Application:
The Shallbetter SFGD Padmounted Fuse Gear is ideal for sectionalizing cables that require fused taps for single phase and three phase loads where group-operated switching is not desired. This Padmounted equipment may be operated as single phase, load-break switchgear utilizing the elbows for switching or it can be utilized in conjunction with conventional Padmounted switchgear with group-operated switches.

Field Proven Components:
Specifically designed for "in-air" operation gives you long-term reliable service.

Standard Cable Training:
Quick economical installation and assures proper operation for the life of the equipment.

Deep Elbow Compartment:
Placement of Bushing Wells and parking stands makes switching and grounding easier and safer.

Tamper-resistant Enclosure:
Meets National and Regional Enclosure Integrity Standards. Designed to eliminate the entrance of airborne contamination.

"In-Air Insulation:
Eliminates leaking or contamination of insulating medium for long trouble-free operation.

"In-Air" Visibility:
Allows visual inspection of all components without having to De-energized the equipment for inspection.

"In-Air" Accessibility:
Means every connection may be checked and tightened using hot stick tools without De-energizing the equipment.

Enclosure Options:
1) 0.125" #5052H32 grade Aluminum
2) 12-Gauge 304L Stainless Steel
3) PMS or Pantone custom colors per your requirement.

Automatic door retainers: Holds the doors open at 90, 110 and 140 degrees.

304 Stainless Steel Parking Stand

Cross-kinked roof

Removable lifting Provisions

Pad lockable “Sentry” latch with either “Penta” or “Hex” head bolt

GPO-3, Glass-reinforced or Clear Lexan hanging barriers.

True three point latching. With 304L Stainless Steel hardware.

¼” x 2” Silver-Plated Copper Bus.

4000+ hour salt spray ANSI tested paint

GPO-3, Glass-reinforced inner-phase barriers.
### Current Limiting Fuse Option

#### Alternate "Horizontal Fuse Mount Design:
All Current Limiting fuse configurations are available in an "Lower Profile" (Horizontal) footprint design. Consult the factory for detail on specific sizes and application.

#### Available Current Limiting Fuse Types:
- ARC-STRANGLER (CODE 1)
- ARC-STRANGLER (CODE 2)
- CLIP STYLE (CODE 4)
- CLIP STYLE (CODE 5)
- CLIP STYLE (CODE 6)
- CLIP STYLE (CODE 9)
- CLIP STYLE (CODE 10)

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Available Power Fuse Types:
- SM-4
- SML-4
- SM-5
- SM-20
- SML-20
- CH DBU
# Catalog Selection Guide

## Fuse Mounting

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- **Fuse Type**
  - CL - Current Limiting
  - PF - Power Fuse

- **Voltage**
  - 05 – 5kV
  - 15 – 15kV
  - 25 – 25kV
  - 35 – 35kV

- **Number of Line Terminals**
- **Number of Load Terminals**

## Factory Check Sheet

**Paint Finish:**
- Green: Munsell No., 7GY 3.29/1.5
- Gray (ANSI 70): Munsell No., 8.3G 7 0/0.4
- Gray (ANSI 51): Munsell No., 8.3G 5 10/0.54
- Other: 

**3-Point Latch Type:**
- Penta-Head Bolt and shielded padlockable shackle, Shallbetter #70155. Manufactured to meet or exceed A.N.S.I. C57.12.28 for Padmount Equipment Enclosure Integrity.
- Hex-Head Bolt and shielded padlockable shackle, Shallbetter #70156
- Padlocking Handle, Shallbetter #70153

**Fuse Compartment Barriers:**
- 3/16" Glass Reinforced Polyester, (Standard)
- 1/4", Clear Polycarbonate (Lexan), Replaces 3/16" Glass Reinforced Polyester Compartment Barriers.

**Fuse Extenders:**
- 15 kV, Code 4 to Code 6
- 15 kV, Code 5 to Code 6
- 15 kV, Code 5 to Code 9

**Louvers for enclosure ventilation.**

**Insulating “No-Drip” Compound.** Applied to the inside surface of the enclosure roof to prevent condensation.

**Base Undercoating.** Applied to the bottom 2" of the enclosure.

**REA Deadfront Barriers.** Barriers inside the enclosure door for each compartment, secured by recessed penta-head bolt. Note: Replace compartment barriers.

**Rodent Plate.** Seals base of enclosure, (Fuse side only).

**Ground Bails.** (Located on the deadfront).

**Interface Bushing Well Inserts** (200 amp only).

**Specials:**

---

Shallbetter Inc.
3110 Progress Drive
Oshkosh WI 54901

Phone (902) 232-8888
Fax (902) 232-8977
www.shallbetter.com
Typical Specification

General
This specification covers the requirements for furnishing and delivering a self-contained, 15kV/25kV/35kV rated, Shallbetter, Inc. Pad-Mounted Fuse Gear Deadfront (SFGD) enclosure.

Standards
The fuse gear equipment furnished shall comply with the material and testing requirements of the latest revisions of all applicable ANSI, IEEE, and NEMA standards.

Ratings
The primary metering enclosure shall have the following ratings:
- Nominal Design Voltage: ___kV
- Maximum Design Voltage: 15/25/35kV
- Basic Impulse Level (BIL): 95/125/150kV
- Continuous Current: 200/600 Amps

Enclosure
The cabinet shall be of 12-Gauge Galvanneal steel. The enclosure shall be of an all welded construction (bolting and after welding, is not acceptable). All welds on the roof, doors and cabinet corners are to be ground smooth. The base shall be square and smooth to enable it to rest solidly on a level concrete or fiberglass pad. The Deadfront wall shall provide additional support to the roof and form a one-piece barrier between the termination and fuse compartments. The cabinet shall meet or exceed ANSI C57.12.28 tamper resistance requirements.

Roof
The cabinet roof shall be cross-kinked for water shedding in all directions.

Access
Access into the cabinet shall be through the doors to the termination and fuse compartments only. The design of the enclosure and components shall be arranged so all components are completely visible without any disassembly of the cabinet.

Doors
All doors shall include a true three-point latching mechanism that requires the doors to be securely latched before the padlock shackle can be inserted. The door handles shall be pad lockable and shall use a hood to protect the padlock from tampering. This door-latching scheme shall require only a single padlock per door or per set of double doors. Each door handle shall be provided with a recessed 304L stainless steel Penta head bolt as part of its security system. Doors shall be equipped with 304L stainless steel hinge assemblies and hinge pins. Each door shall be equipped with a 304L stainless steel door-holder located at the top of the enclosure doors. These holders shall be hidden from view when the door is closed. It shall not be possible for the door-holders to swing inside the enclosure. The door-holders shall lock in place automatically and hold the doors open at an angle of 90, 110, and 140 degrees. Manual insertion of the door holder in a locked position is not acceptable.

Barriers
Insulating inner phase and end barriers of red fiberglass reinforced polyester (NEMA rated GPO-3) shall be provided if required to achieve proper clearances in the fuse compartment. Front hanging compartment barrier in the fuse compartment shall be of (red fiberglass reinforced polyester NEMA rated GPO-3) or (1/4 inch Clear polycarbonate “Lexan). All compartment barriers shall be equipped with non-conductive handles for ease of handling during installation and removal.

Lifting Tabs
Lifting tabs shall be removable. A resilient material shall be placed between the lifting tabs and the enclosure to prevent the tabs from scratching the enclosure finish. To help retard corrosion, this material shall be Closed-cell neoprene to prevent moisture from being absorbed and held between the tabs and the enclosure.

Finish
The finish of the switchgear cabinet shall meet or exceed the requirements of ANSI C57.12.28. The topcoat of the finish shall be accordance with the specified color. Final finish coat shall be applied to minimum dry build of (4) four to (6) six mils when dry.
Typical Specification – Continued

**Grounding Provisions**
A ground connection pad shall be provided in each compartment of the pad-mounted gear. The pad shall be welded to the interior of the enclosure near the cable entrances. The pad shall be unpainted 304L stainless steel. The pads shall be a minimum of 2" X 3-1/2" with 9/16" holes spaced 1-3/4" center to center.

**Bus**
All buses shall be of silver-plated copper. All joints shall have suitable hardware and treatment to prevent harmful oxidation and loss of optimum contact pressure.

**Termination Compartment**
Termination compartment shall have 200 Amp bushing wells/600 Amp bushings to permit connection of elbows. Termination compartments shall be provided with one 304L stainless steel parking stand for each bushing well. The parking stand shall be located immediately adjacent to the associated bushing or bushing well and shall accommodate standard feed-thru and standoff insulators, and other similar accessories.

**Bushing Wells**
Bushing/Bushing wells shall conform to ANSI/IEEE Standard 386 (ANSI Standard C119.2). Bushing wells shall be mounted in such a way that the semi-conductive coating is solidly grounded to the enclosure. The 200A bushing wells shall be designed to accept standard load break bushing inserts.

**Fuse Compartment**
The main bus shall have a continuous current rating of 200 Amps/600 Amps. Each fuse mounting shall have a maximum continuous current rating of 200E amps and a live switching rating of 200 amps. Each fuse mounting shall have a one-time fault closing duty cycle of 20,000 amps RMS asymmetrical and a two-time fault closing duty cycle of 13,000 amps RMS asymmetrical at 13.8 kV. Fuse mountings shall have a three-phase symmetrical short circuit interrupting rating of 200 MVA at 13.8 kV.

Each fuse compartment shall be equipped with mountings to accommodate Power Fuse or Current Limiting fuse holders. All fuse mountings are to have a built-in load break device in the contact assembly to provide switching ability using only a standard hot stick with station prong.

A storage rack shall be provided in each fuse compartment to accommodate up to three fuse refill units and fuse-handling tool.

**Labeling**
The outside of each enclosure shall be provided with “Mr. Ouch WARNING” labels in accordance with NEMA 260. The inside of each enclosure door and each hanging barrier shall be provided with “Mr. Ouch DANGER” labels in accordance with NEMA 260. The labels shall have a minimum durability rating of 10 years under vertical exterior exposure to the weathering environment.

**Nameplate**
The outside of the primary metering cabinet shall have a non-corrosive nameplate indicating:
- Manufacturer's name
- Catalog no.
- Model no.
- Serial no.
- Date of manufacture

**Circuit Diagram**
The Deadfront wall on the termination side shall be provided with a circuit diagram of the switchgear.

**Packaging**
Each pad-mounted switchgear shall be secured to a non-returnable wood pallet suitable for handling with a forklift. The pad-mounted switchgear shall be packaged in accordance with good commercial practice to ensure safe delivery without damage to the finish or any other part of the unit.

**Inspection**
After delivery, each pad-mounted switchgear will be inspected for defects and conformance to this specification. The supplier (or its representative) will be notified of all deficiencies. Mutual arrangements shall be made for correcting the deficiencies.