

UNISTRUT®

A *tyco* INTERNATIONAL LTD. COMPANY

TYPICAL APPLICATIONS

- CRT Monitors
- X-Ray Machines
- Service Columns
- Microscopes
- Surgical Lighting
- Gas Columns
- Injector Systems

Medical Support Systems

System strength, integrity and



flexibility



Unistrut Corporation has been involved in the engineering, design and installation of medical equipment support systems for over five decades. Our proven systems support X-ray equipment, surgical lighting, service columns, microsurgery units, as well as other specialized medical equipment in healthcare facilities worldwide.

Unistrut support extends well beyond quality products to include in-depth planning, engineering, computer-aided design, fabrication, distribution and installation... a full range of services only Unistrut can provide.

Our expertise is built on a solid foundation. Since 1935, Unistrut has been helping construction and design professionals build a better world. Specifiers worldwide choose Unistrut metal framing and related Unistrut systems for an infinite variety of structural and secondary-support applications.

You can count on Unistrut quality from point of manufacture all the way through project installation. The result is reliable, consistent performance wherever Unistrut medical support systems are used. *That's why we can issue an identification tag backed by a full two-year limited warranty that assures the high quality of your medical support system.*

Unlike other support materials, our system features components designed specifically to meet the performance

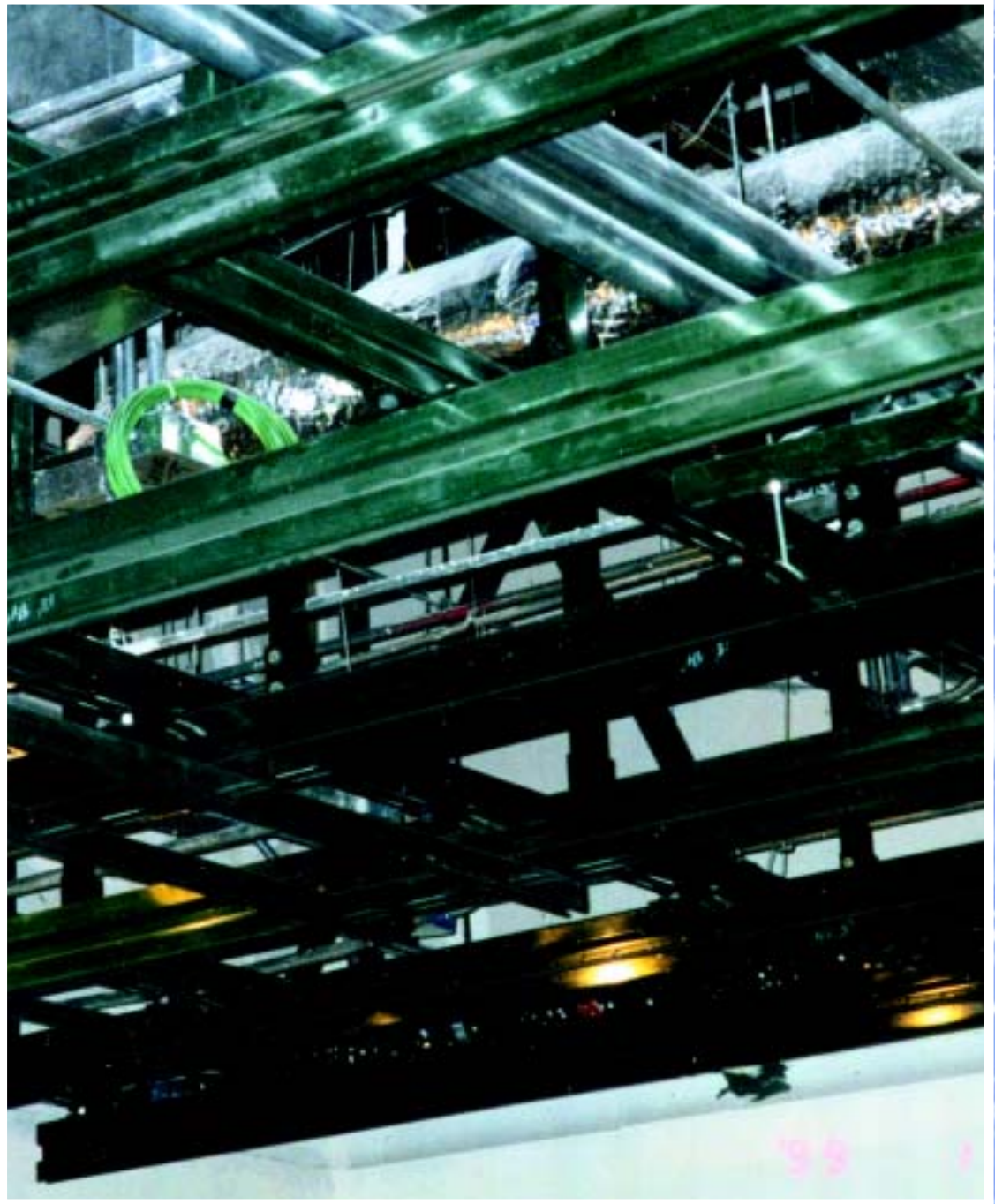
demands of the most advanced medical equipment. With its inherent strength and versatility, the Unistrut system adapts easily to a wide range of environments and design parameters. During installation, built-in adjustment capabilities allow the system to be fine-tuned to precisely match site conditions.

With manufacturing plants on three continents and more than a hundred authorized service centers, we can provide the resources and expertise to stay with you from conception to job completion. Whether you're planning a new wing, upgrading an existing facility, or coordinating a multi-location construction program, Unistrut professionals can help you meet virtually every equipment-support need with proven, dependable, flexible solutions.



UNISTRUT®

Complete-system support for



your equipment

INFINITE ADJUSTABILITY

Unistrut Medical Support Systems allow both basic and micro adjustments, so installations can be quickly and easily adapted to specific site conditions. Changes, slight adjustments and precise “fit” are easy to achieve, simplifying both initial installation and future updates.

VERSATILITY WITH AESTHETIC APPEAL

The Unistrut system is strong from top to bottom providing dependable and precise support for all your medical equipment needs.

For instance, the unique Telespar® vertical support combines the strength of square tubing with simple adjustability. The Unistrut “K” channel, with its vertical back-to-back design, reduces the load at weld points. Together, these components provide superior strength with maximum adjustability—primary requirements for proper operation of today’s precision medical equipment.

Ceiling tiles are installed directly on the “K” channel flange, flush with the bottom channel opening. This creates a clean, unobtrusive look consistent with equipment and room aesthetics.

From basic X-ray machines to integrated multi-unit systems, Unistrut medical equipment support systems are the proven way to meet today’s demanding equipment support requirements.

**Designed-in
strength and
versatility**

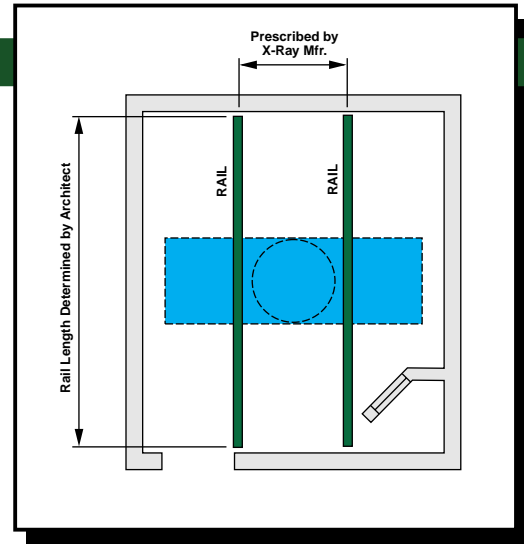
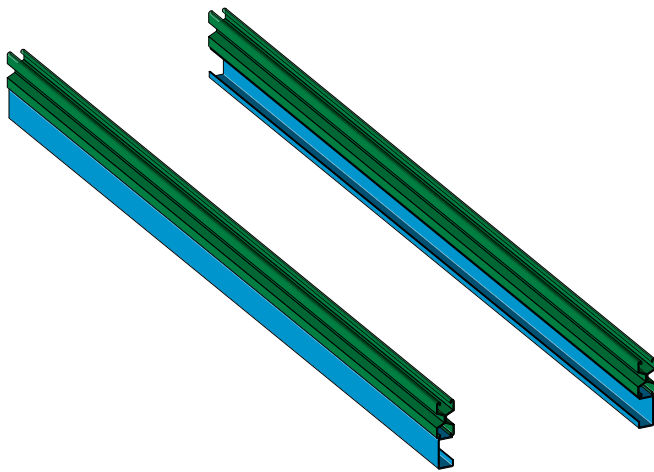
Optional ceiling tile flange shown



Typical Room Layouts

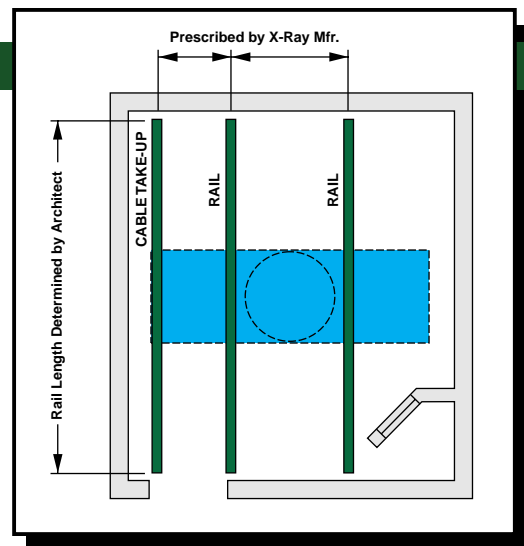
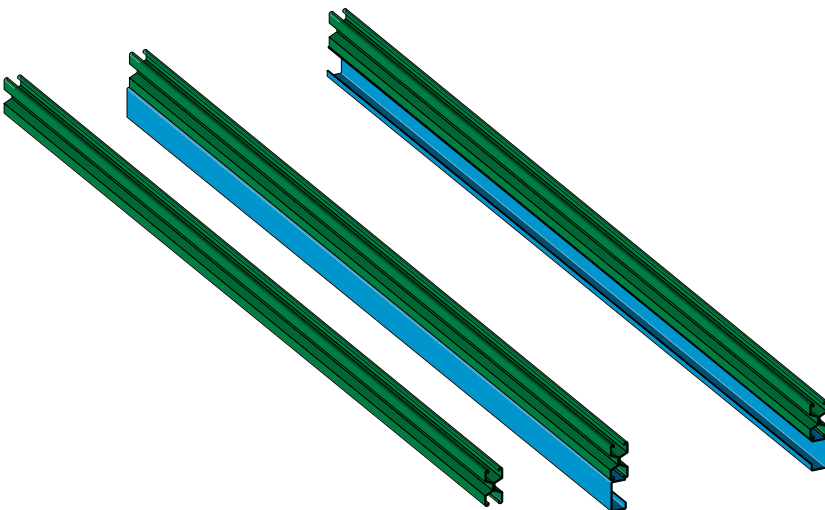
TWO RAIL SYSTEM (In-Line)

Can be used for supporting any overhead X-ray machine using two rails spaced between 3' and 6' apart.



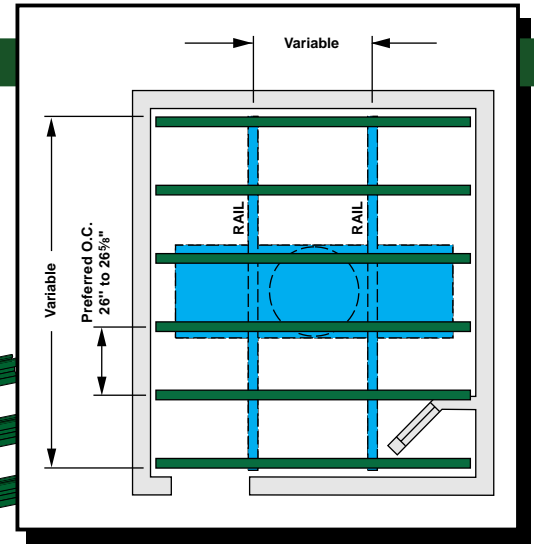
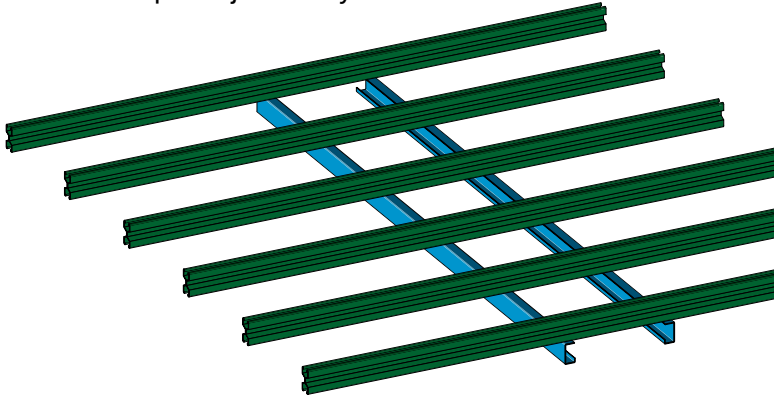
THREE RAIL SYSTEM (In-Line)

Can be used for supporting any overhead X-ray machine using three rails.



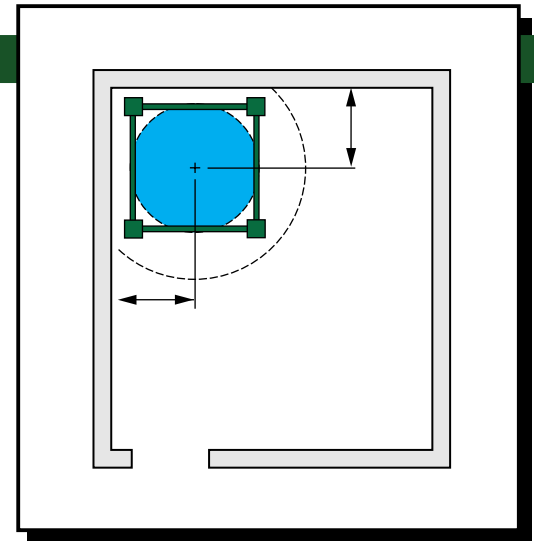
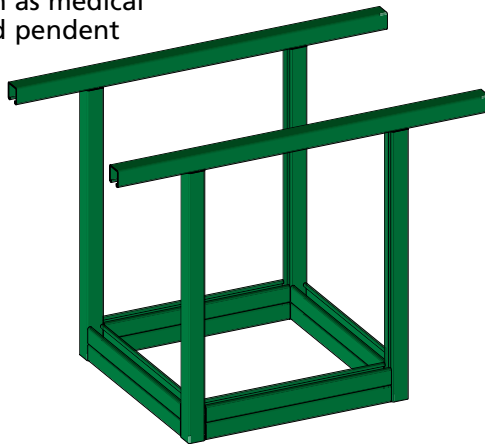
UNIVERSAL GRID (Transverse)

Can be used for supporting any overhead X-ray machine with any number of rails because of its unique adjustability feature.



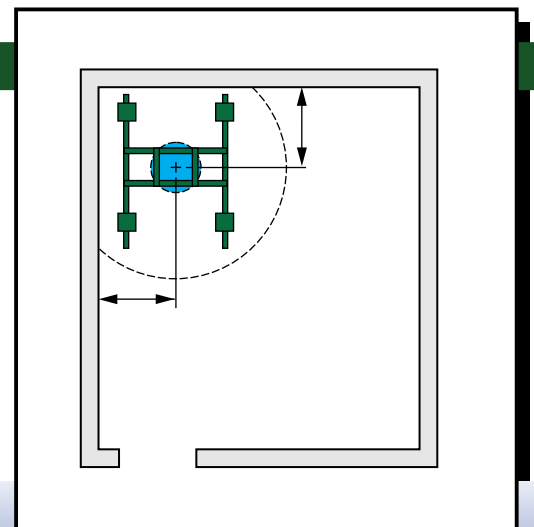
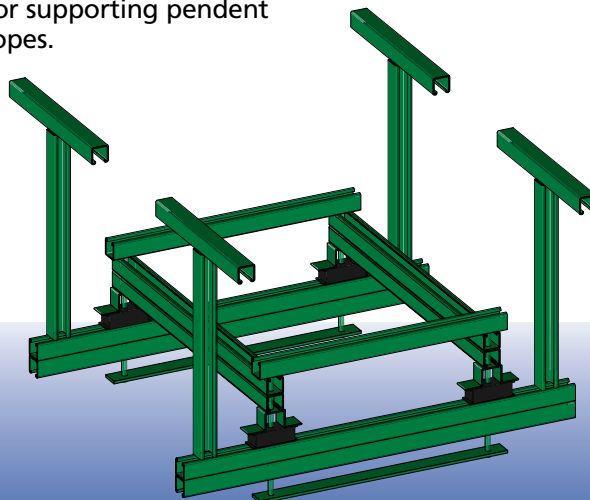
RIGID MOUNT

Can be used for rigid-mounting of various medical apparatus such as medical lights or rigid-mounted pendent type microscopes.



ISOLATED MOUNT

Features vibration-absorbing isolators and is a perfect choice for supporting pendent mounted microscopes.



I. GENERAL**A. SCOPE**

- Contractor shall provide and install a medical support system(s) as indicated on the reflected ceiling plans, in rooms

located at _____.

System shall be a "Universal Grid" type when possible, with rails extending wall to wall, perpendicular to the path of travel of the equipment. Rail shall be on centers as required by equipment manufacturer and allow continuous attachment along any point on the rail. System shall be true, plumb and level to the tolerances indicated, with no more than 1/720th of the span maximum deflection in either plane, when maximum loading conditions are applied due to equipment operation.

- Work of others sections

- Ceiling
- Painting
- Electrical
- _____

B. QUALITY ASSURANCE

- Material and installation shall be provided by a qualified vendor, with at least five (5) years experience in the manufacture and installation of adjustable metal framing supports. Vendor shall demonstrate experience of projects of similar scope and size, and shall maintain a continuing quality assurance program for both its material and installation crews.
- Vendor shall provide the single source responsibility for materials and workmanship, and shall provide a warranty period of one (1) year from date of acceptance by architect/owner.
- Acceptable Vendors: Unistrut Corporation and/or its authorized representative.

C. SUBMITTAL

- Shop Drawings: Successful vendor shall submit shop drawings showing the complete system, including plans, sections and details of the system. Plans shall show all manufactured parts, by catalog numbers, all fabricated parts, and all fasteners and hardware.

- Manufacturer's Brochure: Brochure shall show materials, strengths, finishes and sizes. Sufficient engineering information shall be provided to permit stress calculations. Materials listed should conform to the appropriate specifications from ASTM, AISI, AISC, and/or AWS.
- Calculations (optional): The medical support system shall lend itself to a rational structural analysis with section properties of framing members demonstrated by calculations. Structural calculations and drawings shall be furnished with a stamp by a licensed engineer complying with all applicable codes and regulatory requirements.

II. MATERIAL AND DESIGN**A. MATERIAL**

- Materials used shall conform to the following ASTM specifications: ASTM 653SQ33, ASTM A570 Grade 33, ASTM A575, ASTM 675 Grade 50, SAE J429 Grade 2.
- All materials shall be protected from corrosion with a factory applied finish.
- All materials shall be stamped and identifiable by manufacturer and part number (where appropriate). Materials that appear damaged, distressed, unidentifiable or rusted shall not be used and will not be accepted.

B. DESIGN

- Support Structure: The support members at the ceiling plane shall be located as indicated on the drawings. They shall consist of Unistrut "K" series x-ray channel. The spacing shall allow installation of standard modular 24" ceiling fixtures and equipment. It shall be possible to attach the medical equipment at any point on the support system.
- Ceiling Anchorage: Whenever possible, attachment to ceiling structure above shall be done by means of imbedded concrete inserts, through bolts, or by direct attachment to the structural framing of the building.
- Vertical supports: The exposed "K" series rails and the ceiling anchorage shall be connected by a series of 12 Gauge Telespar® vertical supports as indicated on the drawings. Vertical supports shall provide for both basic and micro vertical adjustment.

- Seismic Bracing: Medical system shall be adequately braced to meet all code requirements.
- Loading: The support structure shall be designed to support a concentrated load of _____ lbs., at any single point along the exposed rails. The concentrated load shall be the maximum that will be encountered by positioning the equipment at the extremities of its travel (maximal load configuration).
- Safety Factor: The system shall be designed with a minimum safety factor of 2½ based on ultimate strength under static loading conditions.

III. INSTALLATION**A. FIELD MEASUREMENTS**

The contractor shall make field measurements to assure that the medical support can be installed according to plans, and without interference with structural framing, mechanical systems, plumbing or other obstructions. Any interferences shall be reported to the architect.

B. SEQUENCING

The contractor shall assure that the support system is installed in a timely and practical sequence, ahead of any extensive electrical, mechanical or HVAC work in the area, and prior to any ceiling framing or room finishes.

C. PAINTING

All exposed members shall be painted by the painting contractor with paint compatible to the support systems.

D. MODIFICATIONS

Any changes or modifications from approved shop drawings shall require approval from the architect and engineer, and shall be noted on the final drawings.

E. LIABILITY

Installing contractor shall be able to furnish coverage liability insurance with limitation of no less than one million dollars. Material, design and installations shall be furnished by a single source to minimize total liability.