General and Technical Information

Definitions

Safe Working Load — The maximum working load that should be applied to any forming product.

Ultimate Load — The load at which a product fails or will no longer support or carry a load.

Safety Factor — The theoretical reserve capability defined by dividing the ultimate load of the product by its safe working load. This is expressed as a ratio, such as 2:1 or 2 to 1 (ultimate to safe working load).

Concrete Form Pressure — The lateral pressure applied per square foot of form contact.

Slab Formwork Dead Load — The weight of fresh concrete and reinforcement bars plus the weight of the formwork.

Slab Formwork Live Load — Any additional loads imposed during the construction process, such as materials, workmen, equipment, including lateral forces.

Slab Formwork Design Load — Dead load plus live load per square foot of contact.

Formwork Impact Load — Loads caused by dumping concrete or the starting/stopping of construction related equipment.

Safety Notes and Product Application

Dayton Superior ensures that all products meet or exceed appropriate safety requirements. However, the performance of a product can be greatly affected by the manner in which it is used. It is imperative that the user properly installs and uses the products displayed in this publication.

Production runs are constantly tested to assure a high standard of quality. Safe working loads listed in this publication were determined from independent testing and results of the Company quality assurance/quality control program.

Safety factors may be dependent on the application of a particular product. Job site conditions can often affect the safety factor of a product. Concentrated loads, such as, unsymmetrical loading, uplift, impact and lateral forces are examples of job site conditions that may affect the safety factor. The user must adjust safety factors accordingly to accommodate these various conditions.

Dayton Superior publishes the minimum safe working loads and the associated safety factors of its products and strongly advises that the minimum safety factors displayed in the table below not be compromised. When there are unusual job conditions such as mentioned above, the minimum safety factors must be increased by the user. Refer to the provisions of the American National Standards Institute (ANSI A 10.9), the Occupational Safety and Health Administration (OSHA) Act, Part 1910 and the American Concrete Institute (ACI) Recommended Practice for Concrete Formwork (ACI 347-94) when considering product safety factors.

Minimum Safety Factors of Formwork Accessories

Accessory	Safety Factor	Type of Construction
Form Tie	2.0 to 1	All applications.
Form Anchor	2.0 to 1	Formwork supporting form weight and concrete pressures only.
Form Anchor	3.0 to 1	Formwork supporting form weight, concrete, construction live loads and impact.
Form Hangers	2.0 to 1	All applications.
Anchoring Inserts (Used as Form Ties)	2.0 to 1	Precast concrete panels when used as formwork.

Dayton Superior Technical Services

Dayton Superior maintains three strategically located technical departments that are well staffed with trained personnel to service inquiries concerning Dayton Superior products and/or methods.