

**We wish to congratulate you on your investment in a high quality Silva headlamp. In order to give you ultimate satisfaction in the use of this headlamp, we would like you to carefully study following essential remarks:**

**This concerns all models:**

Do not expose the headlamp to knocks. Always make sure there is no damage to the cable. This might cause a short circuit and destroy the battery. NB! A short circuit can always cause a fire. Never attempt to pull the contacts apart between the head-set cable and the battery/battery cassette. This might damage the contacts and cause an open circuit or worse, a short circuit.

The switch is placed on the back of the reflector. When the switch is in the mid position, the lamp is off. When it's in the left position, the 10 Watt bulb is lit when the switch is in the right position the 20 Watt bulb is lit.

**EXCHANGE OF BULBS:** Remove reflector lens by pulling off the retaining ring. Remove lens and pull out the bulb, use tissue or cloth, bare fingers may damage the bulb. Change the bulb.

**General info concerning the headlamps 478, 480:**

These models are equipped with one 10- and one 20 Watt halogen bulb and are intended to be used in connection with rechargeable Nickel-Metal Hydride (NiMH) batteries.

A reduced strength of light and a shortened discharge time will be the result if you soil the halogen bulbs. Always use a piece of cloth or a piece of soft paper when changing the bulbs. Be careful when recharging the battery; follow the charging times specified on the charger.

One advantage with the NiMH batteries is that they shall not/do not have to be fully discharged before recharging. It can be recharge the same time percent wise as the lamp has been used. Example: if the headlamp has been used for half the specified discharge time (depending on battery and bulb) you should charge it approx. 50% of the specified charging time.

The switch positioned at the back of the reflector. Switch to centre for off, to the right 10 W bulb lit, to the left 20 W bulb lit.

Helmet attachment: 478 is perfect for attaching to all kinds of helmet. Remove the neoprene headset, apply 3-pieces female velcro strip on helmet and attach the reflector set.

**Discharge times, models 478, 480:**

Batt.capacity	Charg.time	6 Watt	10 Watt	20 Watt
9,0 Ah	see charger	9 h	5 h 20 min	2 h 40 min
4,5 Ah	see charger	4 h 20 min	2 h 40 min	1 h 20 min

NB! Discharge time as per above is approx. and can vary depending on the condition of the battery, temperature in the surroundings etc.

**Charging:**

Using an incorrect charger can damage the battery!

Important information regarding the handling and care of NiMH-batteries and chargers which are supplied together with SILVA headlamps.

- Charge according to manufacturer's recommendation. Do not over-charge!
- If the battery has been used for a short time and you want to be sure that you have maximum battery life next time, put the battery on charge. When the battery gets warm (maybe after 3-4 hours) the cells are fully charged and the charging could be stopped.
- Never discharge the NiMH batteries completely! It may harm the battery!
- A fully charged battery should read 1.25V/cell or greater.
- Batteries may be stored charged or discharged. Note! Remember that the battery will have a certain self-discharge over time. Always make sure that the battery is properly charged before using it after longer time storage.
- Batteries should be stored to prevent accidental short-cuts in the connector.
- Check the wires in the connector regularly - the pins should be fixed in the housing.

- Do not pull the cables when dismantling the connectors. Pull the connector itself.
- Check regularly that the wires are in good condition.
- Check that no wear has occurred on the plastic case that surrounds the battery.
- Even if the voltage is low on NiMH-batteries, the shorting current is high and can cause burns. Therefore regularly check the battery condition. Especially if it is exposed to rough treatment. All Silva-batteries have a built-in poly-switch, which automatically shall cut the power at a shortcut. Note that the battery can be damaged even if this safety component normally will prevent the battery from burns.

If you act on the advice given above, you will have a battery with a long life and no accidents will occur due to short circuits of the battery.



Silva 480



Silva 478



Battery vest



Charger



Battery carrier Comfort



**NiMH Battery 9,0 Ah**  
Size: 200 x 90 x 22 mm  
Weight: 760 g



**NiMH Battery 4,5 Ah**  
Size: 105 x 90 x 22 mm  
Weight: 390 g