

Materials Sensitive to High Relative Humidity

Material	Result	Recommended Condition
metal	corrosion	40% RH or lower
paper	mold/stains	45-55% RH
textiles	mold/stains	45-55% RH
wood	fungal attack warping	50-55% RH stable/constant
painted wood	flaking paint	50-55% RH stable/constant
painted metal	corrosion flaking paint	40% RH or lower
inlay/veneer	detachment	50-55% RH stable/constant
finishes	mold/stains	55-55% RH stable
parchment/ivory	warping/mold	50-55% RH stable/constant
papier-mâché	mold/stains	45-55% RH stable
basket materials	mold	60-65% RH stable/constant
decoupage surfaces	detachment/mold	50-55% RH constant

Materials Sensitive to Low Relative Humidity

Material	Result	Recommended Condition
wood	checks/dries out	50-55% RH stable/constant
rawhide, leather skins	embrittlement	45-55% RH
parchment	shrinkage/ embrittlement	50-55% RH stable/constant
quill	embrittlement	45-55% RH constant
basket fibers	embrittlement	60-65% RH constant/stable
animal glue	dries out/weakens	50-55% RH constant/stable
tortoiseshell	cracks/warps	50-55% RH constant/stable
all ivory	splits/warps	50-55% RH constant/stable
inlaid surfaces	detachment/warps	50-55% RH constant/stable

Materials Commonly Damaged by Insects and Rodents

leather, skins	wool	wood	gelatin
pelts, furs	velvet	paper	egg tempera
feathers	other textiles	starch adhesives	
silk	natural fibers	animal size	

Recommendations for Light and Temperature

Material	Result	Recommended Condition
paper	embrittlement darkening	5 footcandles 65° F (18° C)
paint media	crosslinking darkening	5 footcandles 65° F (18° C)
animal glue	hardening/drying	5 footcandles 65° F (18° C)
fur, feathers, hair	embrittlement/fading	5 footcandles 65° F (18° C)
skins, leather	embrittlement/fading	5 footcandles 65° F (18° C)
pigments, dyes	fading	5 footcandles 65° F (18° C)
silk, velvet	structural damages fading	5 footcandles 65° F (18° C)
lacquered surfaces	develops haze/fading	5 footcandles 65° F (18° C)
painted surfaces	fading	5 footcandles 65° F (18° C)
dyed materials	fading	5 footcandles 65° F (18° C)
celluloid	yellowing/embrittlement	5 footcandles 65° F (18° C)
rubber	deterioration crumbles	5 footcandles 65° F (18° C)
natural fibers	embrittlement/fading	5 footcandles 65° F (18° C)
horn, bone, antler	embrittlement	15 footcandles 65° F (18° C)
wood	fading	5 footcandles 65° F (18° C)
wood finishes	cracks/hazing	5 footcandles 65° F (18° C)

Reactive Materials

Material Combination	Conservation Problem
wood/wood	dimensional changes, stress, breaks
wood/paper	paper becomes brittle, dark, stained
wood/textile	textiles become stained, brittle
wood/metal	metal corrodes in contact with wood
wood/natural fibers	fibers become weak, break
wood/paint	wood expands and contracts, paint flakes
metal/metal	possible electrochemical corrosion
metal/cloth	metal corrodes, cloth becomes stained
metal/paper	metal corrodes, paper becomes stained
metal/paint	metal corrodes, paint flakes
metal/leather	tannins in leather can corrode leather
metal/plaster	alkaline materials corrode metals
metals/animal glue	glue slightly acidic, hydroscopic, can corrode certain metals