

## FACTORS AFFECTING DETERIORATION OF MATERIALS AND COMPONENTS IN STRUCTURES

MAB1033 Structural Assessment & Repair

Faculty of Civil Engineering, Universiti Teknologi Malaysia

CATEGORY	TYPES	SUB-TYPES
Weathering Factors	Radiation	Solar
		Nuclear
		Thermal
	Temperature	Elevated
		Depressed
		Cycles
	Water	Solid (e.g. ice, snow)
		Liquid (e.g. rain, condensation)
		Vapour (e.g. high humidity)
	Air Constituents	Oxygen and ozone
Carbon Dioxide		
Air Contaminants	Gases (oxides of nitrogen, sulphur)	
	Mists (aerosols, salts, acids, alkalis)	
	Particulates (sand, dust, dirt)	
Freeze-Thaw	- Not Relevant -	
Wind		
Biological Factors	Micro-organisms	
	Fungi	
	Bacteria	
Stress Factors	Sustained stress	
	Periodic stress	
	Random stress	Physical action of water (rain, hail)
		Physical action of wind
		Combined physical action water/wind
Movement due to other factors (settlement, vehicles etc.)		
Incompatibility Factors	Chemical	
	Physical	
Use Factors	Design of system	
	Installation and maintenance procedurs	
	Normal wear & tear	
	Abuse by the user	