SUMMARY OF WARNINGS & PROTECTIVE CONTROL MEASURES

CLASS	PROTECTIVE CONTROL MEASURES
1	No protective control measures for normal use (NB special precautions may be needed for service work on embedded laser products.)
1M	Prevent direct viewing with magnifying optics. (NB fitting external optics that decrease beam divergence may affect classification) + *see footnote*
2	Do not stare into beam. Do not direct the beam at other people or into public areas.
2M	Do not stare into beam Do not direct the beam at other people or into public areas. Terminate beam at end of useful path with a non-specular beam stop. Prevent direct viewing with magnifying optics. (NB fitting external optics that decrease beam divergence may affect classification) + *see footnote*
3R	Prevent direct eye exposure to the beam. Do not direct the beam at other people or into public areas. + *see footnote*
3B and 4	Class 3B and Class 4 laser products should not be used without first carrying out a risk assessment to determine the protective control measures necessary to ensure safe operation. Where reasonably practicable engineering means should be used reduce the laser class to a totally enclosed Class 1 laser product. The use of any Class 3B or Class 4 laser without an interlocked enclosure will require a written scheme of work. Even with an enclosure written procedures will be necessary if the user is involved in any alignment procedures that require over-riding of interlocks. Class 3B and Class 4 laser products require the control of access to the area where the laser is operated by the use of a remote interlock, the use of key control, emission indicators, beam shutters, removal of reflecting surfaces that could be struck by an errant beam, beam enclosures wherever practical, the use of eye protection and protective clothing as appropriate, training of staff and the appointment of a Laser Safety Officer.

+ Classes 1M, 2M and 3R may also require training of staff, care with beam paths and specular reflections - see BS EN 60825 -1 and PD IEC TR 60825-14:2004 for more details.

Special attention should also be given to other non-optical hazards such as risk of electric shock, hazardous chemicals, cryogenic liquids and flying debris from targets to name but a few. It is often the non-optical hazards that pose the greatest risk - one could be blinded in one eye from a powerful laser but electrocution could be fatal. Some non-optical hazards may be present with even Class 1 laser products.