,000	50.7	46	10
50	12	GU5.3	M58/EXN	88234	2250	36	3000	5,000	50.7	46	10
50	12	GU5.3	M80/FNV	88232	1070	60	3000	5,000	50.7	46	10

Precise™ Bright 5000 MR16 - Closed

20	12	GU5.3	M269/BAB/CG	88235	450	36	3000	5,000	50.7	50.5	10
35	12	GU5.3	M281/FMW/CG	88236	1300	36	3000	5,000	50.7	50.5	10
50	12	GU5.3	M250/EXZ/CG	88237	4750	18	3000	5,000	50.7	50.5	10
50	12	GU5.3	M258/EXN/CG	88239	2100	36	3000	5,000	50.7	50.5	10
50	12	GU5.3	M280/FNV/CG	88238	950	60	3000	5,000	50.7	50.5	10



Wattage [W]	Volts [V]	Cap	Product Description	Product Code	Candela [cd]	Beam Angle [°]	CCT [K]	Life [h]	Diameter [mm]	Length [mm]	Pack Qty
MR16 Start - Open											
20	12	GU5.3	M69/BAB/EC	38000	500	36	2900	2,000	50.7	47.6	20
35	12	GU5.3	M81/FMW/EC	38001	925	36	3000	2,000	50.7	47.6	20
50	12	GU5.3	M58/EXN/EC	38002	1500	36	3000	2,000	50.7	47.6	20



MR16 Start - Closed											
20	12	GU5.3	M268/ESX/CG/EC	38012	3150	12	2900	2,000	50.7	50.5	20
20	12	GU5.3	M269/BAB/CG/EC	38006	450	36	2900	2,000	50.7	50.5	20
35	12	GU5.3	FRB/CG/EC	38013	6750	12	3000	2,000	50.7	50.5	20
35	12	GU5.3	M281/FMW/CG/EC	38007	830	36	3000	2,000	50.7	50.5	20
50	12	GU5.3	M249/EXT/CG/EC	38014	8550	12	3000	2,000	50.7	50.5	20
50	12	GU5.3	M250/EXZ/CG/EC	39611	2700	24	3000	2,000	50.7	50.5	20
50	12	GU5.3	M258/EXN/CG/EC	38011	1350	36	3000	2,000	50.7	50.5	20
50	12	GU5.3	M280/FNV/CG/EC	39236	630	55	3000	2,000	50.7	50.5	20

Precise™ Alutech™ MR16 - Closed

20	12	GU5.3	M269/BAB/CG/AL	88216	450	36	3000	3,000	50.7	50.5	10
35	12	GU5.3	M281/FMW/CG/AL	88217	1300	36	3000	3,000	50.7	50.5	10
50	12	GU5.3	M258/EXN/CG/AL	88215	1800	36	3000	3,000	50.7	50.5	10
50	12	GU5.3	M280/FNV/CG/AL	88214	700	60	3000	3,000	50.7	50.5	10



AR111 - Low Pressure Capsule With Aluminium Reflector

35	12	G53	AR111 35W12V SP	10774	14000	8	2800	2,000	111	67	10
35	12	G53	AR111 35W12V FL	10775	2500	24	2800	2,000	111	67	10
50	12	G53	AR111 50W12V SP	10766	17800	8	2850	3,000	111	67	10
50	12	G53	AR111 50W12V FL	10767	3500	24	2850	3,000	111	67	10
75	12	G53	AR111 75W12V SP	10768	23500	8	2900	3,000	111	67	10
75	12	G53	AR111 75W12V FL	10769	5300	24	2900	3,000	111	67	10
75	12	G53	AR111 75W12V WFL	10771	1700	45	2900	3,000	111	67	10
100	12	G53	AR111 100W12V SP	41915	40000	8	3000	3,000	111	67	10
100	12	G53	AR111 100W12V FL	41922	8000	24	3000	3,000	111	67	10
100	12	G53	AR111 100W12V WFL	41923	2300	45	3000	3,000	111	67	10



MR16 Mains Alutech™ Long Life

50	230	GU10	Q50MR16/230/25°	40402	950	25	2650	3,000	51	55	50
50	230	GU10	Q50MR16/230/36°	40403	600	36	2650	3,000	51	55	50
50	240	GU10	Q50MR16/240/25°	40404	950	25	2650	3,000	51	55	50
50	240	GU10	Q50MR16/240/36°	40405	600	36	2650	3,000	51	55	50



MR16 Mains Alutech™

20	230	GU10	Q20MR16/230/FL	10898	200	36	2400	1,500	51	55	10
35	230	GU10	Q35MR16/230/FL	10896	400	36	2500	1,500	51	55	10
50	230	GU10	Q50MR16/230/FL	92729	600	36	2650	1,500	51	55	10
20	240	GU10	Q20MR16/240/FL	10859	200	36	2400	1,500	51	55	10
35	240	GU10	Q35MR16/240/FL	10857	400	36	2500	1,500	51	55	10
50	240	GU10	Q50MR16/240/FL	92730	600	36	2650	1,500	51	55	10

Colour	Wattage [W]	Volts [V]	Cap	Product Description	Product Code	Candela [cd]	Beam Angle [°]	CCT [K]	Life [h]	Diameter [mm]	Length [mm]	Pack Qty
--------	-------------	-----------	-----	---------------------	--------------	--------------	----------------	---------	----------	---------------	-------------	----------

MR16 Mains Alutech™ - Coloured

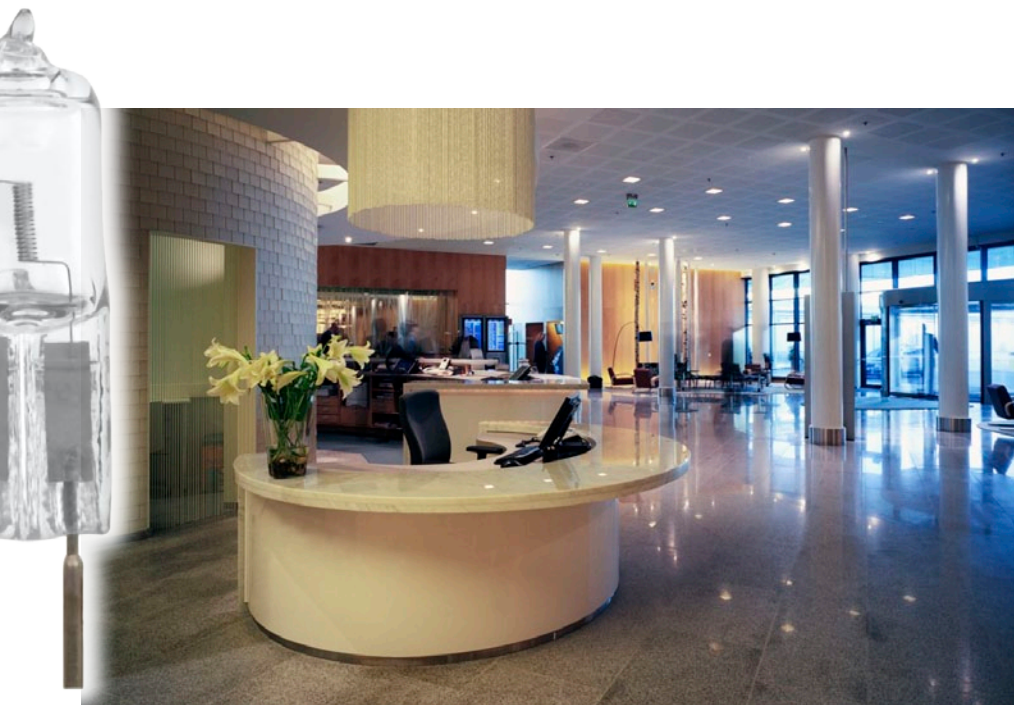
Red	50	240	GU10	Q50MR16/240/FL START	12988	600	36	2650	1,500	51	55	10
Blue	50	240	GU10	Q50MR16/240/FL START	12995	600	36	2650	1,500	51	55	10
Yellow	50	240	GU10	Q50MR16/240/FL START	13003	600	36	2650	1,500	51	55	10



Wattage (W)	Volts (V)	Cap	Product Description	Product Code	Candela (cd)	Beam Angle (°)	CCT (K)	Life (h)	Diameter (mm)	Length (mm)	Pack Qty
Halogen PAR 16											
40	230	E14	40PAR16/230/FL	27826	450	36	2900	2,000	51	79	10
40	240	E14	40PAR16/240/FL	27845	450	36	2900	2,000	51	79	10
Halogen PAR 20											
50	230	E27	50PAR20/230/SP	40363	3000	10	2750	2,000	64.5	91	15
50	230	E27	50PAR20/230/FL	40362	1000	25	2750	2,000	64.5	91	15
50	240	E27	50PAR20/240/FL	40365	1000	25	2750	2,000	64.5	91	15
Halogen PAR 25											
75	230	E27	75PAR25/230/FL	91775	1300	25	2900	3,000	81	108	15
75	240	E27	75PAR25/240/FL	92165	1300	25	2900	3,000	81	108	15
Halogen PAR 30											
75	230	E27	75PAR30/230/SP	40366	6200	10	2900	2,000	97	90.5	15
75	230	E27	75PAR30/230/FL	40349	2000	30	2900	2,000	97	90.5	15
100	230	E27	100PAR30/230/FL	32484	3100	30	2900	3,000	97	90.5	15
75	240	E27	75PAR30/240/SP	40367	6200	10	2900	2,000	97	90.5	15
75	240	E27	75PAR30/240/FL	40361	2000	30	2900	2,000	97	90.5	15
100	240	E27	100PAR30/240/FL	32482	3100	30	2900	3,000	97	90.5	15



Miniature marvels (SEQ)



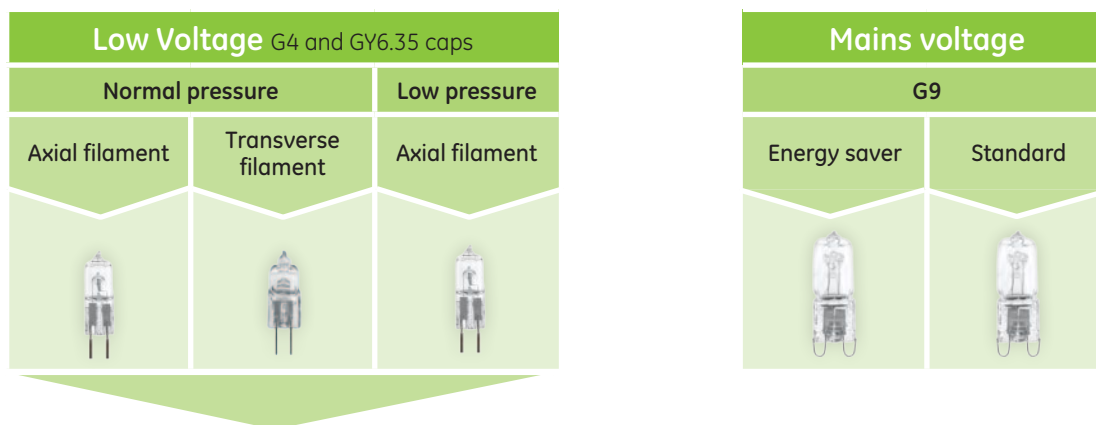
- Axial or transverse filaments
- Low voltage and mains voltage
- Up to 4,000 hours rated life
- All formats - G9, G4, GY6.35 caps



GE's miniature halogen capsules are perfect for stylish lighting and low energy modern living.

They are available in low voltage and mains voltage formats - all with a UV protection system. A choice of axial or transverse filaments in the low voltage range gives fittings designers plenty of scope for accurate optical control.

Choosing capsules



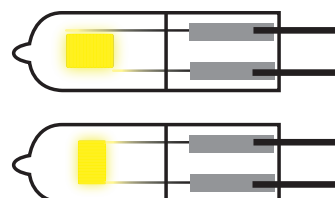
Axial or transverse?

Low voltage types are available with axial or transverse filaments, to give fittings designers a choice of optical performance.

Axial types provide a wide, smooth beam with a good cutoff when used with a reflector, for the uniform lighting of vertical surfaces, for task lighting, or for wall mounted or portable.

Transverse filaments provide a less uniform radial light distribution, but give more light in the lamp axis direction.

All lamps of the same base have a consistent light centre throughout the range for flexibility and consistent optical design in fittings.



Axial

Transverse

G9 - the ultimate mains voltage light source



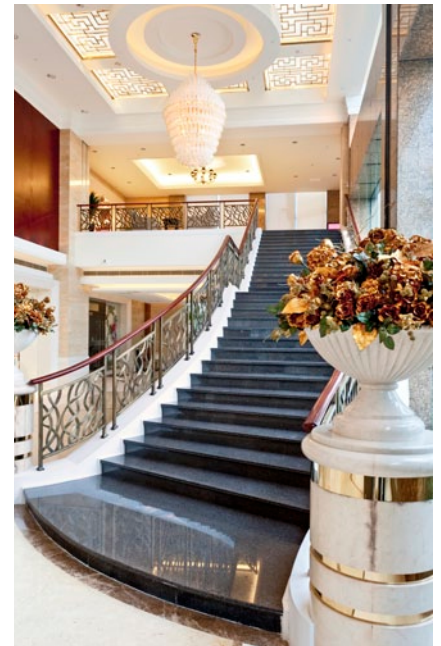
GE G9 capsule lamps are the most compact mains voltage light sources available.

The lamps use a patented filament support system which eliminates the disadvantages of the earlier bridge-type designs. In this design there are no additional metal and glass parts inside the capsule, which provides excellent, safe end-of-life behaviour.

GE G9 lamps are made from a quartz material which blocks virtually all UV-B and UV-C radiation.

GE's lamps cover a range of illuminances for a wide variety of residential and commercial requirements.

- Complies with IEC 60432-3 standards
- Self shielded, therefore can be operated in open fixtures
- UV radiation falls much below the international threshold values
- Fully dimmable
- Rated average life: 1,000 to 2,000 hours



Wattage [W]	Volts [V]	Cap	Product Description	Product Code	Lumen [lm]	CCT [K]	Life [h]	Diameter [mm]	Length [mm]	Pack Qty
Single ended mains voltage capsule short G9 - Clear										
25	230	G9	SHORTG9 25W CL 230V	45692	260	2700	1,500	13	43	10
40	230	G9	SHORTG9 40W CL 230V	22504	460	2800	3,000	13	43	10
25	240	G9	SHORTG9 25W CL 240V	88941	260	2800	1,500	13	43	10
40	240	G9	SHORTG9 40W CL 240V	22498	460	2800	2,000	13	43	10



Wattage [W]	Volts [V]	Cap	Product Description	Product Code	Lumen [lm]	CCT [K]	Life [h]	Diameter [mm]	Length [mm]	Pack Qty
Single ended low voltage capsule - Transversal Filament										
10	6	G4	M29/Q10 G4	34720	200	3000	100	8	32	20
20	6	G4	M30/ESB/Q20 G4	34718	450	3100	100	8	32	20
20	6	G4	M34/FHE/Q20 G4	34719	350	2900	2,000	8	32	20
5	12	G4	M9/H5 G4	42959	60	2800	2,000	8	32	20
10	12	G4	M11/H10 G4	34674	140	2800	2,000	8	32	20
20	12	G4	M35/Q20 G4	34714	400	3000	250	8	32	20
20	12	G4	M47/Q20 G4	34715	380	2900	2,000	8	32	100
35	12	GY6.35	M95/Q35/GY6.35	34708	550	2900	3,000	11	44	100
50	12	GY6.35	M32/Q50 GY6.35	34702	930	2900	3,000	11	44	100
75	12	GY6.35	M313/Q75/GY6.35	34682	1350	2900	3,000	11	44	20
100	12	GY6.35	M28/Q100 GY6.35	34676	2200	3000	3,000	11	44	100
100	24	GY6.35	M67/Q100 GY6.35 24V	34663	2000	3000	3,000	11	44	100



Wattage [W]	Volts [V]	Cap	Product Description	Product Code	Lumen [lm]	CCT [K]	Life [h]	Diameter [mm]	Length [mm]	Pack Qty
Single ended low voltage capsule - Axial Filament										
10	6	G4	M42/Q10 G4	34728	140	2800	2,000	8	32	20
20	12	GY6.35	M76/Q20/GY6.35	34712	300	2900	3,000	11	44	100
35	12	GY6.35	M75/Q35/GY6.35	34710	600	2900	4,000	11	44	100
50	12	GY6.35	M74/Q50/GY6.35	34703	900	2900	4,000	11	44	100
75	12	GY6.35	M73/Q75/GY6.35	34683	1350	2900	4,000	11	44	20
100	12	GY6.35	M180/Q100/GY6.35	34664	2150	3000	4,000	11	44	20



Wattage [W]	Volts [V]	Cap	Product Description	Product Code	Lumen [lm]	CCT [K]	Life [h]	Diameter [mm]	Length [mm]	Pack Qty
Single ended low voltage capsule - Low Pressure, Axial Filament										
10	12	G4	Q10T2,5/12V G4	35705	140	2800	2,000	8	32	20
20	12	G4	Q20T2,5/12V G4	35710	320	2900	2,000	8	32	20
20	12	GY6.35	Q20T3/12V GY6.35	35696	300	2800	2,000	11	44	20
35	12	GY6.35	Q35T3/12V GY6.35	35699	600	2900	2,000	11	44	20
50	12	GY6.35	Q50T3/12V GY6.35	35700	900	2900	2,000	11	44	20
75	12	GY6.35	Q75T3/12V GY6.35	35701	1350	2900	2,000	11	44	20



Wattage [W]	Volts [V]	Cap	Product Description	Product Code	Lumen [lm]	CCT [K]	Life [h]	Diameter [mm]	Length [mm]	Pack Qty
Single ended low voltage capsule Start - Transversal Filament										
10	12	G4	M11/Q10/G4 ST	12708	100	2700	1,000	8	32	20
20	12	G4	M47/Q20/G4 ST	12711	250	2800	1,000	8	32	20
35	12	GY6.35	M95/Q35/GY6.35 ST	12712	480	2800	1,000	11	44	20
50	12	GY6.35	M32/Q50/GY6.35 ST	12713	800	2900	1,000	11	44	20
100	12	GY6.35	Q100/GY6.35 ST	12718	1950	3000	1,000	11	44	20



Linear halogen (DEQ)



- Up to 30% energy saving compared to traditional DEQ types
- IR versions available
- Up to 2,000 hours average rated life
- R7s cap
- 100 - 1500W
- Immediate powerful light - for safety and flood lighting externally
- Crisp white light for reading and indoor applications

Linear halogen lamps provide a powerful light source for compact fittings used for floodlighting, architectural lighting and security.

GE's linear halogen lamps are double ended, using the universal R7s cap format, and are available in the two industry standards of 118mm or 78mm, plus longer, higher wattage versions.



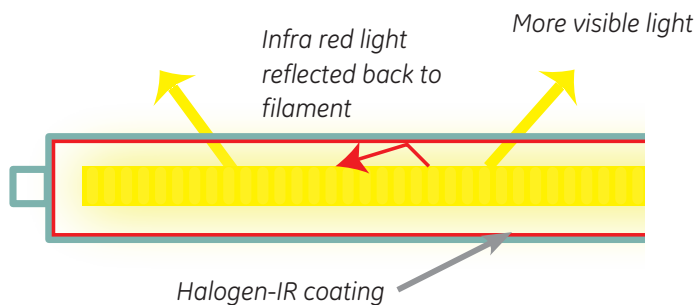
Choosing linear halogen

	DEQ IR	'C' Class		High wattage
Length	117.6mm	78mm	117.6mm	117.6, 189, 254, 330mm
Life	2,000 hr.	1,000 hr.		1,000 - 2,000 hr.
Saving	25% saving	30% saving		
Wattage of standard product	300W / 500W	150W	200 / 300 / 500W	
GE 'C' class wattage range	225W / 375W	100W	130 / 200 / 330W	
Efficacy (lm/W)	22.2 / 25.07	19	18.7 / 20 / 22.4	
	Superior performance	High efficiency		High wattage range

Save up to 25% energy with Infrared (IR)

For the same power input as a standard halogen lamp, the visible light increases by 36% while the IR drops by 5%. This means the HIR DEQ can provide the same light as a standard DEQ type with 25% energy saving.

GE IR DEQ lamps have multiple layers of very durable, thin, interference film which redirects heat, which would otherwise be wasted, back onto the lamp filament. This increases the filament temperature and allows it to give off more visible light for the same input power.



The benefits of IR are clear

- Save up to 25% energy compared to standard double-ended halogen
- 2,000 hours average life
- Environmentally friendlier - Reduces CO₂ emission



Wattage [W]	Volts [V]	Cap	Product Description	Product Code	Lumen [lm]	CCT [K]	Life [h]	Diameter [mm]	Length [mm]	EEC	Pack Qty
Double ended linear Halogen Energy Saver											
100	230	R7s	K12 C100W 230V R7S	76210	1900	2900	1,000	8	78	C	10
130	230	R7s	K11 C130W 230V R7S	76209	2440	2900	1,000	8	117.6	C	10
200	230	R7s	K9 C200W 230V R7S	76208	4000	3000	1,000	8	117.6	C	10
330	230	R7s	K1 C330W 230V R7S	76207	7400	3000	1,000	8	117.6	C	10
100	240	R7s	K12 C100W 240V R7S	76530	1900	2900	1,000	8	78	C	10
130	240	R7s	K11 C130W 240V R7S	76529	2440	2900	1,000	8	117.6	C	10
200	240	R7s	K9 C200W 240V R7S	76528	4000	3000	1,000	8	117.6	C	10
330	240	R7s	K1 C330W 240V R7S	76527	7400	3000	1,000	8	117.6	C	10
Double ended linear Halogen IR											
225	230	R7s	K9/Q225 T3/230V HIR	91515	5000	3100	2,000	10	117.6	C	10
375	230	R7s	K1/Q375 T3/230V HIR	31598	9400	3100	2,000	10	117.6	C	10
225	240	R7s	K9/Q225 T3/240V HIR	43299	5000	3100	2,000	10	117.6	C	10
375	240	R7s	K1/Q375 T3/240V HIR	31612	9400	3100	2,000	10	117.6	C	10
Double ended linear Halogen											
500	120	R7s	K1/Q500 T2.5/CL	29161	11000	3000	2,000	8	117.6	C	10
500	230	R7s	K1/Q500 T2.5/CL	29165	9800	3000	2,000	8	117.6	D	10
1000	230	R7s	K4/Q1000 T3/CL	29180	21000	3000	2,000	10	189.1	N/A	100
1500	230	R7s	K5/Q1500 T3/CL	29184	32000	3000	1,000	10	254.1	N/A	100
2000	230	R7s	K8/Q2000 T3/CL	30886	44000	3000	1,000	10	330.8	N/A	10
500	240	R7s	K1/Q500 T2.5/CL	29168	9800	3000	2,000	8	117.6	D	10
1000	240	R7s	K4/Q1000 T3/CL	29181	21000	3000	2,000	10	189.1	N/A	10
1500	240	R7s	K5/Q1500 T3/CL	23830	33000	3000	1,000	10	254.1	N/A	12
1500	240	R7s	K5/Q1500 T3/CL	29187	32000	3000	1,000	10	254.1	N/A	10
1500	277	R7s	K5/Q1500 T3/CL	23832	33000	3000	2,000	10	254.1	N/A	12



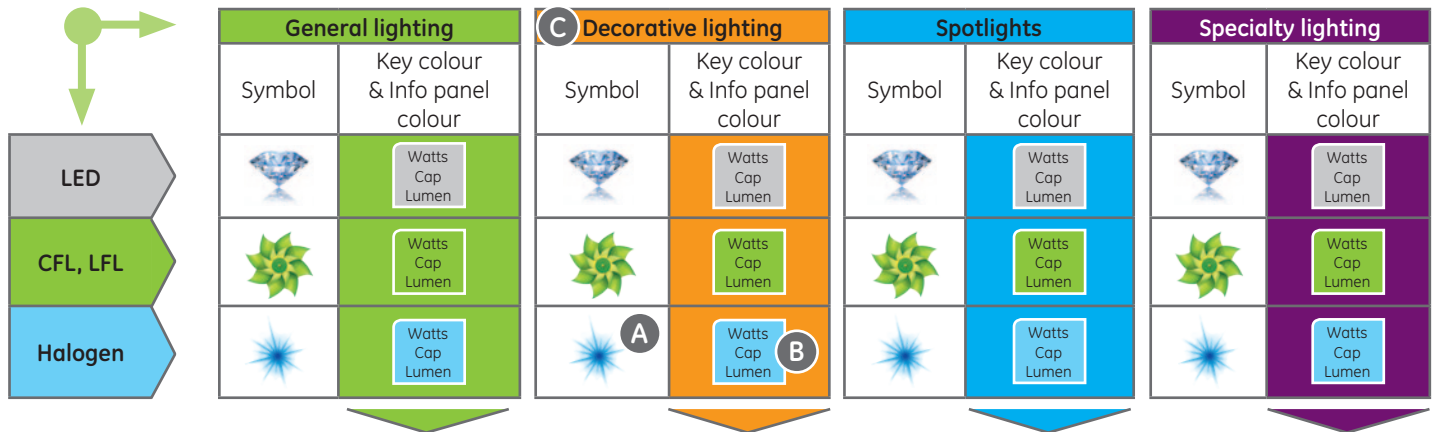
A guide to GE packaging

GE packaging is designed to be clear and simple for retailers and users, and to comply with regulations and guidelines.

A system of colour codes is used to identify each of the three light source types and also the application category - general, decorative

or spotlight. Additionally, a graphic symbol is used to identify each light source type. This packaging layout has been created to make identification easy for users and also to provide an opportunity for retailers to display the products in a segmented way.

How it works



Which halogen products?

Halogen product segmentation

Segment	Product List
Premium 	HaloGLS HaloCandle Halospherical Short G9 SEQ - 12V capsules
Standard (no symbol on standard range)	MR16 IR CC MR16 IR non-CC MR16 ConstantColor MR16 long life HaloReflector PAR 16,20,25,30 Coloured GU10 IR and 'C' Class DEQ MR11 MR16 dichroic MR16 aluminium AR111 GU10
	HaloTubulars

Applying the system

- A** Product symbol
- B** Vertical bar in application category colour (e.g. green for general or orange for decorative lighting)
- C** Product information box (background colour represents the product technology)
- D** Energy class



www.gelighting.com/eu

and General Electric are registered trademarks of the General Electric Company. ©2010

GE Lighting is constantly developing and improving its products. For this reason, all product descriptions in this brochure are intended as a general guide, and we may change specifications from time to time in the interest of product development, without prior notification or public announcement. All descriptions in this publication present only general particulars of the goods to which they refer and shall not form part of any contract. Data in this guide has been obtained in controlled experimental conditions. However, GE Lighting cannot accept any liability arising from the reliance on such data to the extent permitted by law.