

# RELIABLE PERFORMANCE FOR INNOVATIVE LIGHTING CONCEPTS.



New lighting systems for  
new vehicles call for a  
new generation of lamps.  
OSRAM provides them.

THERE IS LIGHT. AND THERE IS OSRAM.

**OSRAM**

# MORE AND MORE VEHICLES NOW COME WITH HIGH-PRECISION LIGHT AS STANDARD



Cars with individual characters need individual looks. And that means individual lighting. Traditional halogen lamps stifle this freedom of expression; they simply cannot meet the need for greater differentiation. This is why OSRAM has developed a new family of specialised high-precision halogen headlight lamps. Never before has the car industry had so much freedom to promote its modern design, safety and production concepts.

## **FOCUS ON LIGHT**

Complex-shape headlight systems are designed using sophisticated computer models. These headlights call for a new generation of high-precision lamps to focus the optimum amount of light on the road. OSRAM is working hand in hand with the automobile industry, improving our production facilities and developing new product concepts all the time. The latest is a new family of halogen headlight lamps. All the lamps in this family have bases that

ensure that the reference plane of the lamp is on the inside of the reflector. This is of enormous importance because drivers can now rely on the light shining exactly where it ought to shine.

## **FIRST CHOICE**

The fact that there are so many different classes of car and so many different models means that headlight lamps have so many different requirements to meet. Each headlight concept, from complex-shape solutions and D2 systems



with XENARC® to Advanced Forward Lighting Systems (AFS) with ride-dependent lighting, calls for a different optimum light source. The new family of specialised halogen lamps enables models in each class to be differentiated in terms of their forward lighting. And the path is now wide open for combinations that provide each model with the best possible lighting.

## OSRAM H7 A MODEL OF PRECISION

The H7 is the pioneer of the new lamp family from OSRAM. It is the very model of precision and has a balanced combination of properties, providing intense light but little heat, almost no UV transmission and offering long life even under heavy workloads.

The H7 is a hard-glass lamp which means that the number of components is reduced to a minimum, making it immune to vibration-related degradation. Its design also ensures that the filament is precisely aligned in the bulb.

The H7 offers excellent performance in conjunction with its reflector. A shining example for the rest of the H7 family.

*The all-rounder  
in the family.  
The H7 is precise,  
powerful  
and reliable.*

### H7

Type	12 V, 55W
Luminous flux lm	1,500
Luminance cd/cm <sup>2</sup>	3,000
T <sub>C</sub> life h	550
at 13.2 V	



# OSRAM H8, H9 AND H11: THE COMPACT REFERENCE CLASS

With the new H8, H9 and H11 halogen headlight lamps any headlight system can now be equipped with high-precision light. These lamps provide the same precision as the H7 lamp, meet the specific requirements of a variety of headlight concepts and offer significant benefits in terms of compactness and convenience because they have all been equipped with an innovative sealed base.

## PRECISION WITHOUT COMPROMISE

Conventional sealed-base lamps have one serious drawback. The alignment of the bulb in the reflector changes as soon as the plastic base expands with heat. The new sealed base developed by OSRAM features a combination of plastic and metal components to reduce the problem considerably. While the plastic provides a good external seal, three metal base lugs ensure that the light is in the correct position. The reference plane is exactly where it should be: on the inside of the reflector.

## DIRECT SPACE-SAVING CONTACT

H8, H9 and H11 lamps are connected to the car's electrical system by standardised quick-fit plug contacts located in the lamp base. There is therefore no need for the elaborate cabling or costly protection for the contacts that characterise many conventional lamps.

An integrated sealing ring seals the reflector unit and protects it against corrosion from splash water and other such environmental factors.

Since the bases of the H8, H9 and H11 lamps are angled to save space, car manufacturers have greater freedom than ever before with regard to the design and layout of the lighting systems.

## VERY EASY TO INSTALL

H8, H9 and H11 lamps can be installed very quickly indeed, either manually or automatically. They are simply inserted and rotated. The generously sized metal lugs hold the lamp firmly in their ideal position.





## OSRAM H8: A FRONT RUNNER IN ENERGY SAVING

The development of modern complex-shape headlight systems has brought with it an increase in headlight efficiency. Lower wattage lamps producing less luminous flux can now shine the same amount of light on the road as more powerful conventional headlight systems.

The OSRAM H8 is an ideal replacement for these conventional systems. With a nominal rating of 35 W it places only a very small load on the car's electrical system.

When you are developing your 3 litre models, this is the lamp you need. And it's also the obvious choice

for compact temperature-critical lights such as modern fog lights or multi-lamp dipped lights.

The energy-saving H8 lamp is the perfect partner for other types of lamp, such as gas discharge lamps, H9 lamps or H11 lamps, or as part of an Advanced Forward Lighting System.

*The H8 saves energy, works well even in confined spaces and is an ideal team player.*



### H8

Type	12 V, 35 W
Luminous flux lm	800
Luminance cd/cm <sup>2</sup>	2,200
T <sub>C</sub> life h	800
	at 13.2 V



## OSRAM H9: FAR-SIGHTED



*The H9 offers far more luminous flux and luminance than any other halogen incandescent lamp.*

### H9

Type	12 V, 65 W
Luminous flux lm	2,100
Luminance cd/cm <sup>2</sup>	3,300
T <sub>C</sub> life h	500
	at 13.2 V

If you need first-class full beam lighting, the OSRAM H9 cannot be beaten.

With a luminous flux of 2,100 lm and a luminance of 3,300 cd/cm<sup>2</sup>, the H9 closes the gap between XENARC<sup>®</sup> gas discharge lamps and halogen lamps.

As a full-beam lamp, it can be combined with XENARC<sup>®</sup> lamps or with any of the other new halogen incan-

descent lamps from OSRAM. It is also an ideal addition to systems with ride-dependent lighting, such as complex-shape systems with two H8 lamps, and makes a real contribution to road safety.



# OSRAM H11: THE ETERNAL LIGHT

Fit and forget. The new H11 from OSRAM has an impressive life expectancy of more than 2000 hours, which is many times more than that of most other halogen incandescent lamps.

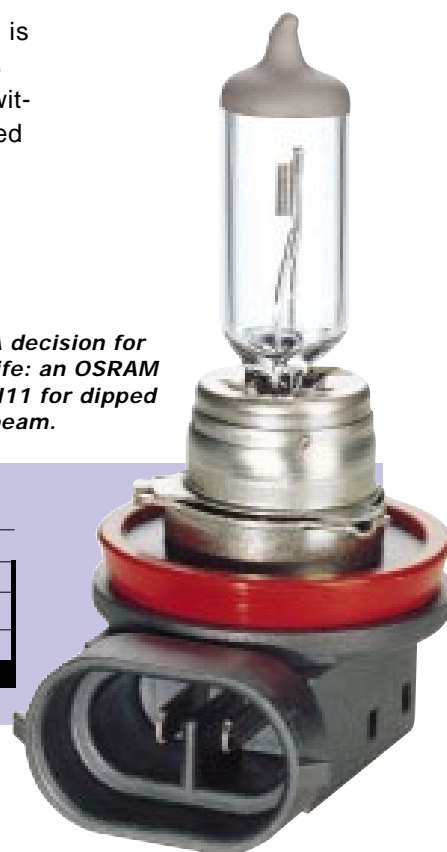
The H11 is suitable for all complex-shape lighting systems and can of course be used in combination with all other halogen lamps from OSRAM.

With its super long-life characteristics, the H11 is ideal for the light that is switched on first and switched off last – the dipped beam.

*A decision for life: an OSRAM H11 for dipped beam.*

## H11

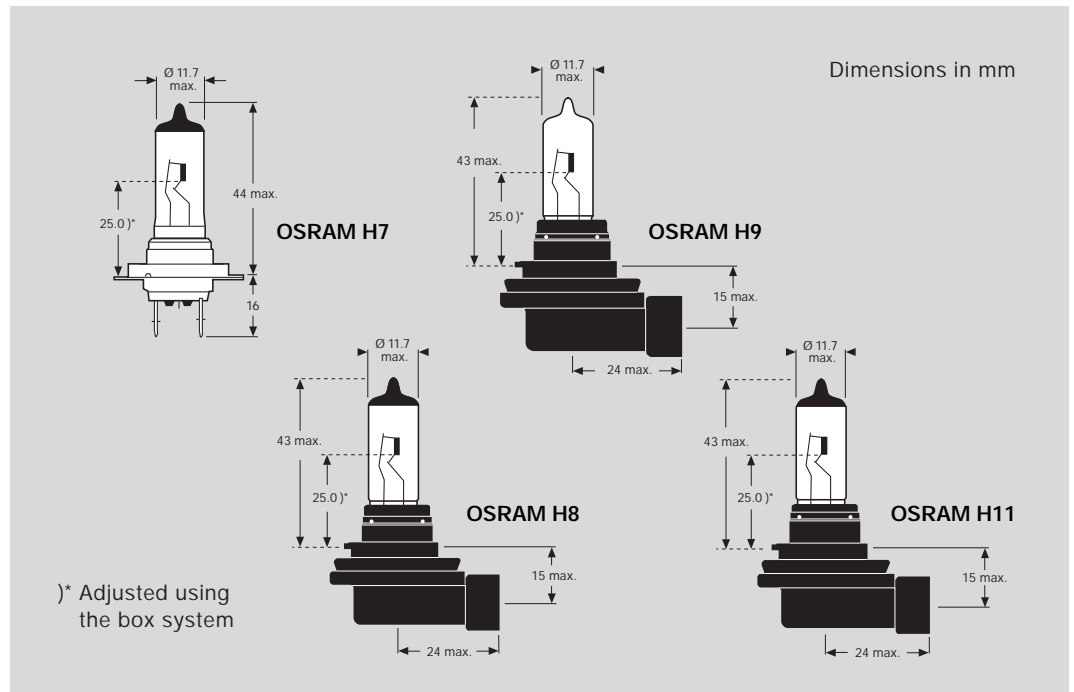
Type	12 V, 55 W
Luminous flux lm	1,350
Luminance cd/cm <sup>2</sup>	2,200
T <sub>c</sub> life h	2,000
	at 13.2 V



## Summary of possible headlight concepts

Dipped beam	Full beam	Dipped-beam concept
XENARC®	H7, H9, H1, 9005	XENARC® D2 systems
	H7, H8, H11	Complex-shape system
H8 + H8	H7, H9, H1, 9005	New complex-shape system with more than one dipped-beam lamp
H8 + H8 + H11... + H9 + XENARC®		Advanced Forward Lighting System: ride-depending lighting

## TECHNICAL DATA



### The OSRAM H7 family.

Lamp model	H7	H8	H9	H11
Type	12 V, 55 W	12 V, 35 W	12 V, 65 W	12 V, 55 W
Test voltage	13.2 V	13.2 V	13.2 V	13.2 V
Lamp reference	64210	64212	64213	64211
Base	PX26d	PGJ19-1	PGJ19-5	PGJ19-2
Luminous flux	1,500 lm	800 lm	2,100 lm	1,350 lm
Luminance	3,000 cd/cm <sup>2</sup>	2,200 cd/cm <sup>2</sup>	3,300 cd/cm <sup>2</sup>	2,200 cd/cm <sup>2</sup>
Luminous efficacy	26.8 lm/W	19.5 lm/W	30 lm/W	22.5 lm/W
Power draw	58 W max.	43 W max.	73 W max.	62 W max.
Lamp life B <sub>3</sub>	200 h	400 h	250 h	1,000 h
Lamp life T <sub>c</sub>	550 h	800 h	500 h	2,000 h
Lamp life B <sub>3</sub> at 14.0 V*	90 h	175 h	120 h	440 h
Lamp life T <sub>c</sub> at 14.0 V*	240 h	350 h	250 h	880 h
ECE approval	ECE-No. E1 23G	ECE-No. E1 24H	Expected in 1998	Expected in 1999

Use of hard glass virtually eliminates UV emission for all lamps.

Series production planned to start in 01/98. Technical data as of November 1997.

\*Values calculated