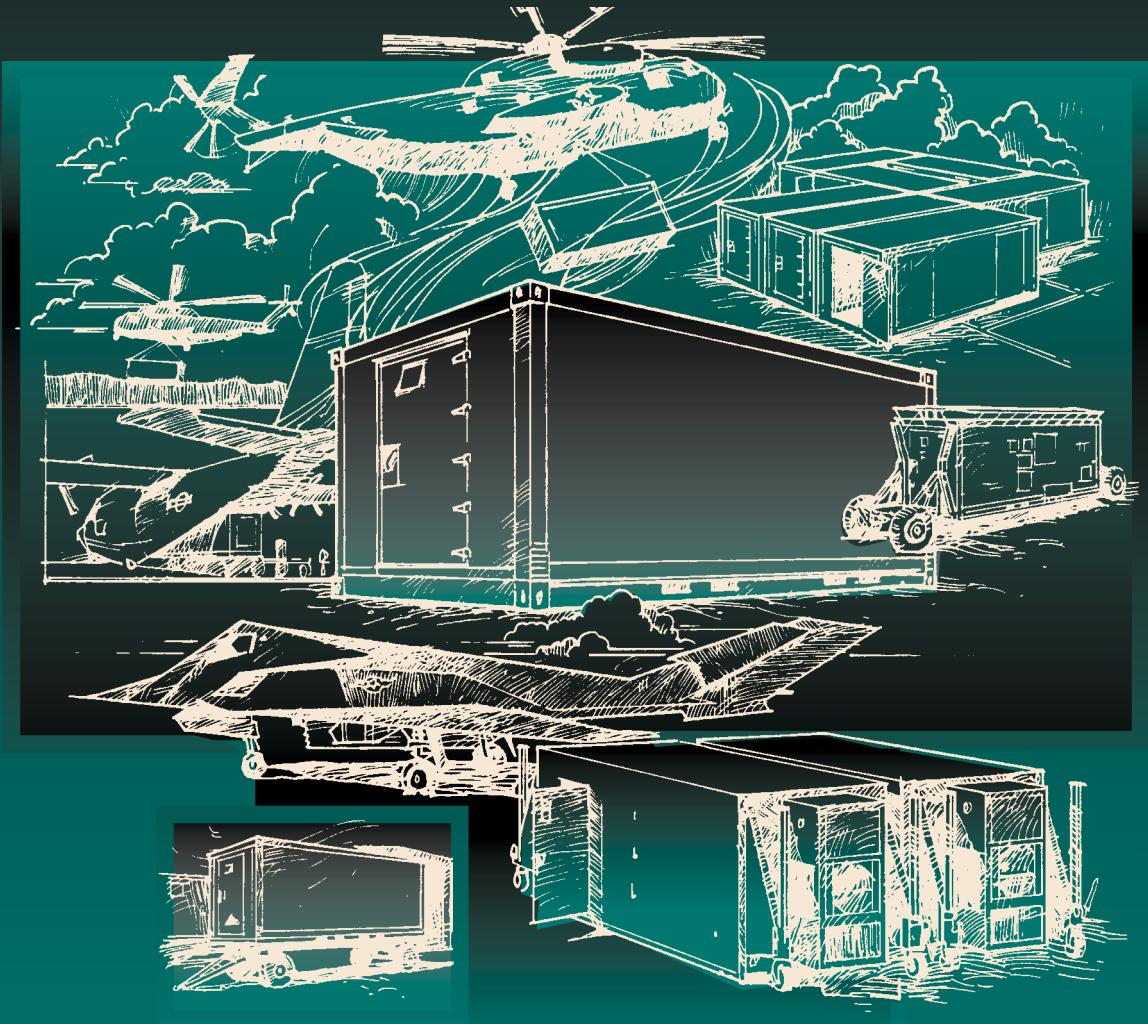




ISO SHELTER



 **Gichner**
Shelter Systems

A Tradition of Quality



Gichner Shelter Systems lead the industry in the design and manufacture of transportable shelters for military and commercial applications.

In addition to design and manufacture, we routinely integrate ISO shelters with equipment and accessories from our own full product line.

The ISO shelter is easily adapted to the diverse needs of military forces. It provides the stable indoor environment that is essential to the success of many military

functions and is readily transported to any location.

By adding environmental controls, sophisticated electronic systems can be deployed world-wide. What's more, military personnel can rapidly deploy such tactical equipment to any combat theater for indefinite operation from an expeditionary base.



Model GMS-459/1
ISO shelter

ISO/ANSI standardization ensures fast transport by land, sea or air.

Gichner ISO shelters are designed to accommodate the tactical shelter requirements of the U.S. and NATO Armed Forces.

These shelters comply with applicable ISO/ANSI dimensional and structural requirements which standardize shelter dimensions, structural ratings, specifications, testing, corner fittings, markings and terminology. This standardization facilitates air, sea, land and rail transportation of shelters by carriers, shippers and leasing companies.

The corner posts of Gichner ISO shelters can withstand the weight of seven loaded, stacked shelters. These units are designed

to resist restraint and racking stresses caused by the side-roll of container ships in rough seas.

Transportation by air is a common method of moving shelters. The C-130 carries two shelters; a C-141 can hold three, and a C-5A can take up to 12 shelters. With the Gichner M-1022 Mobilizer, the shelters are quickly loaded or unloaded from an aircraft.

Fully equipped shelters have been deployed by helicopters. Even under adverse flying conditions, helicopters can lift the shelters from ship to shore or from rear areas to forward tactical areas.



ISO shelters serve many tactical functions

MAINTENANCE

- Station for repair functions for avionics, weapons, navigational systems, hydraulic systems, and microminiature components
- Machine shop
- Site for automatic test equipment



COMMUNICATIONS

- Radio or telephone
- Automatic data processing
- Photographic processing

PERSONNEL SUPPORT

- Showers and sanitation units
- Laundries
- Berthing and mess facilities
- Water purification and refrigeration

MEDICAL FACILITIES

- Operating rooms
- Intensive care units
- Dental facilities
- Medical laboratory
- General health care facilities

TRAINING

- Classrooms
- Conference rooms
- Simulation devices for crews of tanks, planes and other systems
- Supply post
- Administrative support
- Operational facility
- Command Post

Qualification testing

The Gichner ISO shelter has successfully passed the following tests as required for MIL-M-81957 (AS). In addition, Gichner's RFI-EMI shielding designs for modified ISO shelters, have met and exceeded 60 dB of attenuation from 150 KHz to 10 Ghz when tested per the requirements of MIL-STD-285. Greater shielding effectiveness can be provided, if needed.

We are the first to mass produce tactical mobile shelters that meet ISO/ANSI standards and Military requirements.

- Stacking per ANSI MH 5.1
- Lifting from the top per ANSI MH 5.4
- Restraint per ANSI MH 5.4
- Rigidity per International Standard ISO 1496/1-1974
- Forklift per ANSI MH 5.4
- Roof load per ANSI MH 5.4
- Mounting member – 2,000 pound tensile; 40 inch-lb. torque load
- Static door load
- Jack lifting test – 20,000 lb. gross weight; 20 cycles
- Lifting – Sling assembly test
 - (a) Lifting ring tensile load
 - (b) Sling leg tensile load
- Shelter/Container Static load – 30,000 lbs.
- Surface impact – wall, floor and roof panels
- Sling assembly free fall on roof
- Temperature tests (temperature extremes per MIL-STD-169 and solar load)
- Moisture resistant per MIL-STD-170
- Watertightness per ANSI MH 5.1.1
- Heat transfer – 0.25 BTU/hr./sq.ft./°F
- Panel Thermal Shock
- Core material (water absorption, shear strength, density, compressive strength and flammability)
- Adhesive shear tests (ambient, high and low temperature)
- Adhesive shear tests (humidity and salt fog exposure)
- Sealer shear tests (ambient, high and low temperature)
- Sealer shear tests (humidity and salt fog exposure)
- Shelter weight
- Shelter weight dimension compliance with ANSI MH 5.4
- Panel flatness
- Shelter squareness
- Interchangeability
 - Butting kit watertightness
 - Skid bearing
- Modified versions of the Gichner ISO shelter have successfully passed the following additional tests as required per MIL-P-29351B(MC):
 - Rain
 - Splashproofness per MIL-STD-108
 - Fording (21 inch water depth)
 - Forklift
 - Railroad humping
 - Lifting from the bottom
 - Flat drop (12 inch concrete surface)
 - Dolly set transport (end mount mobilizer)

A Tradition of Quality



Side-Opening ISO shelters

Many tactical operations require more space than a basic shelter provides. That's why Gichner developed Side-Opening ISO shelters that offer modular expandability while still retaining requisite structural and environmental integrity as well as EMI/RFI.

To double the width of the available workspace to 16 feet, two of these shelters can be joined to each other, side-by-side.

They are similar to the basic unit, however each has a removable side panel. When the units are joined, the removable panels can be stored on the roof, adding extra solar protection.



ISO Complex

For even more workspace, two removable sides can be provided so that three or

more units can be joined to assemble a variety of enclosed complexes.

Environmental control

Gichner ISO shelters can be equipped with environmental control units to maintain temperature and humidity at specified levels. This allows the shelters to be used in any climate. An environmental control unit can be mounted on a floor-slide assembly so that personnel can easily slide it in and out of the shelter.

In the transport mode, the environmental control unit is retracted, providing compliance with ISO/ANSI container overall dimensional requirements. When the shelter is deployed for operations, the environmental control unit slides out, providing more interior workspace.

Gichner can also provide other installations, including fixed wall-mounted installations, and power connections and ducting interface for remote or pallet mounted units.

Basic Mobile Shelter

Gichner ISO shelters are designed to accommodate the tactical shelter requirements of any Armed Forces. These shelters comply with applicable ISO/ANSI dimensional and structural requirements which standardize shelter dimensions, structural ratings, specifications, testing, corner fittings, markings and terminology. This standardization facilitates air, sea, land and rail transportation of shelters by carriers, shippers and leasing companies.



General Purpose
20 Foot ISO
(Marine Corps)

The corner posts of Gichner ISO shelters can withstand the weight of seven loaded, stacked shelters. These units are designed

to resist restraint and racking stresses caused by the side-roll of container ships in rough seas.

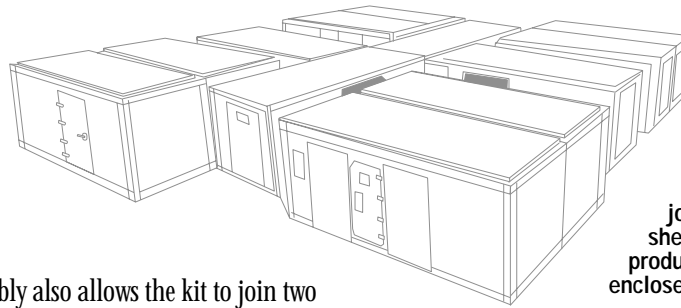
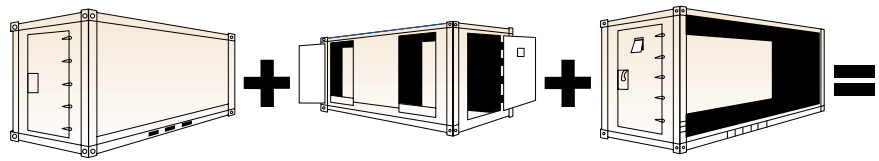




Complexing

“Complexing” joins multiple shelters to produce a large enclosed structure. By strategically locating doors, units may be connected end-to-end or side-by-side to produce an almost infinite variety of facility sizes and configurations.

A special butting kit (GSS Model No. BK-3070) with a metal walkway is used to join units together. It is a weatherproof, insulated, flexible assembly that is attached to the door jambs of two adjoining shelters without removing the doors or using special tools. The flexible



“Complexing” joins multiple shelters to produce a large enclosed structure.

assembly also allows the kit to join two shelters which are misaligned due to uneven terrain. When specified, a butting kit can be EMI/RFI-tight.

ISO...Accommodates personnel—not just equipment

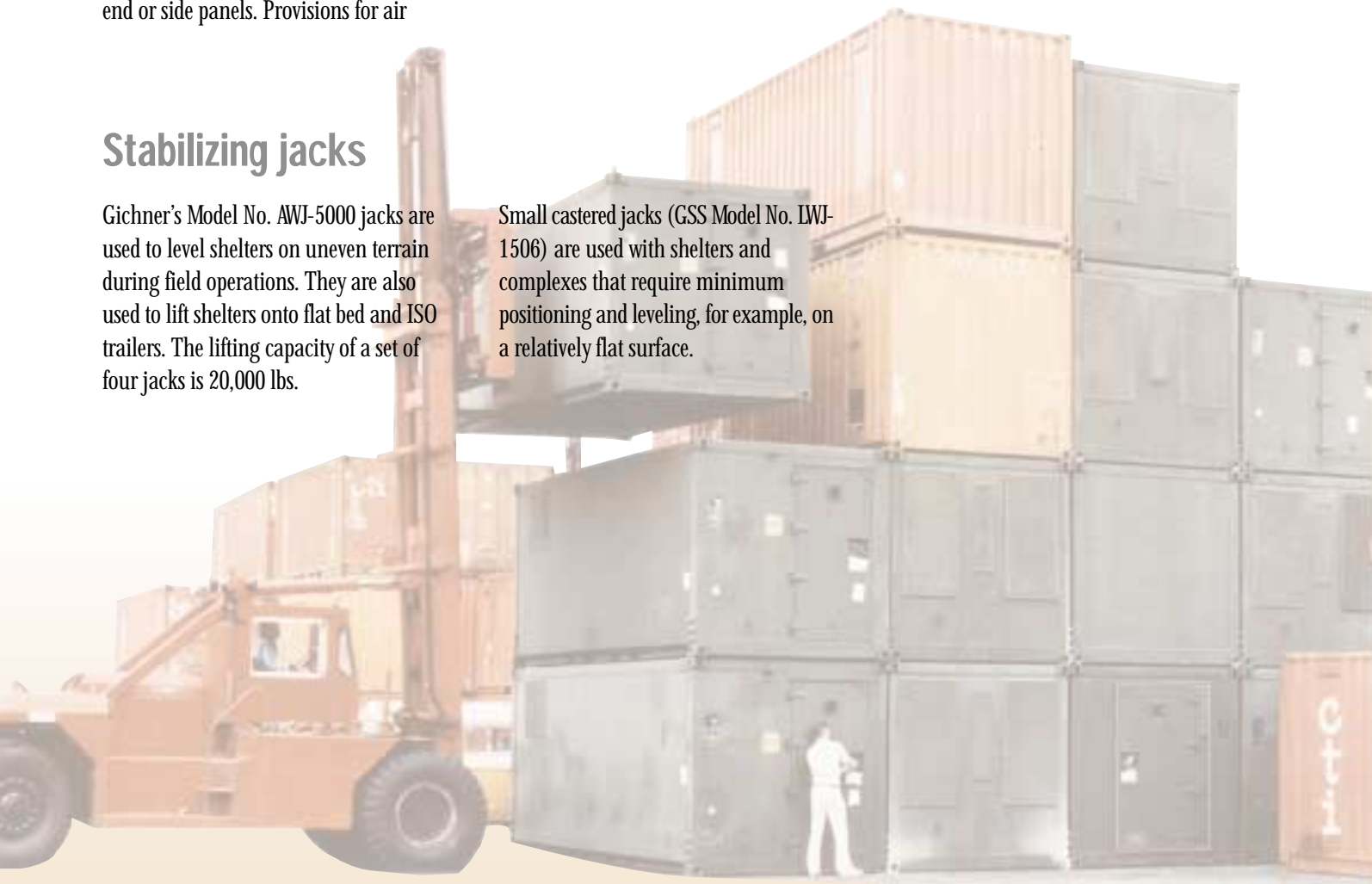
For easy access, personnel entry doors can be located anywhere to meet your system requirements. Doors can be located on end or side panels. Provisions for air

conditioning openings, power and signal entry, and other modifications may be supplied, if needed.

Stabilizing jacks

Gichner's Model No. AWJ-5000 jacks are used to level shelters on uneven terrain during field operations. They are also used to lift shelters onto flat bed and ISO trailers. The lifting capacity of a set of four jacks is 20,000 lbs.

Small castored jacks (GSS Model No. LWJ-1506) are used with shelters and complexes that require minimum positioning and leveling, for example, on a relatively flat surface.



Technical characteristics of the ISO shelter

Military Specifications	MIL-M-81957(AS)
ISO/ANSI Specifications	ISO 1496/1 and ANSI MH5.1, 5.1.1 and 5.4
Exterior Dimensions	96 in. high, 96 in. wide, 238 -1/2 in. long
Interior Dimensions	84-5/16 in. high, 89-13/16 in. wide, 232-5/16 in. long
Shelter tare weight	4,200 lbs.
Maximum Payload.....	15,800 lbs.
Service Life.....	15 years service, 20 years storage
Heat Transfer.....	Insulated to provide a heat transfer coefficient of 0.25 BTU/hr. ft. ² /°F
Temperature Range	Operation: -40°F to +125°F plus solar load to minimum of +180°F
	Storage -65°F to +160°F
Roof Loads	Live load of 660 lbs. on an area 24 in. by 12 in.; or 75 lb./ft. ² uniform snow load
Wall, Roof and Floor Attachments.....	2,000 lb. pullout and 40 inch-lb. torque

Specifications:

Model No.	Descriptions	Specification	Exterior Dimensions (1)			Interior Dimensions (2)			Shelter Weight (lbs.)	Payload (lbs.)	Outline Dwg.
			H (in)	W (in)	L (in)	H (in)	W (in)	L (in)			
GMS-459	Basic Shelter	MIL-M-81957	96	96	238-1/2	84-5/16	89-13/16	232-5/16	4200	15,800	7009616
GMS-459/1	Mobile Facility(MF)	MIL-M-81957/1	96	96	238-1/2	84-5/16	89-13/16	232-5/16	4400	15,800	7007808
GMS-459/2	Integration Unit(INU)	MIL-M-81957/2	96	96	238-1/2	84-5/16	89-13/16	232-5/16	4400	15,800	7006469
GMS-628/1	Side Opening MF (SOMF)-Type A	MIL-M-81957	96	96	238-1/2	84-5/16	89-13/16	232-5/16	4900	15,800	7006540
GMS-628/2	Side Opening MF (SOMF)-Type B	MIL-M-81957	96	96	238-1/2	84-5/16	89-13/16	232-5/16	4300	15,700	7006541
GMS-11514	Side Opening MF (SOMF)-Type C	MIL-M-81957	96	96	238-1/2	84-5/16	89-13/16	232-5/16	4300	15,700	1339AS1101
GMS-11447	Side Opening MF (SOMF)-Double Doors	MIL-M-81957	96	96	238-1/2	84-5/16	89-13/16	232-5/16	4300	15,700	1339AS1100

Note: All shelters listed above are nominal 8'W x 8'H x 20'L, ISO shelters are also available in 10', 30' and 40' lengths.



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