

Climate Conditions in Archive Rooms

It's difficult to set out optimal general climate values for archives, repositories, storage and exhibition rooms. Archived materials react in different ways. In addition, archived materials are often composed of several materials.

Light, climate and air purity are the most important factors that influence the storage life and stability of archived material.

In general, however, we can say the following: **The lower the temperature, the longer it takes archived materials to age.** At lower temperatures, all the chemical and biological processes involved in decomposition also become slower.

A **reduction in temperature** for objects that aren't chemically stable (e.g. photos, films etc.) to around 5°C leads to an approximate 50% slowdown of decomposition, which means that the **life span of the object approximately doubles.**

As a result, **photo and film material** should be stored as cool and dry as possible: below 16°C (ideally around 5°C) and with 30-40% air moisture.

Otherwise, the following **temperatures** can be applied to archive rooms:

In winter: 15° – 18°C

In summer: 20° – 22°C (never above 26°C)

Temperature fluctuations must be kept to a minimum (don't go higher or lower than the limit values for specific materials!).

The relative air humidity and temperature are directly related to each other. In general: **The dryer, the better.**

As soon as we exceed a relative moisture level of over 60%, the danger of mould formation increases greatly. For some materials however, when air is too dry (below 35% relative humidity) there is danger of brittleness and fragility.

Otherwise, the following values can be applied for **relative air humidity**:

In winter: 45% - 55%

In summer: 50% - 60%

Almost all archived materials are **sensitive to light**. Therefore, **no daylight** should enter the archive rooms because of the high levels of UV and infrared ray. An alternative: luminescent bulbs are economically effective and hardly produce any heat.

Air purity is an important factor in preserving your collections of archived materials. Many archives are located in large cities with poor air quality. There are many types of air filters that offer protection, but they only function in fully air conditioned spaces.