

**Control Measures for the Four Laser Classes**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Control Measure** | **Classification** | | | | |
| Engineering Controls | **1** | **2** | **3a** | **3b** | **4** |
| Protective Housing (4.3.1) | **♦** | **♦** | **♦** | **♦** | **♦** |
| Without Protective Housing (4.3.1.1) | LSO shall establish Alternative Controls | | | | |
| Interlocks on Protective Housing (4.3.2) | **Δ** | **Δ** | **Δ** | **♦** | **♦** |
| Service Access Panel (4.3.3) | **Δ** | **Δ** | **Δ** | **♦** | **♦** |
| Key Control (4.3.4) | **-** | **-** | **-** | **•** | **♦** |
| Viewing Portals (4.3.5.1) | **-** | MPE | MPE | MPE | MPE |
| Collecting Optics (4.3.5.2) | MPE | MPE | MPE | MPE | MPE |
| Totally Open Beam Path (4.3.6.1) | **-** | **-** | **-** | **♦** **NHZ** | **♦** **NHZ** |
| Limited Open Beam Path (4.3.6.2) | **-** | **-** | **-** | **♦** **NHZ** | **♦** **NHZ** |
| Enclosed Beam Path (4.3.6.3) | None is required if 4.3.1 and 4.3.2 fulfilled | | | | |
| Remote Interlock Connector (4.3.7) | **-** | **-** | **-** | **•** | **♦** |
| Beam Stop or Attenuator (4.3.8) | **-** | **-** | **-** | **•** | **♦** |
| Activation Warning System (4.3.9.4) | **-** | **-** | **-** | **•** | **♦** |
| Emission Delay (4.3.9.1) | **-** | **-** | **-** | **-** | **♦** |
| Indoor Laser Controlled Area (4.3.10) | **-** | **-** | **-** | **♦** **NHZ** | **♦** **NHZ** |
| Class 3b Indoor Laser Controlled Area (4.3.10.1) | **-** | **-** | **-** | **♦** | **-** |
| Class 4 Laser Controlled Area (4.3.10.2) | **-** | **-** | **-** | **-** | **♦** |
| Laser Outdoor Controls (4.3.11) | **-** | **-** | **-** | **♦** **NHZ** | **♦** **NHZ** |
| Laser Navigable Airspace (4.3.11.2) | **-** | **-** | **•** | **•** | **•** |
| Temporary Laser Controlled Area (4.3.12) | **Δ** **MPE** | **Δ** **MPE** | **Δ** **MPE** | **-** | **-** |
| Remote Firing and Monitoring (4.3.13) | **-** | **-** | **-** | **-** | **•** |
| Labels (4.3.14 and 4.7) | **♦** | **♦** | **♦** | **♦** | **♦** |
| Area Posting (4.3.9) | **-** | **-** | **-** | **♦** **NHZ** | **♦** **NHZ** |

**♦- Shall**

**• - Should**

**- - No requirement**

**Δ - Shall if enclosed Class 3b or Class 4**

**MPE** - **Shall if MPE is exceeded**

**NHZ** - **Nominal Hazard Zone analysis required**

Updated on 12/02/2015