



CertainTeed
PAM

Access Covers and Gratings

REXUS Gratings

-  LOAD BEARING 100,000 LBS
-  ONE-MAN OPERABLE
-  ANTI-THEFT/SECURITY
-  HIGH WATER CLEARING CAPACITY



CertainTeed 
Quality made certain. Satisfaction guaranteed.

Advanced Ergonomics

REXUS gratings have been designed to allow jetting and other authorized maintenance personnel to gain access with minimum effort and in complete safety.

- Use of ductile iron dramatically reduces the weight compared with traditional cast-iron designs.
- Hinge design reduces the effort of opening the grating by a further 50%.
- Hinges shorten the duration of the lift, thereby reducing the risk of injury to the operator.
- Hinge design eliminates the need to remove the grating (although the grating can be completely removed if required).
- Hinge design ensures that the grating remains securely attached to the frame throughout the opening and closing sequence.



Strength

- Features an excellent strength-to-weight ratio for ultralight yet super-strong gratings and frames.
- Provides high resistance to traffic stresses and maintenance operations (road repair, snow plowing, chamber cleaning, etc.).
- REXUS gratings significantly exceed the AASHTO (American Association of State Highway and Transportation Officials) H20 heavy duty load resistance requirement.
- REXUS gratings are independently tested by an accredited organization to $\geq 100,000$ lbs.



Quality Assurance

The REXUS grating and frame has been designed and manufactured within a certified ISO 9000 quality management system, certified by an independently and internationally recognized third party.

Improved Water Absorbing Capability

The REXUS grating has proven levels of performance with a high level of water capture in both severe and mild flow conditions.

- Slot configuration (top right) designed to maximize absorption. Longitudinal slots parallel to curb and inlet capture the most important flow.
- High waterway area: 290 square inches.
- Our exclusive testing bench — approximately 50 feet long and capable of pouring up to 47,000 gallons per hour (GPH) — permits multiple design simulations as well as all flow capacity measurements.
- This unique testing device allows the precise calculation of flow capacity and ratio vs. various flow entries.



Ongoing test at 39,000 GPH flow rate

TESTS RESULTS IN GALLONS PER HOUR		ABSORPTION RATIO
FLOW ENTRY (INPUT)	CAPTURED FLOW	
7895	7895	100%
13158	13158	100%
21842	21053	98%
26579	26053	98%
33684	32895	96%
39211	36316	93%
42105	36842	88%

Resistance, Stability and Security

- Wedged seating: Unique approach to restricting movement limits wear and noise problems.
- Spring bar locking helps to deter any unauthorized opening of the grating.
- Non-captive hinge contributes to the stability of the grating, while allowing easy removal if necessary.
- Exclusive frame with LTS® (Load Transfer System):
 - Efficiently distributes the load into the surrounding structure.
 - Reduces risk of distortion and mortar cracking.
 - Efficiently located stiffening ribs.
 - Improved bond between frame and bedding material, thanks to notched flange.
- For additional security, a supplementary locking kit can be fitted, before or after installation of the frame.
- Hinge permits the grating to be opened into the face of oncoming traffic. If left open, the grating will close automatically when struck by a vehicle.
- Improved slip resistance for pedestrians and cyclists due to studding on the gratings, as well as slot layout.

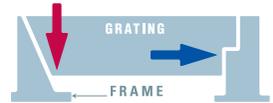
Wedge Seating

The REXUS grating incorporates an innovative wedge seating principle, which is designed to ensure quietness and stability in use.



The concept works by converting the downward forces applied by vehicular traffic into horizontal forces. These horizontal forces are channeled toward the seatings adjacent to the hinge area, at the back of the grating, where they are harnessed to enhance stability.

This design also allows automatic self-cleaning to take place.



Spring Bar Lock

The REXUS grating features a unique spring bar locking system, which is an integral part of the unit. This locking system combines ductile iron technology and our extensive experience in designing and manufacturing ductile iron municipal castings.

How does the spring bar function?

- By harnessing the compressive forces that are created, the spring bar is in tension during closing and opening phases only. This permits the grating to lock itself automatically and securely within the frame. Once the grating has been locked, the spring bar tension is released.



How is the spring bar lock released?

- Opening — The spring bar lock is deactivated by inserting a bar/pickaxe blade into the prizing slot (right) in the front of the frame, then applying a little upward force until the grating pops open.
- Closing — The spring bar lock will be automatically activated if the grating is released part way through its closing arc. If the grating has been gently lowered into position it may be necessary to step on the raised part of the grating to ensure the spring bar lock has deployed correctly.



Durability of the spring bar lock

- The spring bar lock has been designed to operate within the elastic limit of the specific grade of the ductile iron we produce in our foundry. In the laboratory, more than 400 opening and closing cycles were performed, during which the spring bar lock retained its efficiency.



Resistance to Unauthorized Access



REXUS gratings are available with two increasing levels of resistance to unauthorized access. Please note that neither of these levels on its own will prevent determined, well-equipped criminals or vandals from gaining access.

- Level 1 (standard): Resistance to young children comes as standard thanks to the spring bar lock, which requires a lever and physical strength to deactivate.
- Level 2 (option): Unauthorized access can be achieved by fitting the Penta lock.

The Penta lock can be fitted on site in a few minutes, before or after the grating and frame have been installed.



Penta Locking Kit



- 1/4 turn lock actuated by an asymmetrical five-sided bolt head.
- On-site installation takes five minutes:
 - Punch out the center of the locking bolt position.
 - Install the kit in compliance with the instructions supplied.
- Lock must be operated with the handling key (supplied with the kit; can be purchased separately).

Penta Kits for REXUS Gratings

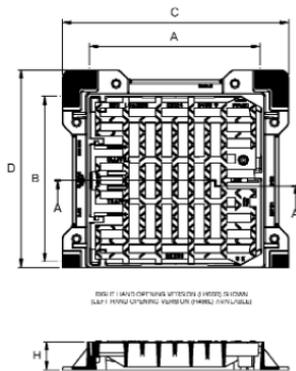
Model	References
Kit with handling key	C5
Kit without handling key	C6
Handling key	C17

The REXUS Grating Range

3-SIDE FLANGED FRAMES							
TYPE	REFERENCES	MASS (LBS.)		FRAME BASE A	DIMENSIONS (IN.)		WATERWAY (SQ. IN.)
		GRATING	TOTAL		CLEAR OPENING O	FRAME HEIGHT F	
Right-hand opening*	EDRU60RHX11	112	189	32 x 28	24 x 24	4	290
Left-hand opening**	EDRU60RHX12	112	189	32 x 28	24 x 24	4	290
4-SIDE FLANGED FRAMES							
	EDRU60DH	112	196	32 x 32	24 x 24	4	290

* The standard generally used in the U.S. is the right-hand opening.

** To determine the correct choice between left-hand and right-hand hinge, mentally place yourself in the road, facing the host curb, and note the direction of traffic; if traffic is coming from your left, a left-hand hinge is required; if traffic is approaching from your right, then a right-hand hinge is required. The hinge must always be positioned to the "upstream" side of traffic flow.



Specification

- REXUS or similar approved Grating and Frame.
- Gratings and Frames shall be manufactured from Ductile Iron in accordance with ISO 1083.
- Gratings shall incorporate a non-captive hinge system.
- Gratings shall be one-man operable using standard tools and shall be capable of withstanding a minimum load of 100,000 lbs.
- Gratings shall incorporate a spring bar lock as a deterrent to access by children or unauthorized adults. The spring bar lock should automatically activate when the Grating is properly closed.
- Gratings shall be non-rocking and silent in use.
- Gratings shall be capable of being fitted with additional security devices after installation.
- Gratings will feature raised studs and slots layout for increased hydraulic performance and pedestrian and cyclist safety.
- Waterway area shall not be less than 290 square inches.
- Frame depth shall not exceed 4" and flanges shall incorporate bolt holes.
- All components shall be black coated.
- Product shall be manufactured in ISO 9000 certified manufacturing plants.

REXUS Gratings



The REXUS grating draws on many years of experience in the design and manufacture of safe, durable and efficient municipal castings. Designed to complement the REXUS manhole cover, this grating carries through CertainTeed's emphasis on one-man operable units — and is rated at H2O loading as well. The REXUS grating is specifically tailored to the North American market and the needs of public utility engineering and maintenance personnel in the areas of performance, operation and safety.

Manufactured from ductile iron, the REXUS grating:

- Features a large waterway area as well as a high capacity for water absorption (internally tested on heavy duty testing bench).
- Provides two installation solutions:
 - Three-side flanged frame for installing adjacent to the curb.
 - Four-side flanged frame for areas where no curb exists.
- Delivers a long life expectancy, reliability, safety and performance.

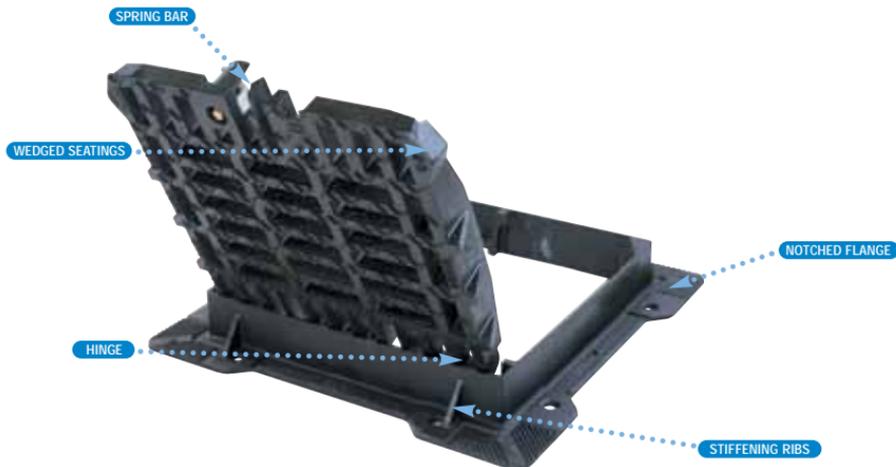


There are over 6 million PAM units in the ground around the world utilizing technically advanced materials and engineering. Our focus on the needs of the end-user — rather than developing products merely to meet a minimum performance standard — led us to ductile iron, a superior alternative to cast iron in terms of weight, strength and designability.



Highlights

- Ductile iron
- Spring bar locking
- Optimized flange design
- Three- or four-sided flange
- Non-captive hinge
- H2O loading
- Optional Penta lock
- Independently certified



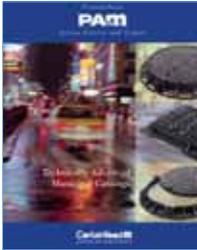
PAM Access Covers, Curb Units and Gratings.

CertainTeed has an extensive network of agents and distributors, which ensures that products and technical advice are always available locally.

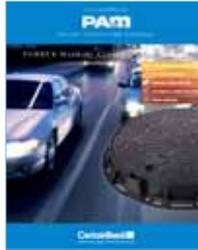
For more information call 1-877-351-3323, or refer to the PAM general presentation brochure or specific product brochures shown below.



Additional literature:



PAM General Brochure



PAMREX Manhole Covers



REXUS Manhole Covers



PAMTIGHT Manhole Covers



SELECTA Curb Units

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