



Illegal Xenon retrofitting is dangerous and illegal

Vehicle certification loses validity, insurance protection is restricted - up to 100 times higher glare values

People who just buy a xenon headlamp set including cables, xenon light source and ballast, remove the halogen bulb from the headlamp, saw a hole in the cover cap, insert the xenon bulb in the reflector and connect the electronic ballast with the on-board power supply are endangering other road users through extreme glare and are breaking the law: the vehicle certification loses its validity and insurance protection is restricted. Only complete, type-approved xenon headlamp sets including an automatic headlamp levelling and lens cleaning system are legal.



This is why it is illegal to make a halogen headlamp into a xenon headlamp: In Europe only complete xenon headlamp systems may be retrofitted. They comprise a set of type-approved headlamps (with the E1 mark on the outer lens, for example), an automatic headlamp levelling device and lens cleaning equipment. Check local regulation regarding this.

Every headlamp is given its type approval together with the light source (halogen or xenon) it is operated with. If the light source is replaced by one which is neither type-approved nor designed for the type approval of the headlamp, this type approval becomes invalid, as, consequently, does the vehicle's certification. Driving without vehicle certification leads to restrictions of insurance. People who sell such non-type-approved lighting equipment must expect claims for damage from buyers. Because in passing on these parts, the



seller not only takes over the guarantee that they may only be used for the designed purpose but also, under some circumstances, damage risks to an unlimited amount.

High glare values:

From measurements made under laboratory conditions Hella specialists have found that the active beam pattern of a headlamp developed for halogen bulbs, but operated illegally with a xenon light source, no longer corresponds to the originally calculated values. In the case of reflection systems, glare values have been measured which exceed the permissible limiting values 100 times over. The headlamps of these vehicles no longer have a cut-off line and cannot be adjusted either. The glare values correspond to the those of driving lamps. This puts other road users in great danger.

On the other hand, retrofitting xenon headlamps is perfectly legal:

If they are supplied as complete sets like the ones from Hella (type-approved twin headlamps, headlamp levelling and lens cleaning system), now available for Audi A3, BMW 5-series, Ford Focus, Mercedes-Benz E-Class, Opel Astra, VW Golf IV and for the trucks Mercedes-Benz Actros, Scania BR4 and Fiat Ducato (from January 2003). These vehicles can then exploit the advantages of the extremely powerful xenon light:

- more than twice the output in comparison with halogen bulbs
- brighter and wider illumination of the road
- light quality similar to daylight (colour temperature of halogen light 3,200 Kelvin, xenon light 4,300 Kelvin, daylight in sunshine 5,300 Kelvin); which accommodates human seeing habits. Drivers do not tire as quickly and drive in a more relaxed way.





- Hazards at the edge of the road or obstacles in front of the vehicle are recognised more quickly, pedestrians and cyclists are more easily visible.
- Xenon light increases contrasts and coloured vision. Three-dimensional vision is improved in adverse weather conditions.