

Construction Classification

	IA	IB	IIA	IIB	IIIA	IIIB	IV	VA	VB
ISO 6									
ISO 5									
ISO 4									
ISO 3									
ISO 2									
ISO 1									

Construction Class Name

- Fire Resistive (ISO Class 6, IBC Type IA)
- Modified Fire Resistive (ISO Class 5, IBC Type IB)
- Masonry Noncombustible (ISO Class 4, IBC Type IIA)
- Light Noncombustible (ISO Class 3, IBC Type IIB)
- Joisted Masonry (ISO Class 2, IBC Type IIIA, IIIB, & IV)
- Frame Construction (ISO Class 1, IBC Type VA & VB)

Hourly Fire-Resistance Ratings

- I-A: 3 hours
- I-B: 2 hours
- II-A: 1 hour
- II-B: no hourly rating required

- TYPE IA (ISO 6):** The main structural elements are noncombustible. Examples of these materials would be masonry and concrete. Basically, all concrete construction.
- TYPE IB (ISO 5):** The main structural elements are noncombustible. Examples of these materials are heavy steel with spray-on insulation or enclosed in double layers of sheetrock. Basically, protected steel construction.
- TYPE IIA (ISO 4):** The main structural elements of the walls are masonry or concrete. The roof support is unprotected metal beams or bar joists.
- TYPE IIB (ISO 3):** The main structural elements of the walls and roof are unprotected steel. These are light-weight metal buildings like "Butler Buildings" and Quonset Huts.
Caution - if metal siding is affixed to wood members, construction is TYPE VB.
- TYPE IIIA (ISO 2):** A combination of building construction comprised of exterior walls of masonry or concrete and roof/floors of combustible material that has been treated to have at least a 1-hr fire resistance rating.
- TYPE IIIB (ISO 2):** Same as TYPE IIIA, except that the roof/floors of combustible materials have no fire resistance rating. This is the most common of ISO 2 construction where the underside of the roof is seen with wood construction but the walls are masonry or concrete.
- TYPE IV (ISO 2):** Known as heavy timber or mill construction in which the exterior walls are of noncombustible materials. Interior building elements utilize wood structural members and heavy wood decking. Building elements do not contain concealed spaces and contain systems that prevent a fire from the exterior into unprotected openings.
- TYPE VA (ISO 1):** A wood-framed building. Protected construction having all major building elements with at least a 1-hour fire-resistance rating.
Exception: non-load bearing interior walls and partitions having no rating.
- TYPE VB (ISO 1):** A wood-framed building having no fire-resistance ratings. This is the most commonly seen ISO 1 construction.

Occupancy Classification

Assembly Group A: uses intended for the gathering together of persons for the purposes such as civic, social or religious functions, recreation, food or drink consumption or awaiting transportation. A room of less than 50 persons used for assembly but is accessory to a different occupancy shall be considered that different occupancy. Assembly area less than 750 s.f. which is accessory to a different occupancy is not considered assembly. Assembly rooms which are accessory to Group E are not considered as Group A. Religious educational rooms and auditoriums with occupant loads less than 100 persons which are accessory to churches are considered A-3. Group A is divided into five sub groups, **A-1** usually with fixed seating, intended for production and viewing of the performing arts or motion pictures, **A-2** uses intended for food and/or drink consumption, **A-3** uses intended for worship, recreation or amusement and other assembly uses not otherwise classified, **A-4** uses intended for viewing of indoor sporting events and activities with spectator seating, **A-5** uses intended for participation in or viewing outdoor activities

Business Group B: Assembly occupancies less than 50 persons and/or uses intended for office, college classrooms, professional or service- type transactions, including storage of records and accounts.

Educational Group E: uses intended by 6 or more persons at any one time for educational purposes through the 12th grade. Daycare uses for educational, supervision or personal care services for more than 5 children older than 2 1/2yrs

Factory Industrial Group F: uses intended for assembling, disassembling, fabricating, finishing, manufacturing, packaging, repair or processing operations that are not classified Group H hazardous or Group S storage. Group is divided into two sub groups, **F-1 Moderate Hazard** and **F-2 Low Hazard**

High-Hazard Group H: uses intended for manufacturing, processing, generation or storage of materials that constitute a physical or health hazard in quantities in excess of those allowed by code. Group H is divided into five sub groups, **H-1** detonation hazard, **H-2** accelerated burning, **H-3** materials that readily support combustion or pose a physical hazard, **H-4** materials are health hazards, **H-5** semiconductor fabrication facilities and comparable R&D areas which HPM's are used.

Institutional Group I: uses intended in which people are cared for or live in a supervised environment, having physical limitations because of health or age are harbored for medical treatment or other care or treatment or in which the liberty of the occupants is restricted. Group I is divided into four sub groups, **I-1** houses more than 16 persons, on a 24 hour basis, who because of age, mental disability or other reasons, live in a supervised residential environment that provides personal care services. The occupants are capable of responding to an emergency situation without physical assistance from staff, **I-2** used for medical, surgical, psychiatric, nursing or custodial care on a 24 hr basis of more than five persons who are not capable of self-preservation. Less than five people shall be considered an R-3, **I-3** is inhabited by more than five persons who are under restraint or security and is occupied by persons who are generally incapable of self-preservation due to security measures not under the occupant's control.

Mercantile Group M: uses intended for the display and sale of merchandise, and involve stocks of goods, wares or merchandise incidental to such purposes and accessible to the public.

Residential Group R: uses intended for sleeping purposes. Group R is divided into four sub groups, **R-1** occupants are transient in nature, **R-2** occupancies containing sleeping units or more than two dwelling units where the occupants are more permanent in nature, **R-3** one and two family dwelling, or adult and child care facilities that provide accommodation for five or fewer persons of any age for less than 24 hrs, **R-4** are intended for occupancy as residential care/assisted living facilities including more than five but not more than sixteen occupants, excluding staff.

Storage Group S: uses intended for storage that is not classified as a hazardous occupancy. Group S is divided into two sub groups, **S-1 Moderate-Hazard storage** and **S-2 Low-Hazard storage**

Utility and Miscellaneous Group U: uses intended for structures of an accessory character and not classified in any specific occupancy.