



USG  Structural Panel

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USG STRUCTURAL PANEL CONCRETE SUBFLOOR

FIELD INSTALLATION GUIDE

USG STRUCTURAL PANEL CONCRETE SUBFLOOR

CONTACT INFORMATION

PRODUCT INFORMATION

See usg.com for the most up-to-date product information.

CUSTOMER SERVICE

800 621-9523

TECHNICAL SERVICE

800 USG.4YOU (874-4968)

SAMPLES, LITERATURE AND PRODUCT INFORMATION

usg.com/structural

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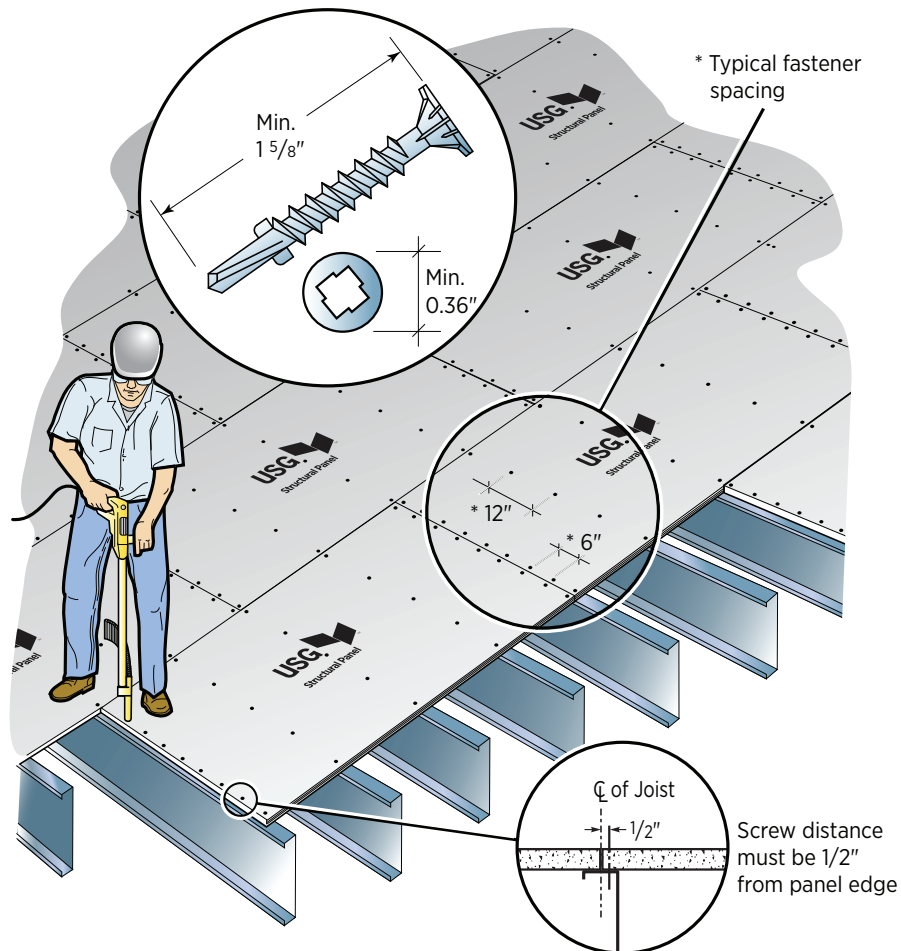
312 436-4260

usgstructural@usg.com

USG STRUCTURAL PANEL CONCRETE SUBFLOOR PANEL FASTENING

- Proper fall restraint equipment required
- Use only #8 screw with 1-5/8" (41 mm) joist flange
- Apply screws with a stand-up gun to reduce fatigue
- Follow fastening schedule in contract documents

Note: *Fastener schedule is to be specified by designer of record.



USG recommends the following screws for fastening of USG Structural Panels:

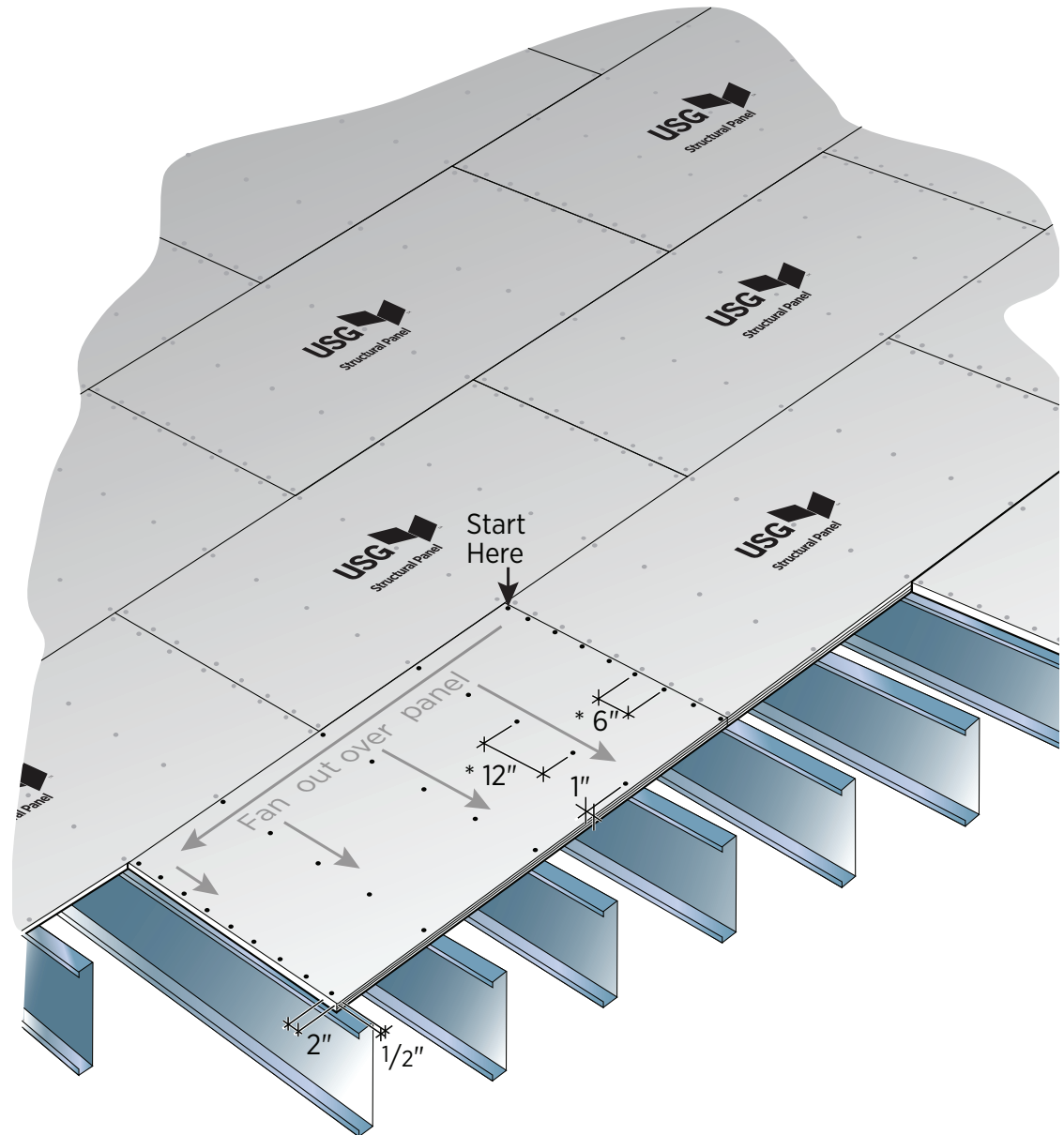
Manufacturer	16ga Cold-Formed Steel (1/2" (13 mm) Min. Edge Distance)		SPF Lumber (5/8" (16 mm) Min. Edge Distance)		1/4" (6.5 mm) A36 Hot Rolled Steel (3/4" (19 mm) Min. Edge Distance)	
	Part #	Fastener Pull-Through ¹	Part #	Fastener Pull-Through ¹	Part #	Fastener Pull-Through ¹
Grabber Construction Products, Inc.	CGH8158LG	581 lbs. (264 kg)	C8200L2M	581 lbs. (264 kg)	—	—
Simpson Strong-Tie Company Inc.	CBSDQ158S	581 lbs. (264 kg)	WSNTLG2S	581 lbs. (264 kg)	TBG1260S	581 lbs. (264 kg)

Note: 1. Fastener pull-through capacities are based upon the minimum average **ultimate tested capacity** for all tabulated fasteners. The engineer or designer of record shall apply an appropriate safety factor (ASD) or resistance factor (LRFD).

General Notes: In accordance with **PER-13067**, the minimum screw pattern is 6 inches (153 mm) o.c. along the perimeter of the panels and 12 inches (305 mm) o.c. in the field of the panels. Do not use a larger size screw unless specifically specified by the structural engineer. **A qualified architect or engineer should review and approve calculations, framing and fastener spacing for all projects.**

USG STRUCTURAL PANEL CONCRETE SUBFLOOR FASTENING THE PANEL

Note: *Fastener schedule is to be specified by designer of record.



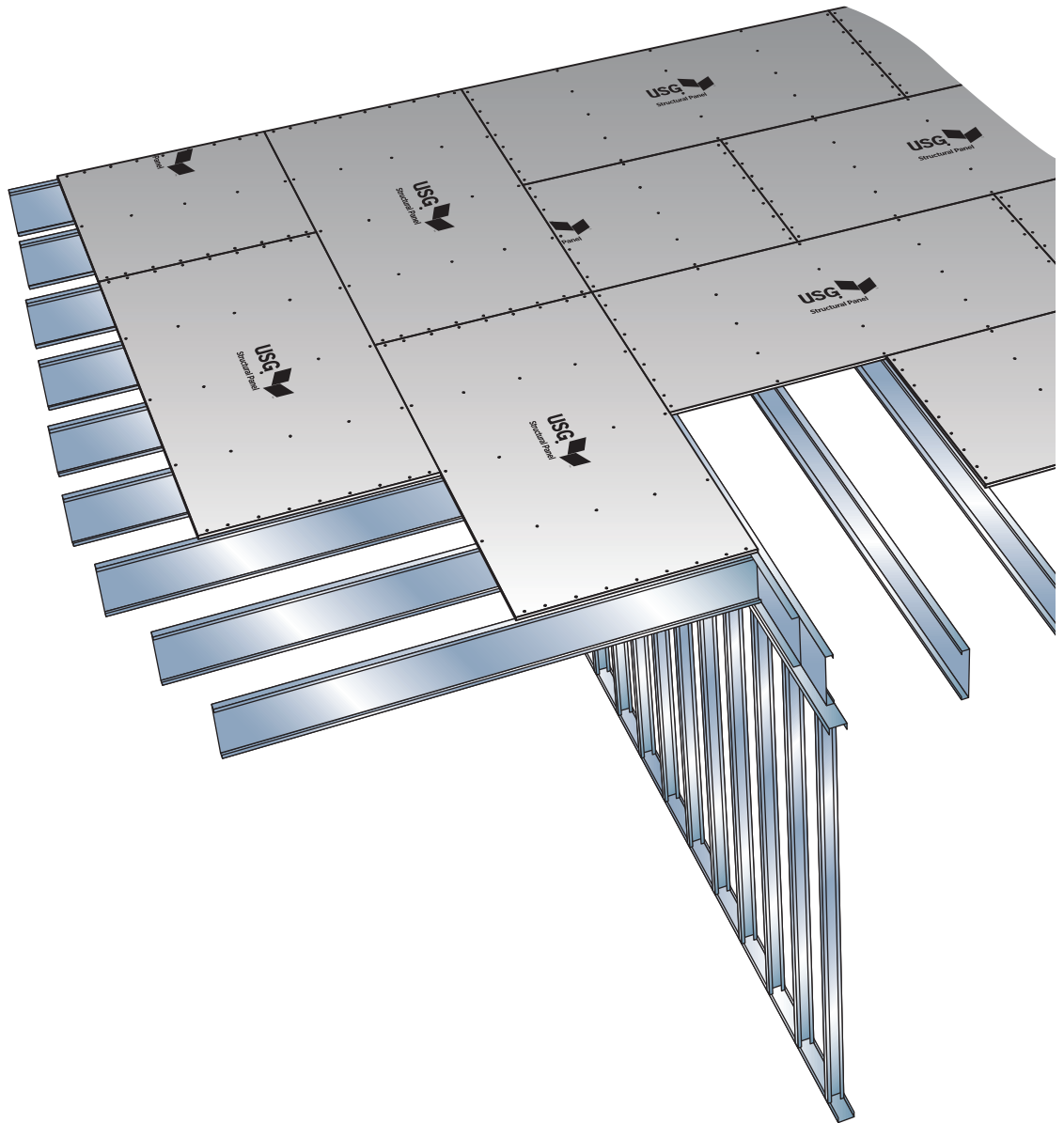
When connecting the tongue and groove, the tongue from the loose panel should be engaged into the groove of the already affixed panel.

To ensure proper panel application, be sure to:

1. Lay board down
2. Engage tongue and groove (T & G)
3. Fasten one corner
4. Fan out over the panel

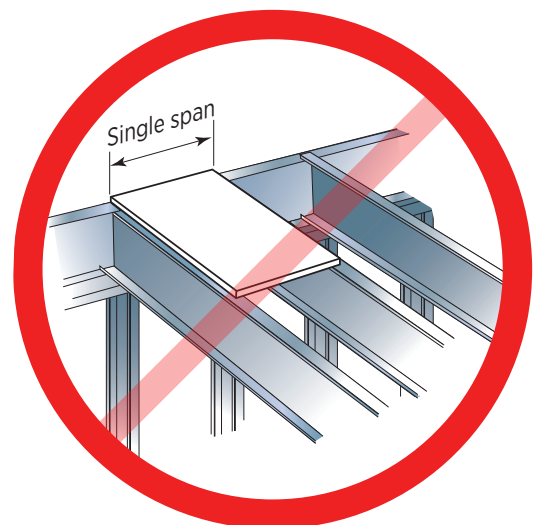
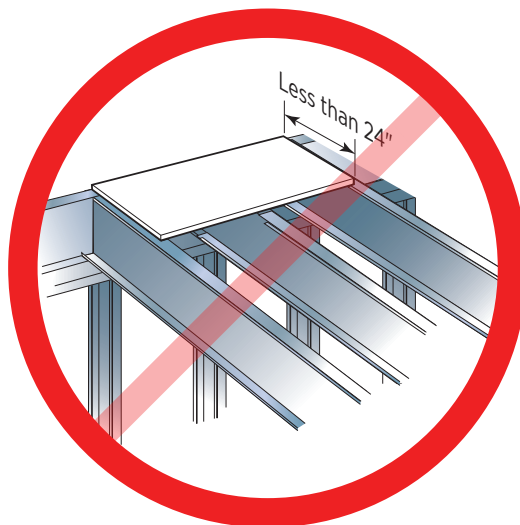
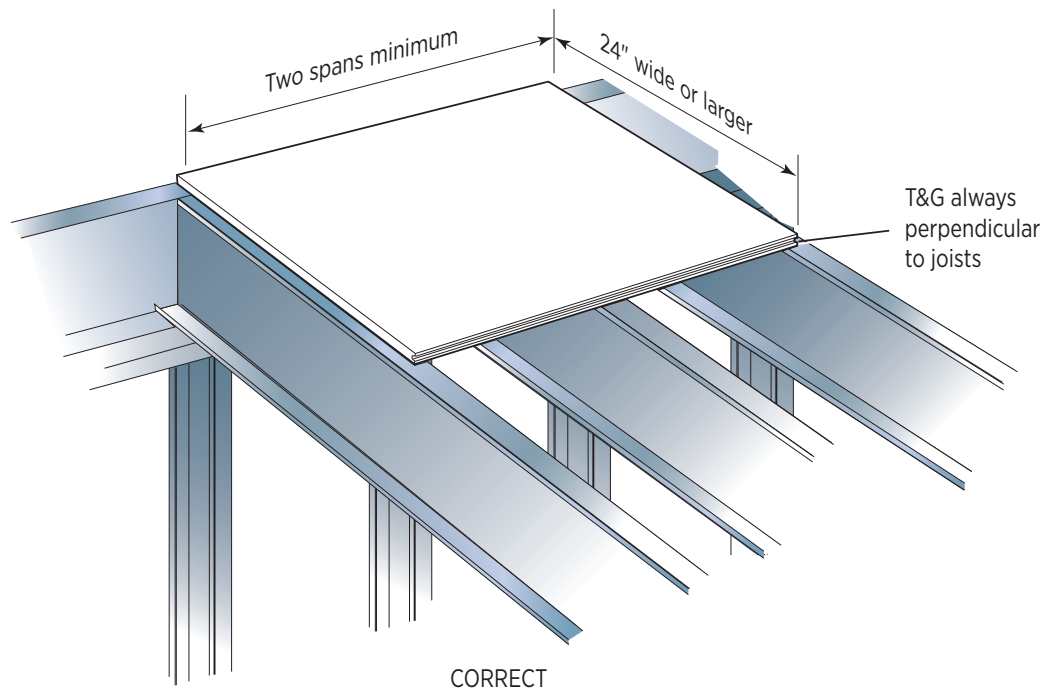
USG STRUCTURAL PANEL CONCRETE SUBFLOOR FRAMING DIRECTION CHANGE

- Always lay panels perpendicular to supporting joists.



USG STRUCTURAL PANEL CONCRETE SUBFLOOR

PANEL LAYOUT: TWO-SPAN CONDITION



See Panel Blocking—Page 6

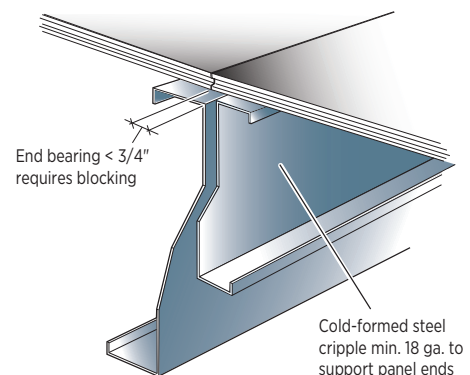
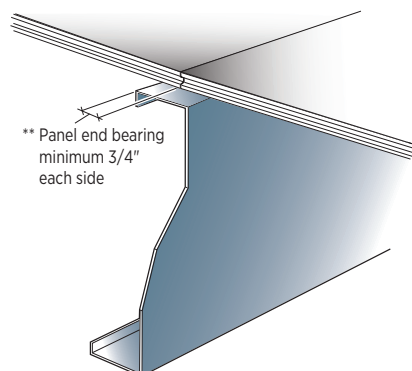
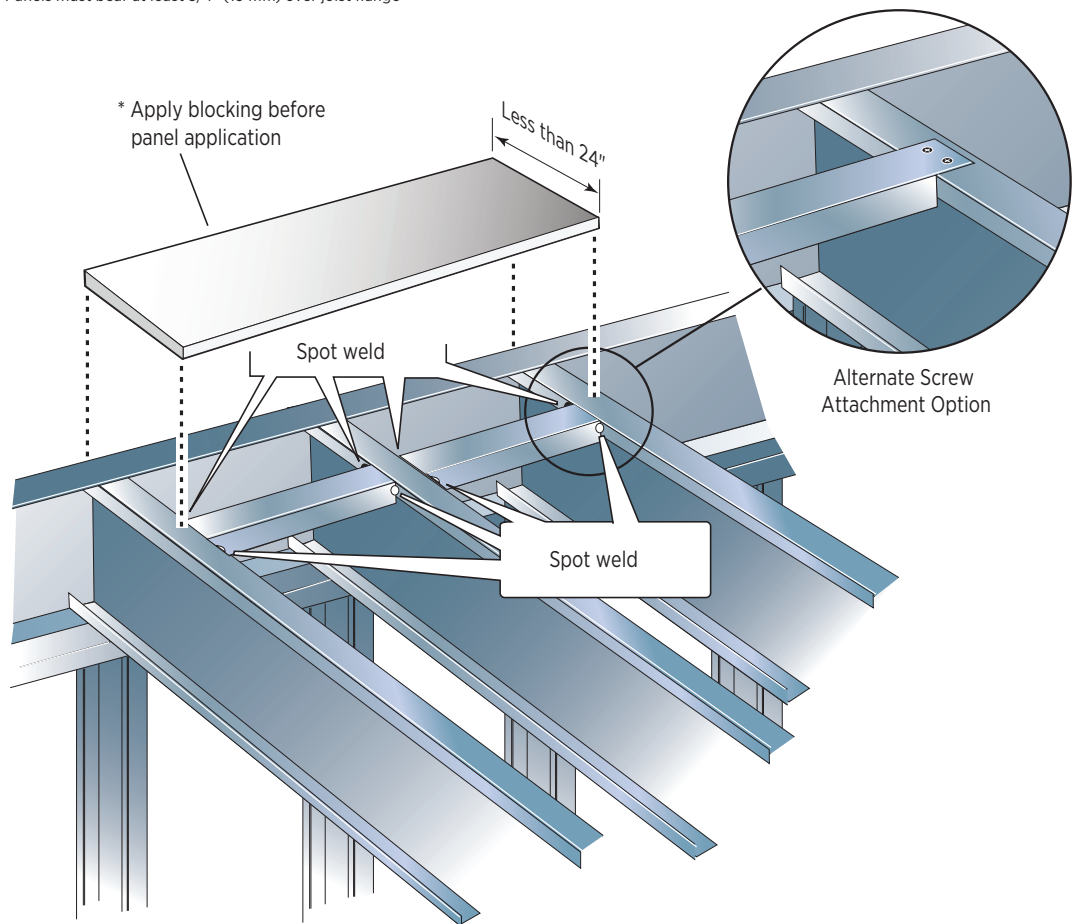
USG STRUCTURAL PANEL CONCRETE SUBFLOOR PANEL BLOCKING

- Block edges that are less than 24" (610 mm) wide
- Field welding to cold-formed framing members must be performed by certified welder and approved by structural engineer of record

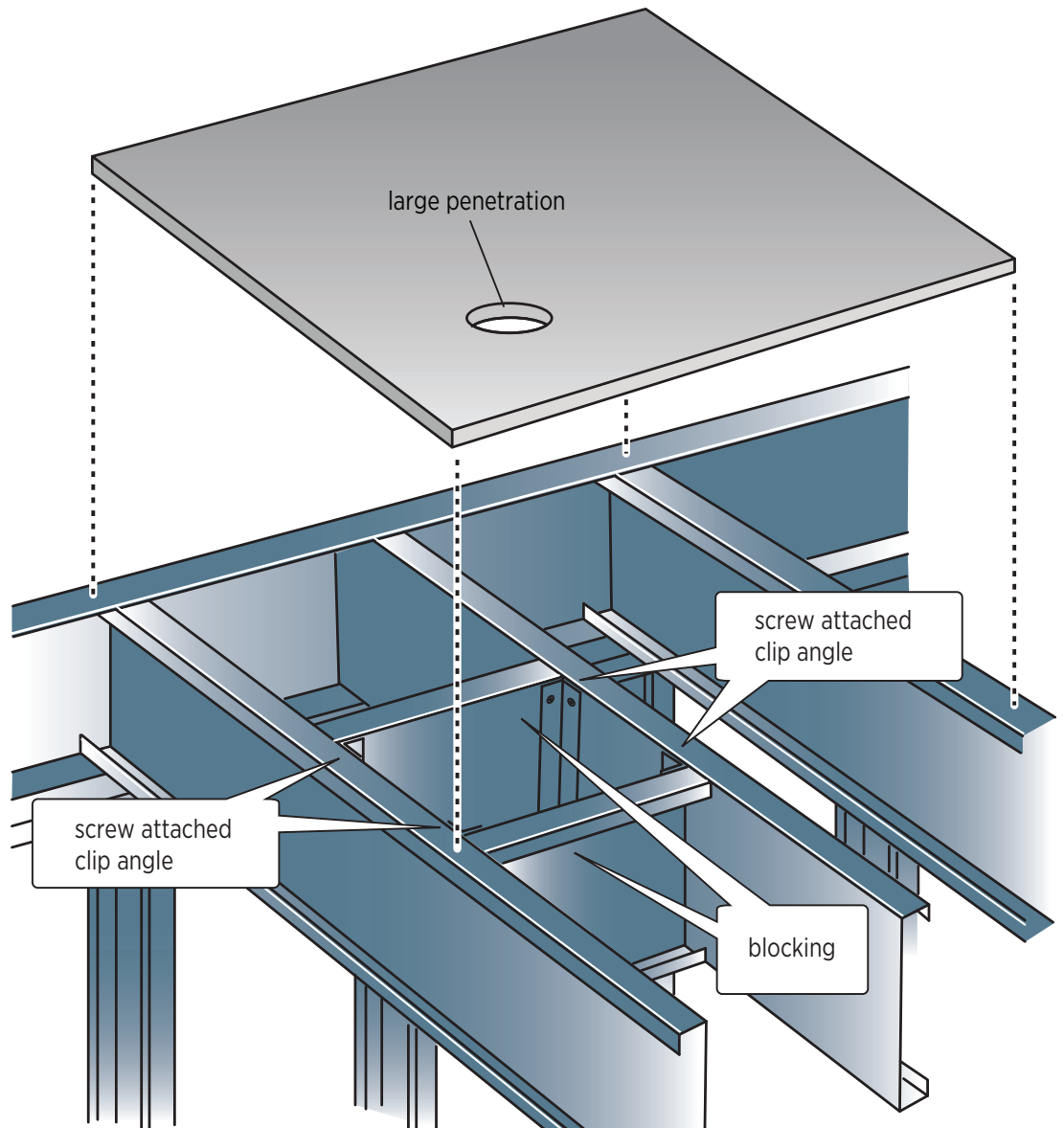
Note:

*Panel Blocking must be specified by designer of record.

**Panels must bear at least 3/4" (19 mm) over joist flange



USG STRUCTURAL PANEL CONCRETE SUBFLOOR PANEL PENETRATION



Unreinforced Penetrations

- Unreinforced penetrations are limited to a maximum dimension of 6" (153 mm) and do not require supplemental framing or engineer analysis.
- Unreinforced penetrations are generally small openings through decks to accommodate lightly loaded plumbing/electrical runs.

Reinforced Penetrations

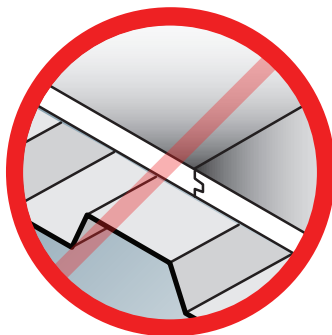
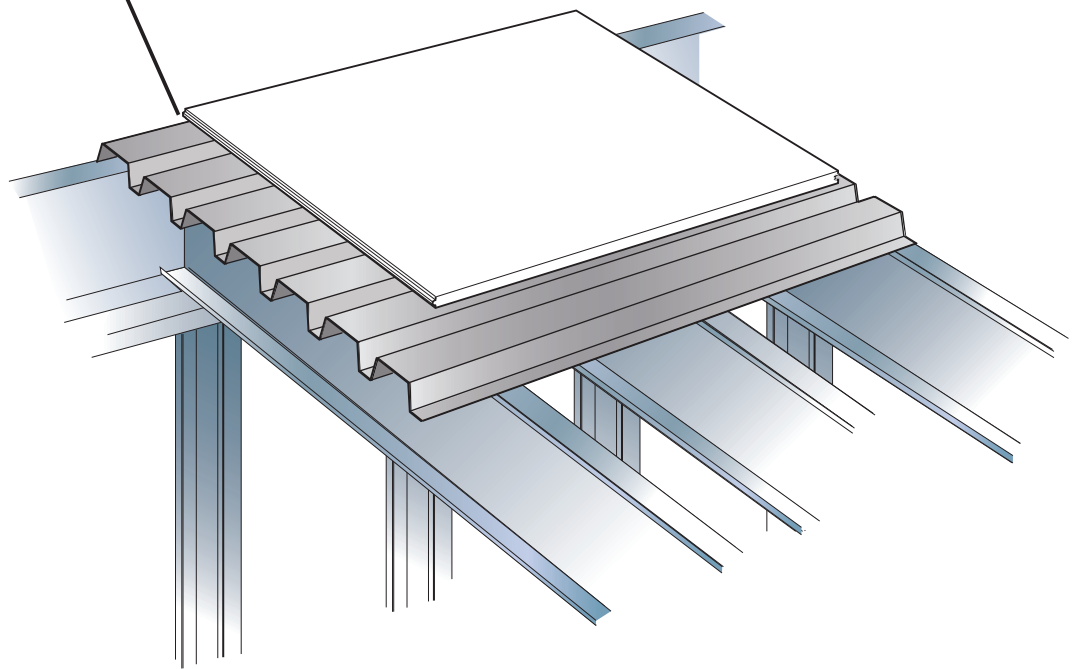
- An opening with a dimension greater than 6" (153 mm) requires reinforcement at the perimeter of the opening.
- The framing at reinforced penetrations, as a minimum, must have an equal profile and capacity as the adjacent primary framing (joists) members.
- The maximum penetration dimension is not limited to a single opening, but also includes group effect of multiple, closely spaced openings.

USG STRUCTURAL PANEL CONCRETE SUBFLOOR

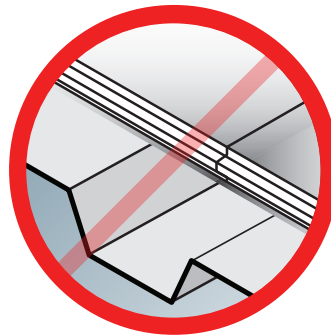
PANEL LAYOUT: OVER FLUTED DECK

- The concrete subfloor on fluted deck is always considered an underlayment
- The concrete subfloor is not considered a structural component
- There is no composite action between fluted deck and the concrete subfloor

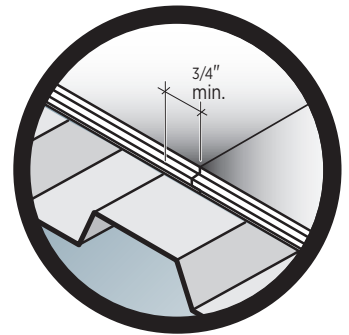
T&G always perpendicular to flutes



INCORRECT



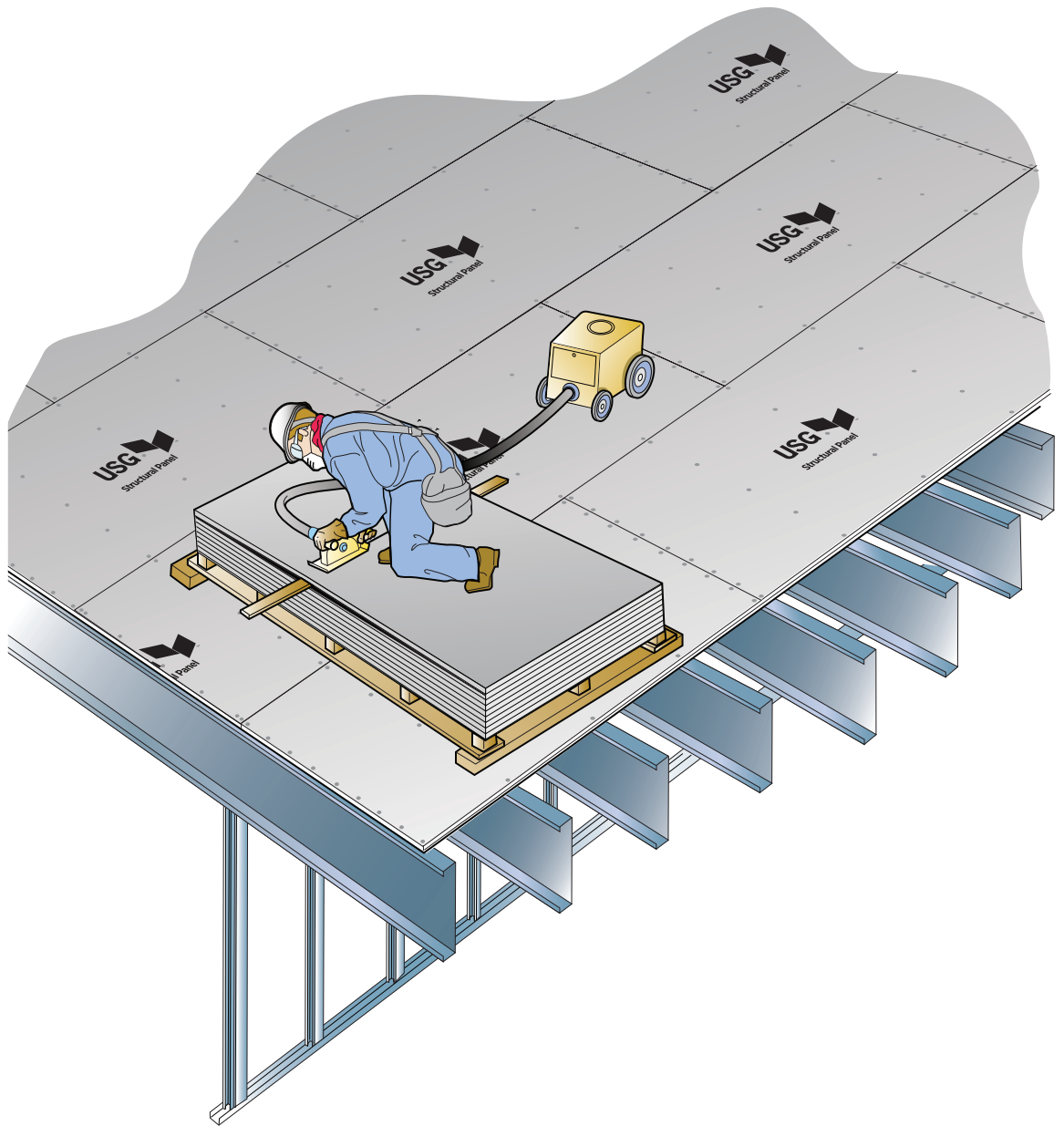
INCORRECT



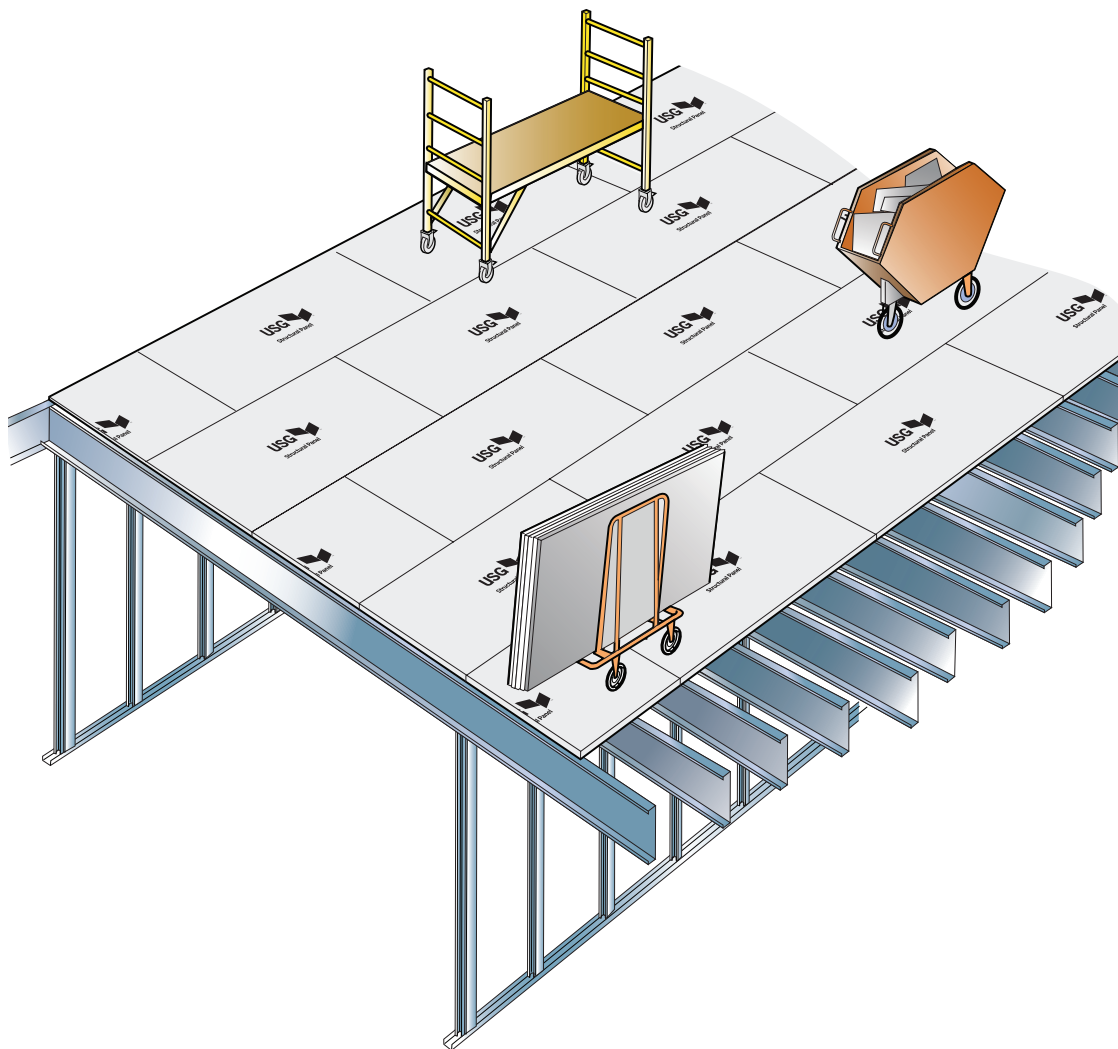
CORRECT

USG STRUCTURAL PANEL CONCRETE SUBFLOOR PANEL CUTTING

- Use a dust vacuum
- Wear appropriate respiratory protection
- Wear safety glasses
- Wear gloves
- Proper fall restraint equipment required
- Review the Safety Data Sheet (SDS) for use of proper Personal Protective Equipment (PPE).



USG STRUCTURAL PANEL CONCRETE SUBFLOOR EQUIPMENT LOADING

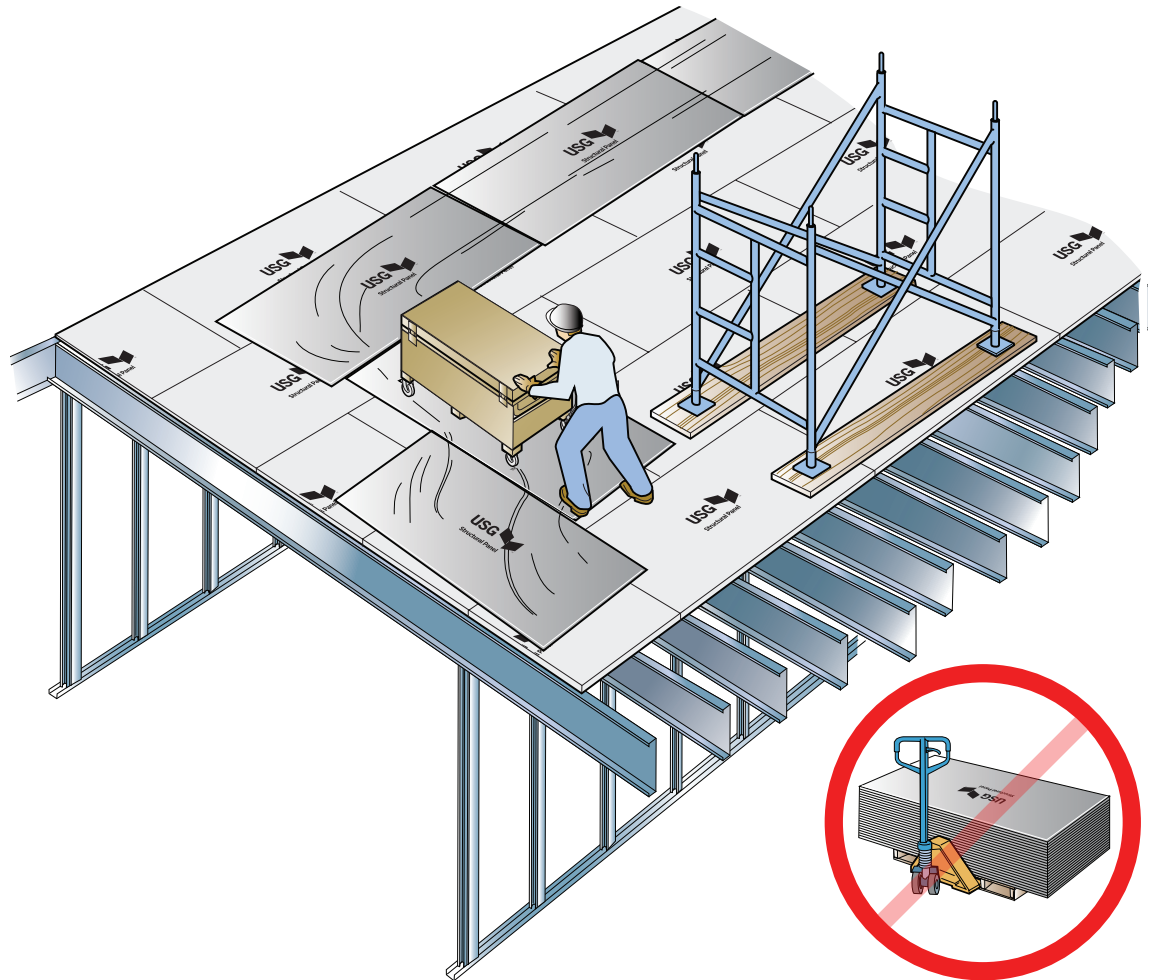


Typical Construction Equipment*	
Drywall Carts	10 Sheets of 5/8" x 4' x 12' (16 mm x 1220 mm x 3660 mm) Gypsum Panels max. 1,200 lbs. (544 kg)
	7 Sheets of 3/4" x 4' x 8' (19 mm x 1220 mm x 2440 mm) USG Structural Panels max. 1,200 lbs. (544 kg)
Rolling Trash Carts	1,000 lbs. max. (453 kg)
Rolling Scaffolds	750 lbs. max. (340 kg)

Note: Secure the cart. *Loads applicable to 24" (610 mm) o.c. maximum framing spacing.

See Panel Protection—Page 11

USG STRUCTURAL PANEL CONCRETE SUBFLOOR PANEL PROTECTION

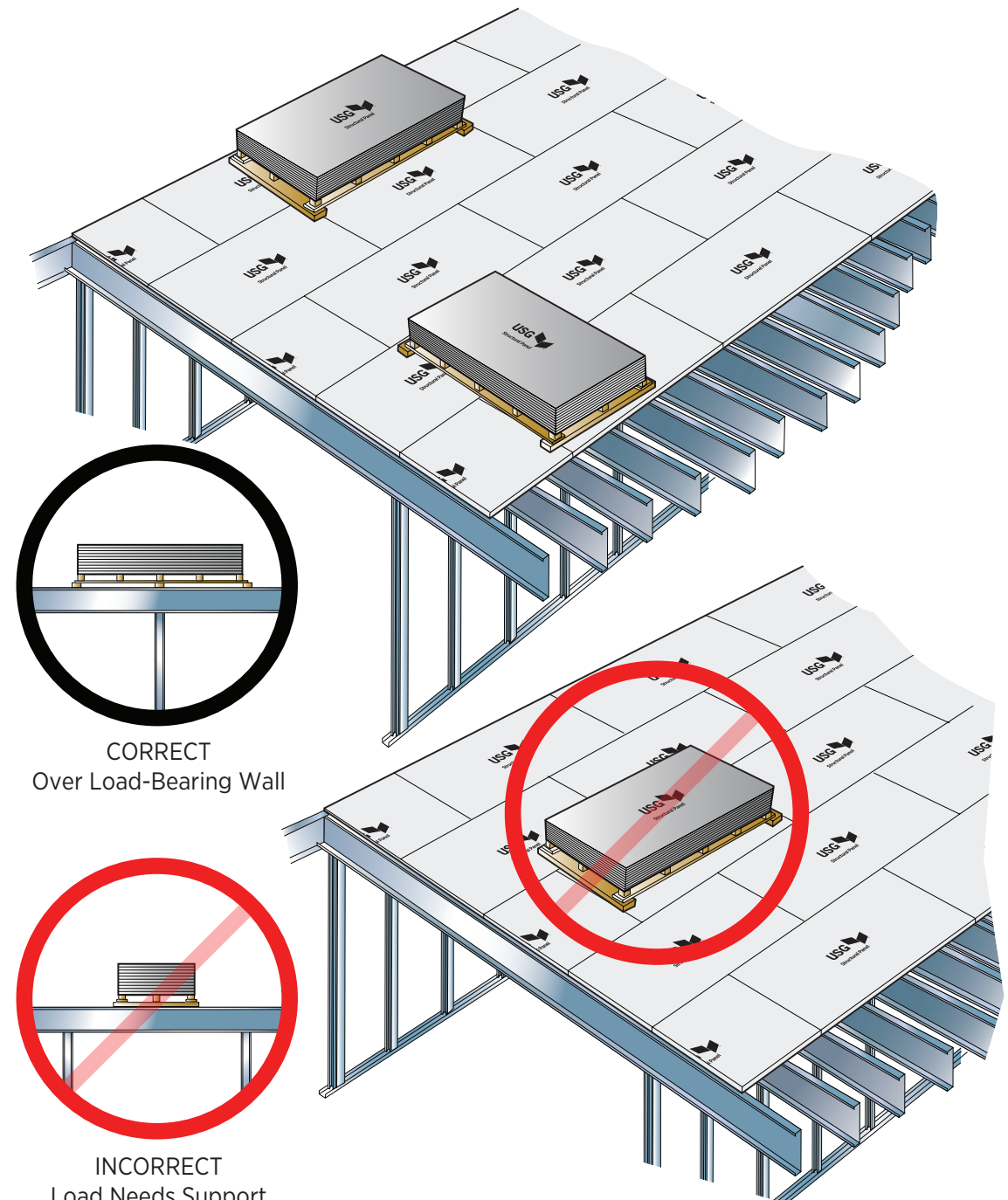


To protect installed panels during construction:

- Place load spreader planks perpendicular to joists for fixed scaffolding.
- Place additional USG Structural Panels on the floor in high-traffic construction pathways for rolling gang boxes, two-wheel mason carts and trash boxes.
- Avoid rolling carts near protector panel edges.
- **Do not use a pallet jack on the floor.**
- Consult with designer of record for load limits and proper support for all construction loads.
- Proper fall restraint equipment required.

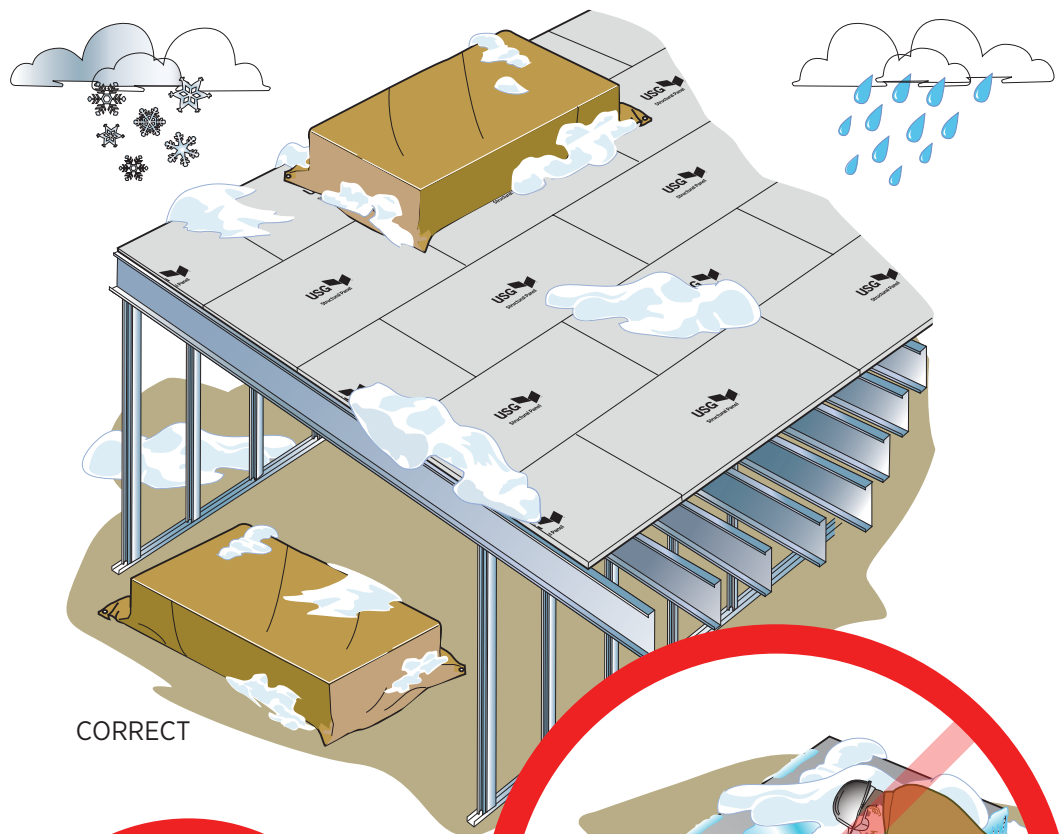
USG STRUCTURAL PANEL CONCRETE SUBFLOOR PALLET PLACEMENT*

Note: *Loading must be verified by a structural engineer



USG STRUCTURAL PANEL CONCRETE SUBFLOOR PROPER PALLET STORAGE

- Ensure unit covers are secure
- Use plastic edge shovel for snow removal
- Freezing may result in panels sticking together
- Allow panels to thaw naturally if frozen
- **Only use sand when iced over. Do not use salt, fertilizer or ice melt.**



CORRECT



INCORRECT



INCORRECT



NOTES

[illegible]

PRODUCT INFORMATION

See usg.com for the most up-to-date product information.

CUSTOMER SERVICE

800 USG.4YOU (874-4968)

EMAIL

usgstructural@usg.com

WEBSITE

usg.com/structural

MANUFACTURED BY

United States Gypsum Company
550 West Adams Street
Chicago, IL 60661

MSRP based upon full truckload delivered to jobsite:
Subfloor: \$4.50/sf

DANGER

Causes skin irritation. Causes serious eye damage. May cause an allergic skin reaction. May cause respiratory irritation. May cause cancer by inhalation of respirable crystalline silica. Do not handle until all safety precautions have been read and understood. Avoid breathing dust. Use only in a well-ventilated area and wear a NIOSH/MSHA approved respirator. Wear protective gloves/protective clothing/eye protection. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses and continue rinsing. Immediately call a poison center/doctor. If on skin: Wash with plenty of water. Take off contaminated clothing and wash before reuse. Contaminated work clothing should not be allowed out of the workplace. If skin irritation or rash occurs, or otherwise exposed or concerned: Get medical attention. Store locked up. Dispose of in accordance with local, state and federal regulations.

For more information call Product Safety: 800 507-8899 or see the SDS at usg.com.

KEEP OUT OF REACH OF CHILDREN.

NOTICE

We shall not be liable for incidental and consequential damages, directly or indirectly sustained, nor for any loss caused by applications of these goods not in accordance with current printed instructions or for other than the intended use. Our liability is expressly limited to replacement of defective goods. Any claim shall be deemed waived unless made in writing to us within 30 days from date it was or reasonably should have been discovered.

SAFETY FIRST!

Follow good safety/industrial hygiene practices during installation. Wear appropriate personal protective equipment. Read SDS and literature before specification and installation.