



# PRODUCT CATALOG STEEL GRATING

رؤية  
VISION 2030  
المملكة العربية السعودية  
KINGDOM OF SAUDI ARABIA



شركة نبراس المعدن للصناعة  
NIPRAS METAL INDUSTRY Co.





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# ABOUT NIPRAS

**Nipras** metal industry Co. is a professional steel grating supplier in Saudi Arabia. We are professionally engaged in the production of all kinds of welded steel gratings.

Our company has owned all kinds of welding machines of over 30 sets and more than 100 staff members ensures high production efficiency and low production loss. More than 10 research and development department workers has been developing more products suitable for customers' requirements and market trends.



- › Founded in 2010
- › Strict QC system in the production line.
- › Standardized production under ISO 9001 International standard.
- › Wide range of steel grating for your option.
- › Advanced equipment for efficient production and fast delivery.
- › Rigorous and innovative spirits guide us become the leading enterprise

“ Steel Bar Grating – An Ideal Choice for Projects Ranging from Trenches and Stair Treads to Decking and Steel Flooring ”

# OUR VISION OUR MISSION



## OUR VISION

To be a preferred partner for our valuable customers and consistently exceeds our customer's needs and expectations in quality, delivery, and cost through continuous improvement and enhancing customer satisfaction. We go all out to manufacture, deliver and supply superior steel and metal products to our clients utilizing sustainable procedures that meet the international standards.

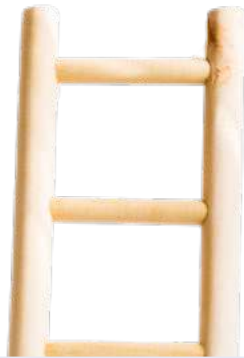


## OUR MISSION

NIPRAS strives to strengthen its manufacturing base in the steel industry to serve the kingdom and contribute to its vision through effective utilization of staff and materials with cutting-edge technology and high productivity, consistent with modern management practices.



# OBJECTIVES



- The aim of NIPRAS is to fabricate steel and metal work in the construction sector by the development of standards to turn raw metal into Architectural engineering solutions that can be used in construction.
- To assist clients, kingdom wide, by providing Architectural engineering solutions and expertise.
- To expand our business by offering the best in quality, cost and solutions.
- To provide our employees with the opportunity to develop their full potential within a safe and productive environment.
- To seek a competitive advantage by developing partnerships with clients, suppliers and subcontractors.

# RESEARCH & DEVELOPMENT



VR & D refers to two intertwined processes of research (to identify new knowledge and ideas) and development (turning the ideas into tangible products or processes). Our Research and development (R&D) department includes activities that we undertake to innovate and introduce new products and services.

- Develop products that create value for customers and expand the use of NIPRAS products worldwide
- Improve NIPRAS competitiveness by developing new industrial processes – and optimising existing ones – to reduce cost and improve quality
- Contribute to sustainable development by reducing the environmental impact of products and processes



# SOCIAL RESPONSIBILITY



We "NIPRAS" ability to sense, understand and react to others emotions while comprehending on social networks. (Social awareness which encompasses the competency of empathy is the ability to read non-verbal cues for negative emotions, particularly anger and fear and to judge the trustworthiness of others. It is about understanding others feelings, not experiencing them (Garner, 2009). NIPRAS accentuates on an individual's ability to identify, perceive and react to other's emotions while being a part of the social network circuitry. NIPRAS understand the ability to and be compassionate to the feelings, views, opinions and challenges of other people. Social-awareness cannot only be equated with understanding people's need but as well as caring for them (Coleman, 2006).

# ENVIRONMENT



NIPRAS understands the nature of the relationship between corporate adoption of the concept of societal responsibility [availability of environmental awareness, clear vision of the impact of social responsibility on financial performance, managers informing employees of the latest developments in societal responsibility programs, managers' response to their corporate social responsibility (CSR) proposals] in the form of an annual report that supports the success of the company's objectives, the company's management encourages employees to participate collectively in societal responsibility programs and to protect the environment from pollution in the industry.



CUSTOMERS



CIVIL SOCIETY



ENVIRONMENT



EMPLOYEES





# HEALTH & SAFETY



"NIPRAS" as a manufacturing Company for Metal & Steel Products has a large number of hazards because of the strong internal as well as external forward and backward linkages in terms of material flows. Employees are to work in hazardous environment because of complicated equipment layouts, high temperatures, heavy equipment's, moving machinery, hazardous processes, heavy lifting and movements of materials in the work environment ETC. Further, several operations involve working at heights or in confined spaces. In short, working involves both very high volume as well as the complexity of operations which results into employees getting exposed to a high level of health and safety risks. The health, safety, and protection of our employees, equipment, and the environment are perfectly calculated and implied as a crucial since it affects both economic and social factors.. On the other hand,



HEALTH



SAFETY

# WHAT IS STEEL GRATING ?

**Steel grating** is an open grid assembly of metal bars, in which the bearing bars, running in one direction, are spaced by rigid attachment to cross bars running perpendicular to them or by bent connecting bars extending between them, which is designed to hold heavy loads with minimal weight. It allows air, light and heat transmission, while providing strength to support everything on it from light pedestrian traffic to the heaviest vehicular traffic. It is widely used as flooring, catwalk, mezzanines/decking, stair tread, fencing, ramp, dock, trench cover, drainage pit cover, maintenance platform, pedestrian/crowded pedestrian in factories, workshops, motor rooms, trolley channels, heavy loading areas, boiler equipment and heavy equipment areas, etc.

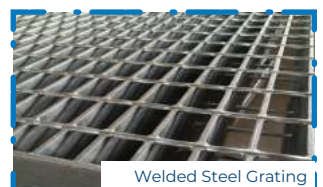
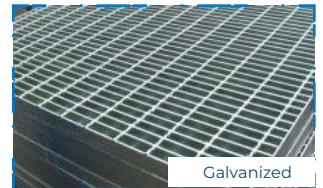
## BENEFITS

- › Range of bar grating alternatives  
Provide safe, durable, and functional products for all environments.
- › Flexibility  
Allow ventilation and light to pass-through while providing strength alternatives to support light pedestrian traffic to the heaviest vehicular traffic.
- › Longevity  
Last longer than any other material alternatives including wood, plastic and competing metal products.
- › Ease of installation and fabrication  
Adapt to complex floor configurations and hard-to-fit areas.
- › Maintenance-free  
Open areas allow excellent drainage as well as lack of debris build-up.

## BANDING

As manufactured, steel grating panels are provided with open ends. The open ends of the grating may be banded to provide additional transverse stiffness and a finished architectural appearance.

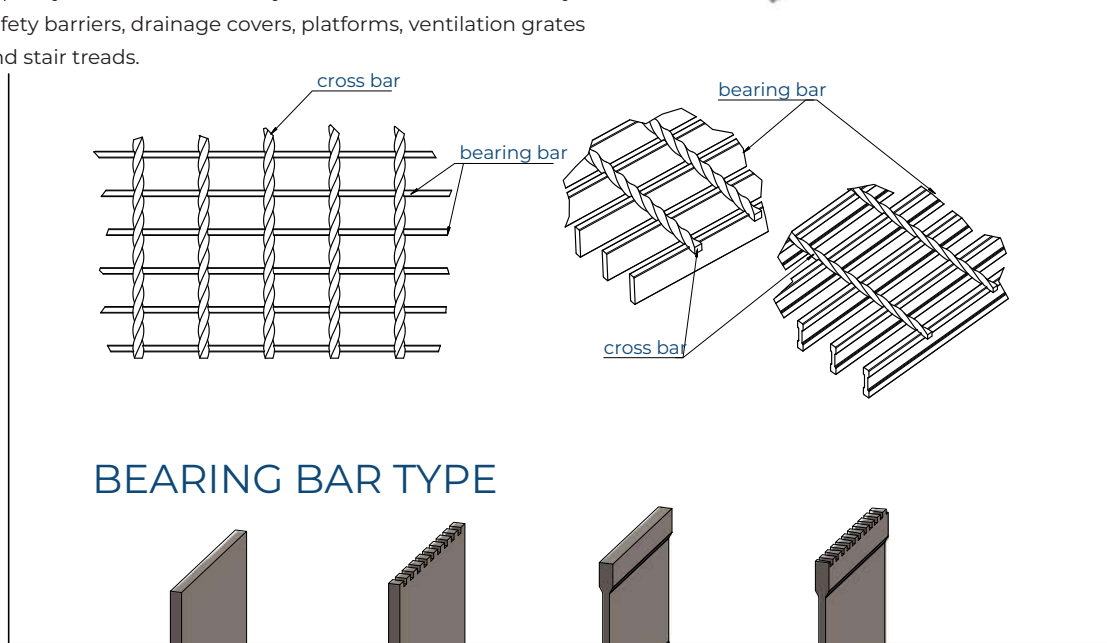
Achieved by welding a flat bar, similar in size to the bearing bars, to the cut end, banding enhances safety and should always be specified when gratings are designed to be removable.



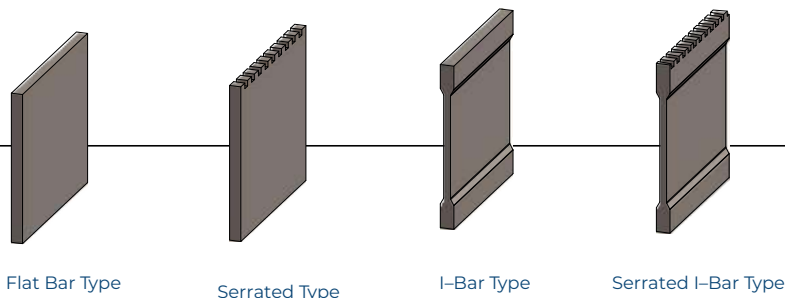


# WELDED STEEL GRATING

Welded steel grating is the most popular and versatile of all the industrial grating types. It consists of bearing bars that are automatically resistance-welded with the cross bars via the precise application of intense heat and pressure. This produces a rugged, one-piece panel with cross bars that are extremely rigid, yet smooth enough for easy, safe walking. This type of grating can be manufactured from stainless steel or low carbon steel. It has anti-slip surface, corrosion resistance, good drainage function, high strength and load capacity. Therefore, it is widely used in the form of walkways, safety barriers, drainage covers, platforms, ventilation grates and stair treads.



## BEARING BAR TYPE



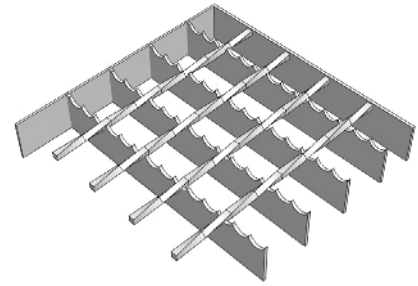


## BENEFITS

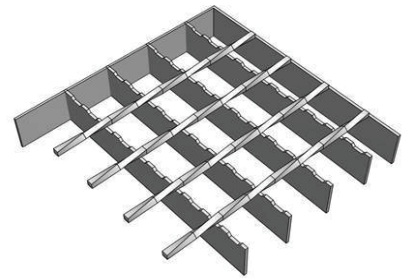
- › High strength and load capacity
- › Anti-slip surface
- › Corrosion resistance
- › Good drainage function
- › Easy to install and maintain

## SPECIFICATIONS (STANDARD)

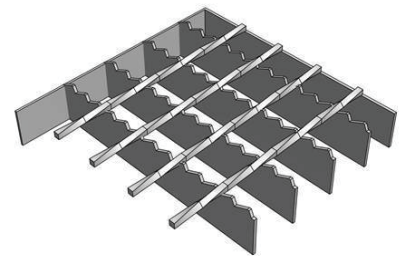
- › Material: carbon steel and stainless steel.
- › Surface treatment: galvanized, painted, untreated.
- › Surface type: standard plain surface, serrated surface.
- › Bearing bar type: flat bar and I-bar.
- › Cross bar type: round and square twisted cross bar.



SP/S1 sharp serrations

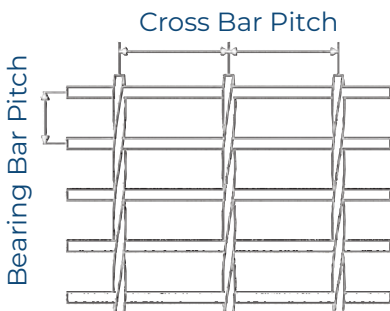


SP/S2 interrupted serrations



SP/S3 trapezoid serrations

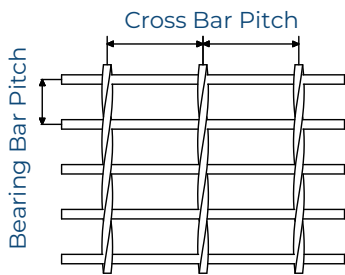
## SPECIFICATION OF W-19 WELDED STEEL GRATING



Item	Bearing Bar Size	Bearing Bar Pitch	Cross Bar Pitch	Weight (Lbs./S.F.)
SGW19-01	3/4" × 1/8"	1-3/16"	4"	4.0
			2"	4.3
SGW19-02	3/4" × 3/16"	1-3/16"	4"	5.6
			2"	6.4
SGW19-03	1" × 1/8"	1-3/16"	4"	5.1
			2"	5.4
SGW19-04	1" × 3/16"	1-3/16"	4"	7.3
			2"	8.0
SGW19-05	1-1/4" × 1/8"	1-3/16"	4"	6.1
			2"	6.5
SGW19-06	1-1/4" × 3/16"	1-3/16"	4"	8.9
			2"	9.7
SGW19-07	1-1/2" × 1/8"	1-3/16"	4"	7.3
			2"	7.9
SGW19-08	1-1/2" × 3/16"	1-3/16"	4"	10.6
			2"	11.8
SGW19-09	1-3/4" × 3/16"	1-3/16"	4"	12.2
			2"	13.5
SGW19-10	2" × 3/16"	1-3/16"	4"	13.9
			2"	15.1
SGW19-11	2-1/4" × 3/16"	1-3/16"	4"	15.4
			2"	16.7
SGW19-12	2-1/2" × 3/16"	1-3/16"	4"	17.1
			2"	18.3

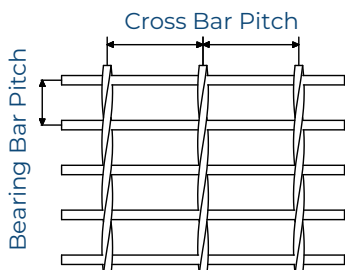
# WELDED STEEL GRATING

## SPECIFICATION OF **W-15** WELDED STEEL GRATING



Item	Bearing Bar Size	Bearing Bar Pitch	Cross Bar Pitch	Weight (Lbs./S.F.)
SGW15-01	3/4" x 1/8"	15/16"	4"	4.8
			2"	4.8
SGW15-02	3/4" x 3/16"	15/16"	4"	6.9
			2"	7.0
SGW15-03	1" x 1/8"	15/16"	4"	6.2
			2"	6.4
SGW15-04	1" x 3/16"	15/16"	4"	9.0
			2"	9.3
SGW15-05	1-1/4" x 1/8"	15/16"	4"	7.5
			2"	7.9
SGW15-06	1-1/4" x 3/16"	15/16"	4"	11.1
			2"	11.3
SGW15-07	1-1/2" x 1/8"	15/16"	4"	9.0
			2"	9.5
SGW15-08	1-1/2" x 3/16"	15/16"	4"	13.1
			2"	13.7
SGW15-09	1-3/4" x 3/16"	15/16"	4"	15.2
			2"	15.8
SGW15-10	2" x 3/16"	15/16"	4"	17.3
			2"	17.9
SGW15-11	2-1/4" x 3/16"	15/16"	4"	19.2
			2"	20.3
SGW15-12	2-1/2" x 3/16"	15/16"	4"	21.3
			2"	22.1

## SPECIFICATION OF **W-11** WELDED STEEL GRATING

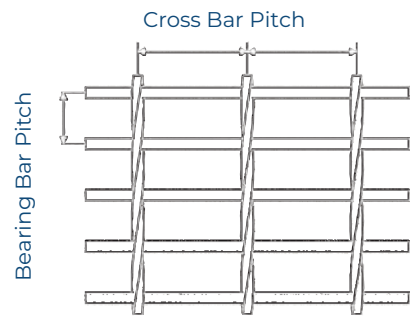


Item	Bearing Bar Size	Bearing Bar Pitch	Cross Bar Pitch	Weight (Lbs./S.F.)
SGW11-01	3/4" x 1/8"	11/16"	4"	6.1
			2"	6.6
SGW11-02	3/4" x 3/16"	11/16"	4"	9.1
			2"	9.0
SGW11-03	1" x 1/8"	11/16"	4"	8.0
			2"	8.5
SGW11-04	1" x 3/16"	11/16"	4"	11.9
			2"	11.9
SGW11-05	1-1/4" x 1/8"	11/16"	4"	9.9
			2"	10.3
SGW11-06	1-1/4" x 3/16"	11/16"	4"	14.9
			2"	14.8
SGW11-07	1-1/2" x 1/8"	11/16"	4"	11.8
			2"	12.6
SGW11-08	1-1/2" x 3/16"	11/16"	4"	17.0
			2"	17.8
SGW11-09	1-3/4" x 3/16"	11/16"	4"	20.4
			2"	20.8
SGW11-10	2" x 3/16"	11/16"	4"	23.2
			2"	23.8
SGW11-11	2-1/4" x 3/16"	11/16"	4"	25.9
			2"	26.5
SGW11-12	2-1/2" x 3/16"	11/16"	4"	28.7
			2"	29.3



# HEAVY DUTY

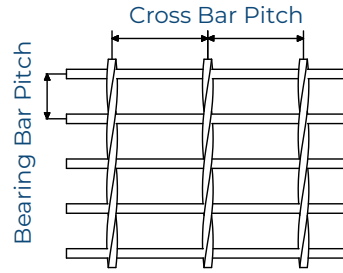
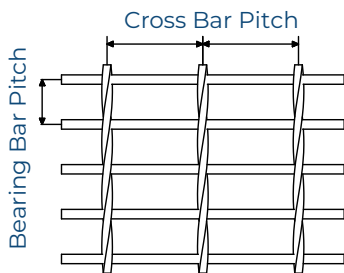
- › Material: carbon steel and stainless steel.
- › Surface treatment: galvanized, painted, untreated.
- › Surface type: plain surface, serrated surface.
- › Bearing bar type: flat bar and I-bar.
- › Cross bar type: round and square twisted cross bar.



## SPECIFICATION OF W-15 WELDED STEEL GRATING (HD)

Item	Bearing Bar Size	Bearing Bar Pitch	Cross Bar Pitch	Weight (Lbs./S.F.)
HDSGW15-01	1" x 1/4"	15/16"	4"	11.7
			2"	12.4
HDSGW15-02	1" x 5/16"	15/16"	4"	14.9
			2"	16.1
HDSGW15-03	1-1/4" x 1/4"	15/16"	4"	14.5
			2"	15.1
HDSGW15-04	1-1/4" x 5/16"	15/16"	4"	18.4
			2"	19.6
HDSGW15-05	1-1/2" x 1/4"	15/16"	4"	17.3
			2"	17.9
HDSGW15-06	1-1/2" x 5/16"	15/16"	4"	21.9
			2"	23.1
HDSGW15-07	1-3/4" x 1/4"	15/16"	4"	20.1
			2"	20.7
HDSGW15-08	1-3/4" x 5/16"	15/16"	4"	25.3
			2"	26.8
HDSGW15-09	2" x 1/4"	15/16"	4"	22.8
			2"	23.5
HDSGW15-10	2" x 5/16"	15/16"	4"	28.8
			2"	29.9
HDSGW15-11	2-1/4" x 1/4"	15/16"	4"	25.6
			2"	26.3
HDSGW15-12	2-1/4" x 5/16"	15/16"	4"	32.3
			2"	33.4
HDSGW15-13	2-1/2" x 1/4"	15/16"	4"	28.4
			2"	29.1
HDSGW15-14	2-1/2" x 5/16"	15/16"	4"	35.7
			2"	36.9
HDSGW15-15	2-3/4" x 1/4"	15/16"	4"	31.2
			2"	31.8
HDSGW15-16	2-3/4" x 5/16"	15/16"	4"	39.6
			2"	41.1
HDSGW15-17	3" x 1/4"	15/16"	4"	34.4
			2"	35.5
HDSGW15-18	3" x 5/16"	15/16"	4"	43.1
			2"	44.6

# WELDED STEEL GRATING

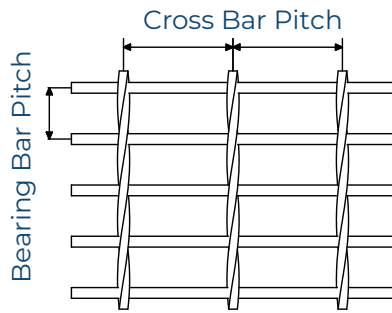
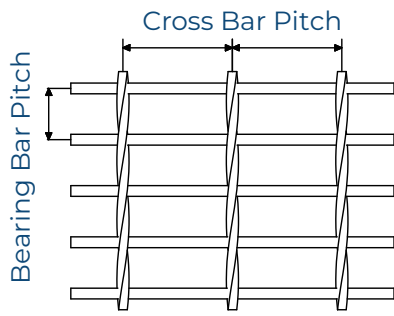


## SPECIFICATION OF **W-19** WELDED STEEL GRATING (HD)

Item	Bearing Bar Size	Bearing Bar Pitch	Cross Bar Pitch	Weight (Lbs./S.F.)
HDSCW19-01	1" x 1/4"	1-3/16"	4"	9.5
			2"	10.1
HDSCW19-02	1" x 5/16"	1-3/16"	4"	12.1
			2"	13.3
HDSCW19-03	1-1/4" x 1/4"	1-3/16"	4"	11.7
			2"	12.3
HDSCW19-04	1-1/4" x 5/16"	1-3/16"	4"	14.3
			2"	16.0
HDSCW19-05	1-1/2" x 1/4"	1-3/16"	4"	13.9
			2"	14.5
HDSCW19-06	1-1/2" x 5/16"	1-3/16"	4"	17.8
			2"	18.8
HDSCW19-07	1-3/4" x 1/4"	1-3/16"	4"	16.1
			2"	16.7
HDSCW19-08	1-3/4" x 5/16"	1-3/16"	4"	20.4
			2"	21.5
HDSCW19-09	2" x 1/4"	1-3/16"	4"	18.3
			2"	18.9
HDSCW19-10	2" x 5/16"	1-3/16"	4"	23.1
			2"	24.6
HDSCW19-11	2-1/4" x 1/4"	1-3/16"	4"	20.5
			2"	21.1
HDSCW19-12	2-1/4" x 5/16"	1-3/16"	4"	25.9
			2"	27.0
HDSCW19-13	2-1/2" x 1/4"	1-3/16"	4"	22.7
			2"	23.3
HDSCW19-14	2-1/2" x 5/16"	1-3/16"	4"	28.6
			2"	29.8
HDSCW19-15	2-3/4" x 1/4"	1-3/16"	4"	24.9
			2"	25.6
HDSCW19-16	2-3/4" x 5/16"	1-3/16"	4"	31.8
			2"	33.3
HDSCW19-17	3" x 1/4"	1-3/16"	4"	27.8
			2"	28.7
HDSCW19-18	3" x 5/16"	1-3/16"	4"	34.5
			2"	36.1

## SPECIFICATION OF **W-22** WELDED STEEL GRATING (HD)

Item	Bearing Bar Size	Bearing Bar Pitch	Cross Bar Pitch	Weight (Lbs./S.F.)
HDSCW22-01	1" x 1/4"	1-3/8"	4"	8.3
			2"	9.0
HDSCW22-02	1" x 5/16"	1-3/8"	4"	10.7
			2"	11.8
HDSCW22-03	1-1/4" x 1/4"	1-3/8"	4"	10.2
			2"	10.9
HDSCW22-04	1-1/4" x 5/16"	1-3/8"	4"	13.1
			2"	14.2
HDSCW22-05	1-1/2" x 1/4"	1-3/8"	4"	12.1
			2"	12.8
HDSCW22-06	1-1/2" x 5/16"	1-3/8"	4"	15.4
			2"	16.8
HDSCW22-07	1-3/4" x 1/4"	1-3/8"	4"	14.0
			2"	14.7
HDSCW22-08	1-3/4" x 5/16"	1-3/8"	4"	17.8
			2"	19.0
HDSCW22-09	2" x 1/4"	1-3/8"	4"	16.0
			2"	16.6
HDSCW22-10	2" x 5/16"	1-3/8"	4"	20.2
			2"	21.3
HDSCW22-11	2-1/4" x 1/4"	1-3/8"	4"	17.9
			2"	18.5
HDSCW22-12	2-1/4" x 5/16"	1-3/8"	4"	22.6
			2"	23.7
HDSCW22-13	2-1/2" x 1/4"	1-3/8"	4"	19.8
			2"	20.4
HDSCW22-14	2-1/2" x 5/16"	1-3/8"	4"	25.0
			2"	26.1
HDSCW22-15	2-3/4" x 1/4"	1-3/8"	4"	21.7
			2"	22.3
HDSCW22-16	2-3/4" x 5/16"	1-3/8"	4"	27.8
			2"	29.3
HDSCW22-17	3" x 1/4"	1-3/8"	4"	24.1
			2"	25.2
HDSCW22-18	3" x 5/16"	1-3/8"	4"	30.2
			2"	31.7



## SPECIFICATION OF **W-30** WELDED STEEL GRATING (HD)

## SPECIFICATION OF **W-38** WELDED STEEL GRATING (HD)

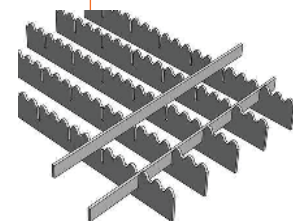
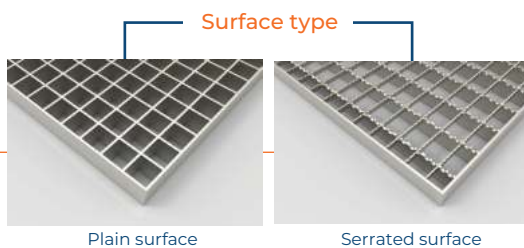
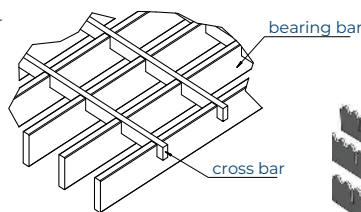
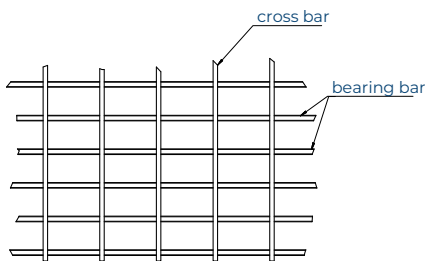
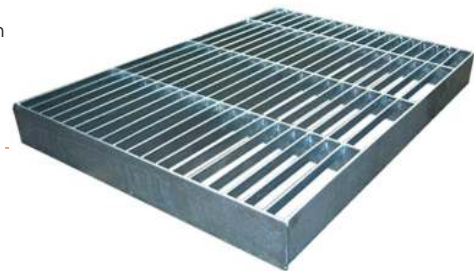
Item	Bearing Bar Size	Bearing Bar Pitch	Cross Bar Pitch	Weight (Lbs./S.F.)
HDSGW30-01	1" x 1/4"	1-7/8"	4"	6.3
			2"	7.0
HDSGW30-02	1" x 5/16"	1-7/8"	4"	8.2
			2"	9.4
HDSGW30-03	1-1/4" x 1/4"	1-7/8"	4"	7.8
			2"	8.4
HDSGW30-04	1-1/4" x 5/16"	1-7/8"	4"	10.0
			2"	11.1
HDSGW30-05	1-1/2" x 1/4"	1-7/8"	4"	9.2
			2"	9.8
HDSGW30-06	1-1/2" x 5/16"	1-7/8"	4"	11.8
			2"	12.9
HDSGW30-07	1-3/4" x 1/4"	1-7/8"	4"	10.6
			2"	11.3
HDSGW30-08	1-3/4" x 5/16"	1-7/8"	4"	13.6
			2"	14.7
HDSGW30-09	2" x 1/4"	1-7/8"	4"	12.0
			2"	12.7
HDSGW30-10	2" x 5/16"	1-7/8"	4"	15.3
			2"	16.5
HDSGW30-11	2-1/4" x 1/4"	1-7/8"	4"	13.6
			2"	14.1
HDSGW30-12	2-1/4" x 5/16"	1-7/8"	4"	17.1
			2"	18.3
HDSGW30-13	2-1/2" x 1/4"	1-7/8"	4"	14.9
			2"	15.3
HDSGW30-14	2-1/2" x 5/16"	1-7/8"	4"	18.9
			2"	20.0
HDSGW30-15	2-3/4" x 1/4"	1-7/8"	4"	16.3
			2"	17.0
HDSGW30-16	2-3/4" x 5/16"	1-7/8"	4"	21.0
			2"	22.6
HDSGW30-17	3" x 1/4"	1-7/8"	4"	18.2
			2"	19.3
HDSGW30-18	3" x 5/16"	1-7/8"	4"	22.8
			2"	24.4

Item	Bearing Bar Size	Bearing Bar Pitch	Cross Bar Pitch	Weight (Lbs./S.F.)
HDSGW38-01	1" x 1/4"	2-3/8"	4"	5.2
			2"	5.9
HDSGW38-02	1" x 5/16"	2-3/8"	4"	6.8
			2"	7.9
HDSGW38-03	1-1/4" x 1/4"	2-3/8"	4"	8.3
			2"	7.0
HDSGW38-04	1-1/4" x 5/16"	2-3/8"	4"	8.2
			2"	9.4
HDSGW38-05	1-1/2" x 1/4"	2-3/8"	4"	7.5
			2"	8.1
HDSGW38-06	1-1/2" x 5/16"	2-3/8"	4"	9.6
			2"	10.8
HDSGW38-07	1-3/4" x 1/4"	2-3/8"	4"	8.6
			2"	9.3
HDSGW38-08	1-3/4" x 5/16"	2-3/8"	4"	11.1
			2"	12.2
HDSGW38-09	2" x 1/4"	2-3/8"	4"	9.8
			2"	10.4
HDSGW38-10	2" x 5/16"	2-3/8"	4"	12.5
			2"	13.6
HDSGW38-11	2-1/4" x 1/4"	2-3/8"	4"	10.9
			2"	11.5
HDSGW38-12	2-1/4" x 5/16"	2-3/8"	4"	13.9
			2"	15.0
HDSGW38-13	2-1/2" x 1/4"	2-3/8"	4"	12.0
			2"	12.7
HDSGW38-14	2-1/2" x 5/16"	2-3/8"	4"	15.3
			2"	16.5
HDSGW38-15	2-3/4" x 1/4"	2-3/8"	4"	13.2
			2"	13.8
HDSGW38-16	2-3/4" x 5/16"	2-3/8"	4"	17.2
			2"	18.7
HDSGW38-17	3" x 1/4"	2-3/8"	4"	14.9
			2"	15.9
HDSGW38-18	3" x 5/16"	2-3/8"	4"	18.6
			2"	20.1

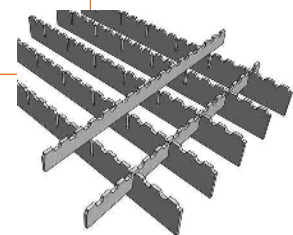


# PRESS-LOCKED STEEL GRATING

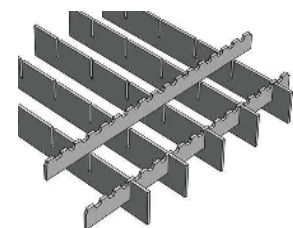
Press-locked steel grating features a system of interlocking perpendicular bars that offer the same degree of strength, durability and openness as welded bar grating. However, instead of welding the joints together, press-locked bar grating relies on the application of enormous hydraulic pressure that fuses the two close-tolerance slotted bars together. Permanent locking is achieved by forcing the deep cross bar into the notched bearing bar. This type of grating can be manufactured from stainless steel or low carbon steel. With the performance of high bearing capacity, non-slip, anti-corrosion and easy to install and remove, pressure locked grating is widely used for ceilings, platforms, floors, fence and all kinds of cover in the factories, civil and commercial buildings.



PR-S1 surface



PR-S2 surface



PR-S3 surface

## SERRATED SURFACE TYPE

- › **PR/S1:** Trapezoidal teeth on the bearing bar.
- › **PR/S2:** Trapezoidal tooth both on the bearing bar and cross bar with the highest non-slip performance. It is the most popular types among the three types.
- › **PR/S3:** The non-slip tooth is applied to the connect components. It has the lowest non-slip performance.



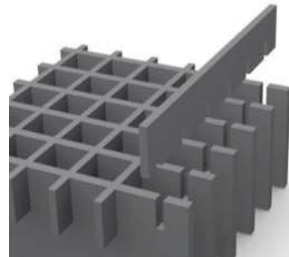
## CATEGORY



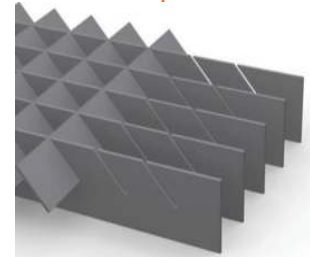
Common steel grating



Integral steel grating



Heavy duty steel grating



Louver steel grating

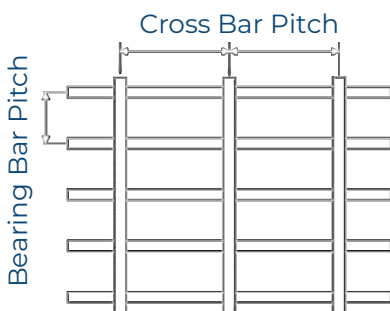
## BENEFITS

- › Light weight. high bearing capability and high strength
- › Non-slip & anti-corrosion performance
- › Not easy to deform
- › Beautiful appearance
- › Easy to install and move
- › Extended service life

## SPECIFICATIONS

- › Material: carbon steel and stainless steel.
- › Surface treatment: galvanized, painted, untreated.
- › Surface type: standard plain surface, serrated surface.
- › Cross bar type: flat cross bar and serrated cross bar.

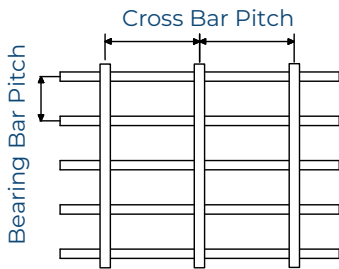
## SPECIFICATION OF P-19 PRESS-LOCKED STEEL GRATING



Item	Bearing Bar Size	Bearing Bar Pitch	Cross Bar Pitch	Weight (Lbs./S.F.)
SGP19-01	3/4" x 1/8"	1-3/16"	4"	4.6
			2"	4.9
SGP19-02	3/4" x 3/16"	1-3/16"	4"	6.3
			2"	7.1
SGP19-03	1" x 1/8"	1-3/16"	4"	5.7
			2"	6.0
SGP19-04	1" x 3/16"	1-3/16"	4"	8.0
			2"	8.7
SGP19-05	1-1/4" x 1/8"	1-3/16"	4"	6.8
			2"	7.2
SGP19-06	1-1/4" x 3/16"	1-3/16"	4"	9.6
			2"	10.4
SGP19-07	1-1/2" x 1/8"	1-3/16"	4"	7.9
			2"	8.5
SGP19-08	1-1/2" x 3/16"	1-3/16"	4"	11.2
			2"	12.4
SGP19-09	1-3/4" x 3/16"	1-3/16"	4"	12.9
			2"	14.2
SGP19-10	2" x 3/16"	1-3/16"	4"	14.5
			2"	15.7
SGP19-11	2-1/4" x 3/16"	1-3/16"	4"	16.1
			2"	17.4
SGP19-12	2-1/2" x 3/16"	1-3/16"	4"	17.7
			2"	18.9

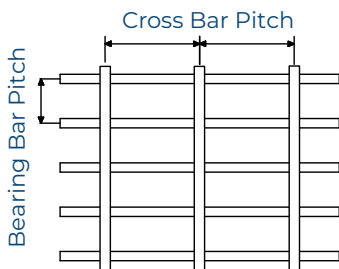
# PRESS-LOCKED STEEL GRATING

## SPECIFICATION OF P-15 PRESS-LOCKED STEEL GRATING



Item	Bearing Bar Size	Bearing Bar Pitch	Cross Bar Pitch	Weight (Lbs./S.F.)
SGP15-01	3/4" x 1/8"	15/16"	4"	5.5
			2"	5.5
SGP15-02	3/4" x 3/16"	15/16"	4"	7.5
			2"	7.7
SGP15-03	1" x 1/8"	15/16"	4"	6.9
			2"	7.2
SGP15-04	1" x 3/16"	15/16"	4"	9.8
			2"	10.1
SGP15-05	1-1/4" x 1/8"	15/16"	4"	8.2
			2"	8.7
SGP15-06	1-1/4" x 3/16"	15/16"	4"	11.7
			2"	12.2
SGP15-07	1-1/2" x 1/8"	15/16"	4"	9.6
			2"	10.6
SGP15-08	1-1/2" x 3/16"	15/16"	4"	13.8
			2"	14.8
SGP15-09	1-3/4" x 3/16"	15/16"	4"	15.8
			2"	16.9
SGP15-10	2" x 3/16"	15/16"	4"	17.9
			2"	19.0
SGP15-11	2-1/4" x 3/16"	15/16"	4"	19.9
			2"	21.1
SGP15-12	2-1/2" x 3/16"	15/16"	4"	22.0
			2"	23.2

## SPECIFICATION OF P-11 PRESS-LOCKED STEEL GRATING



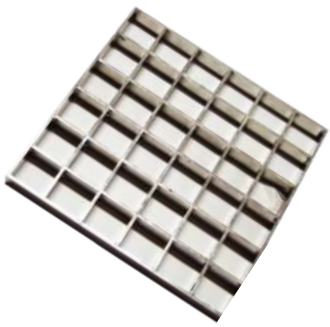
Item	Bearing Bar Size	Bearing Bar Pitch	Cross Bar Pitch	Weight (Lbs./S.F.)
SGP11-01	3/4" x 1/8"	11/16"	4"	6.6
			2"	7.6
SGP11-02	3/4" x 3/16"	11/16"	4"	9.7
			2"	10.4
SGP11-03	1" x 1/8"	11/16"	4"	8.5
			2"	9.5
SGP11-04	1" x 3/16"	11/16"	4"	12.6
			2"	13.3
SGP11-05	1-1/4" x 1/8"	11/16"	4"	10.4
			2"	11.3
SGP11-06	1-1/4" x 3/16"	11/16"	4"	15.6
			2"	16.2
SGP11-07	1-1/2" x 1/8"	11/16"	4"	12.3
			2"	13.9
SGP11-08	1-1/2" x 3/16"	11/16"	4"	17.7
			2"	19.7
SGP11-09	1-3/4" x 3/16"	11/16"	4"	21.0
			2"	22.7
SGP11-10	2" x 3/16"	11/16"	4"	23.8
			2"	25.7
SGP11-11	2-1/4" x 3/16"	11/16"	4"	26.5
			2"	28.4
SGP11-12	2-1/2" x 3/16"	11/16"	4"	29.4
			2"	31.2



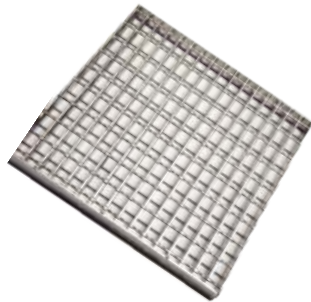
# PRODUCTION CAPACITY

## Production Line Capacity

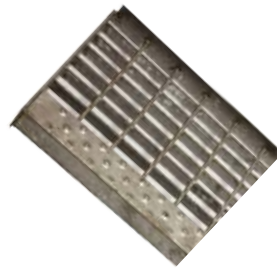
Welded Bar Grating 1000 pcs/month Press Bar Grating 500 pcs/month Stair Tread 500 pcs/month Drainage Cover 500 pcs/month



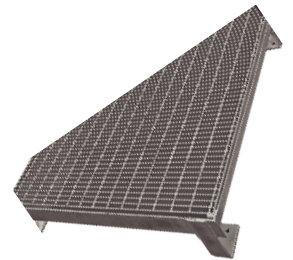
Press bar grating



Welded bar grating



Stair tread steel grating



Trench cover grating

## Production Machinery



Flatbar cutting machine



Spray painting machine



Welding machine



Hot dip galvanized machine



# TESTING MACHINE



## Step 1

Raw Material (plate)

Machine Name	Qty	Number of Year(s) Used	Condition
Tape measure	5	1	Acceptable
Caliper	3	1	Acceptable
Coating Thickness Tester	4	1	Acceptable



## Step 3

Plate Cutting



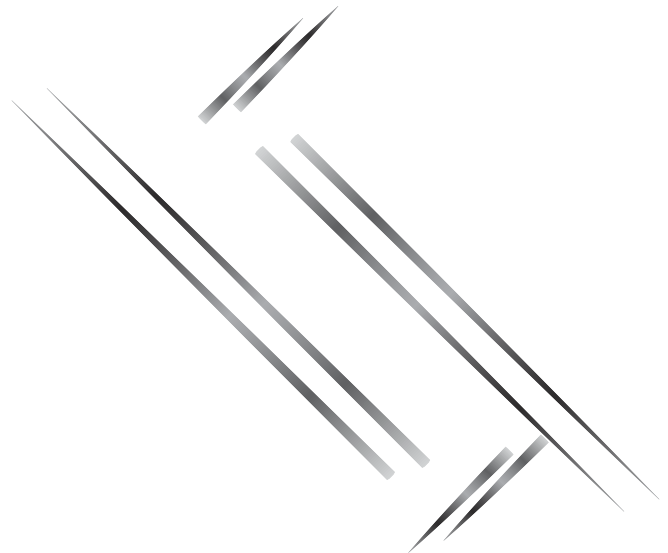
## Step 2

Raw Material (wire)



## Step 4

Wire Straightening & Cutting





### Step 5

Steel Grating Welding



### Step 6

Edge Cutting



### Step 7

Standard Steel Grating Cutting



### Step 8

Edge Banding

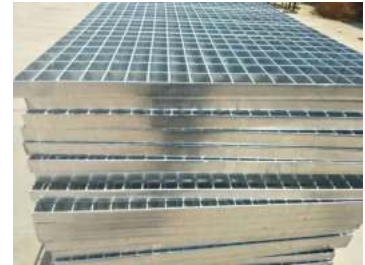


### Step 9

Surface Treatment (Galvanized)

### Step 10

Inspection



### Step 11

Finished



### Step 12

Packaging & Storage

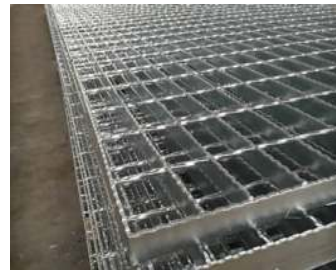




# QUALITY CONTROL

## Appearance inspection.

All the steel grating will be inspected one by one to ensure the smooth and integrated surface and appearance. If there are some defects, they will be selected and replaced by qualified products.



Appearance inspection



Bearing bar size inspection

## Sizing inspection.

No matter the sheet thickness, bearing bar size and cross bar size or the whole size of width, length and height, they will be inspected with meter rulers, vernier caliper, micrometer and other professional measurement tools. All the sizes must accord with the tolerance of International Standards and customers' requirements.

## Performance inspection.

The steel grating will be sampling inspected about the load performance according to customers' requirements and International standards. And the test report will be delivered along with the steel bar goods.



Angle bar size inspection

## Package inspection.

Steel grating is commonly packed in steel belt or it is packed in wooden or metal pallet. Quantity and weight of each package should be made according to specific conditions and customers' requirements. All the package should be firm and rigid to withstand the high impact during transportation.



Package inspection

“ With the development of enterprise system, we set up a series of steel grating inspection for quality control during production. Additionally, we will re-inspect the products before delivery to ensure all the products are qualified and perfect in condition when our customers receive them. Inspection items are as follows: ”



# APPLICATION

“ Steel grating is popular with industrial and commercial areas and is widely used as mezzanines, stair treads, walkways, ceilings, floorings, drainage trench covers, sun shade panels, observation towers, bridge decks, and various platforms for temporary or permanent applications in daily life. ”



Steel grating platform



Steel grating platform walkways



Steel grating trench covers



Steel grating platform mezzanine



Steel grating flooring



Steel grating ceiling



Steel grating stair treads



Steel grating bridge decks



Steel grating sun shade panels

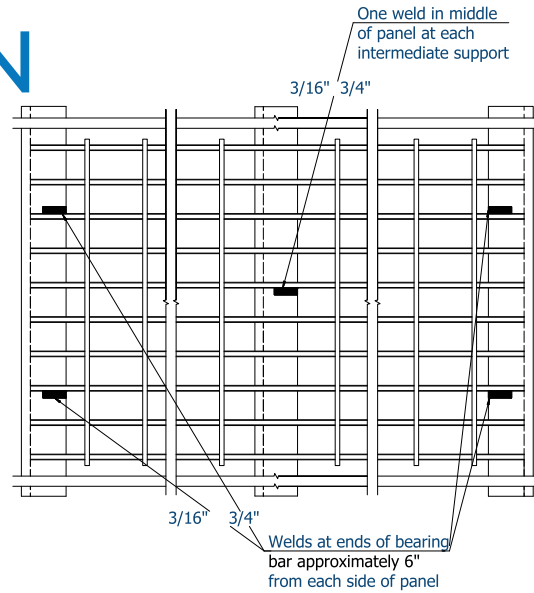


# INSTALLATION

“Steel gratings can be installed in two ways: welded installation and grating fasteners.”

## Welded Installation

When steel grating needs to be a permanent installation, welding is highly recommended to fasten steel grating in place by securing welding panels to the supporting structure. The diagram to the right shows the recommended minimum weld size and spacing for pedestrian applications.



## Grating fasteners

When steel grating is designed to be removable or when welding is not practical, grating fasteners are highly recommended. The minimum fastener spacing for pedestrian application is equal to the minimum weld pattern illustrated above.



### Saddle Clips

The saddle clip bridges two bearing bars and is attached with self-tapping bolt, self-threader, weld stud or bolt and nut.



### G-Clips

This G-clip fastens grating to a horizontal-facing steel structural member edge.



### Grate Fast Clips

This grate fast clip enables rapid and secure connection of open grate flooring to steel sections.

## FEATURES

- › Do not damage the galvanized layer.
- › It can be demolished at any time, reused.
- › In the later stage, it is necessary to check regularly whether the bolts are loose and fasten them in time to avoid them falling off.
- › Easy to install.

# LOADING TABLES (STANDARD)

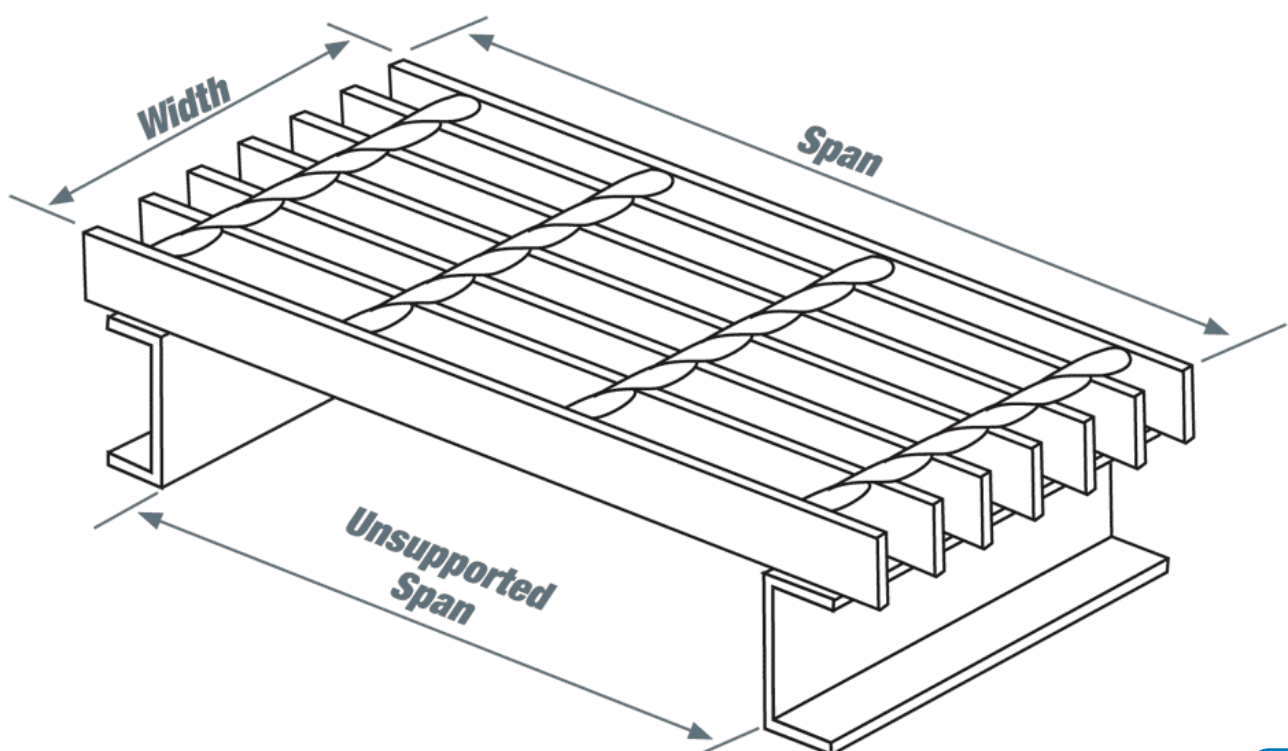
## Service Loads

The load tables provide load/deflection criteria for most common applications. These tables provide a concise reference allowing the specifying authority to select the appropriate bearing bar size and spacing for the intended application.

Pedestrian loads are commonly analyzed with uniform and concentrated loads. For pedestrian comfort, deflection is typically limited to 1/4".

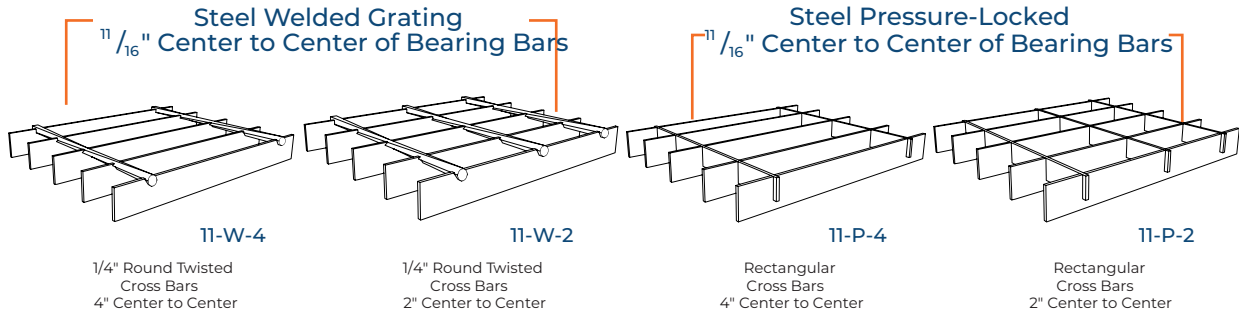
Heavy duty and vehicular load tables are presented for specific load conditions. Heavy duty load tables are presented with deflection limited to the lesser of 1/8" or L/400.

For more detailed information, see Loading Table.





# Carbon Steel Welded Bar Grating Carbon Steel Press-Locked Bar Grating



Static Load Table - Loads & deflections are theoretical, based on a maximum allowable fiber stress of 18,000 PSI. E = 30,000,000 PSI

Bar Size	Type	Approximate Weight #/Sq. Ft.	Sec. Mod. Per Foot of Width	Load Types	Maximum Safe Clear Span																														
					2'-0"	2'-6"	3'-0"	3'-6"	4'-0"	4'-6"	5'-0"	5'-6"	6'-0"	6'-6"	7'-0"	8'-0"	9'-0"																		
3/4" x 1/8"	11-W-4	6.1	0.207	U	366	397	276	203	155	123	99	NOTE: Spans and loads to the right of the heavy line exceed a deflection of 1/4" for uniform loads of 100#/sq. ft., which provide safe pedestrian comfort, but can be exceeded for other types of loads at the discretion of the engineer.  NOTE: When calculating loads that require serrated bearing bars, subtract 1/4" from your grating depth and use that load table.  EXAMPLE: (11/4" x 3/16") serrate bearing bars would have the same strength as (1" x 3/16") non-serrated bearing bars, therefore you would use the (1" x 3/16") load table.  U - Safe Uniform Load in lbs. per sq. ft. C - Safe Concentrated Load in lbs. per foot of grating width. D - Deflection in inches.																							
	11-W-2	6.6		D	.096	.151	.216	.295	.374	.486	.596																								
	11-P-4	6.6		C	366	496	414	355	310	277	248																								
	11-P-2	7.6		D	.077	.119	.173	.234	.308	.389	.478																								
3/4" x 3/16"	11-W-4	9.1	0.311	U	549	597	415	305	233	184	149							NOTE: Spans and loads to the right of the heavy line exceed a deflection of 1/4" for uniform loads of 100#/sq. ft., which provide safe pedestrian comfort, but can be exceeded for other types of loads at the discretion of the engineer.  NOTE: When calculating loads that require serrated bearing bars, subtract 1/4" from your grating depth and use that load table.  EXAMPLE: (11/4" x 3/16") serrate bearing bars would have the same strength as (1" x 3/16") non-serrated bearing bars, therefore you would use the (1" x 3/16") load table.  U - Safe Uniform Load in lbs. per sq. ft. C - Safe Concentrated Load in lbs. per foot of grating width. D - Deflection in inches.																	
	11-W-2	9.0		D	.096	.151	.216	.295	.374	.486	.599																								
	11-P-4	9.7		C	549	746	623	534	466	414	373																								
	11-P-2	10.4		D	.177	.119	.173	.234	.308	.389	.480																								
1" x 1/8"	11-W-4	8.0	0.369	U	648	708	492	361	277	219	177													146	123	NOTE: Spans and loads to the right of the heavy line exceed a deflection of 1/4" for uniform loads of 100#/sq. ft., which provide safe pedestrian comfort, but can be exceeded for other types of loads at the discretion of the engineer.  NOTE: When calculating loads that require serrated bearing bars, subtract 1/4" from your grating depth and use that load table.  EXAMPLE: (11/4" x 3/16") serrate bearing bars would have the same strength as (1" x 3/16") non-serrated bearing bars, therefore you would use the (1" x 3/16") load table.  U - Safe Uniform Load in lbs. per sq. ft. C - Safe Concentrated Load in lbs. per foot of grating width. D - Deflection in inches.									
	11-W-2	8.5		D	.057	.111	.159	.219	.288	.366	.451													.547	.673										
	11-P-4	8.5		C	648	885	738	632	554	493	443													402	369										
	11-P-2	9.5		D	.057	.090	.129	.176	.231	.293	.360													.434	.518										
1" x 3/16"	11-W-4	11.9	0.554	U	975	1064	739	543	416	328	266	220	185	157	NOTE: Spans and loads to the right of the heavy line exceed a deflection of 1/4" for uniform loads of 100#/sq. ft., which provide safe pedestrian comfort, but can be exceeded for other types of loads at the discretion of the engineer.  NOTE: When calculating loads that require serrated bearing bars, subtract 1/4" from your grating depth and use that load table.  EXAMPLE: (11/4" x 3/16") serrate bearing bars would have the same strength as (1" x 3/16") non-serrated bearing bars, therefore you would use the (1" x 3/16") load table.  U - Safe Uniform Load in lbs. per sq. ft. C - Safe Concentrated Load in lbs. per foot of grating width. D - Deflection in inches.																				
	11-W-2	11.9		D	.072	.111	.159	.219	.288	.366	.451	.547	.673																						
	11-P-4	12.6		C	975	1330	1109	950	832	738	665	605	555	510																					
	11-P-2	13.3		D	.058	.090	.129	.176	.231	.293	.360	.434	.518	.608																					
1 1/4" x 1/8"	11-W-4	9.9	0.578	U	1017	1110	771	566	434	343	277	229	193	164							142	NOTE: Spans and loads to the right of the heavy line exceed a deflection of 1/4" for uniform loads of 100#/sq. ft., which provide safe pedestrian comfort, but can be exceeded for other types of loads at the discretion of the engineer.  NOTE: When calculating loads that require serrated bearing bars, subtract 1/4" from your grating depth and use that load table.  EXAMPLE: (11/4" x 3/16") serrate bearing bars would have the same strength as (1" x 3/16") non-serrated bearing bars, therefore you would use the (1" x 3/16") load table.  U - Safe Uniform Load in lbs. per sq. ft. C - Safe Concentrated Load in lbs. per foot of grating width. D - Deflection in inches.													
	11-W-2	10.3		D	.058	.090	.129	.176	.231	.291	.358	.433	.520	.608							.704														
	11-P-4	10.4		C	1017	1388	1157	991	868	772	693	630	579	533							497														
	11-P-2	11.3		D	.046	.072	.104	.141	.183	.233	.288	.349	.416	.487							.565														
1 1/4" x 3/16"	11-W-4	14.9	0.864	U	1521	1659	1152	846	648	512	415	343	288	245							212							162	NOTE: Spans and loads to the right of the heavy line exceed a deflection of 1/4" for uniform loads of 100#/sq. ft., which provide safe pedestrian comfort, but can be exceeded for other types of loads at the discretion of the engineer.  NOTE: When calculating loads that require serrated bearing bars, subtract 1/4" from your grating depth and use that load table.  EXAMPLE: (11/4" x 3/16") serrate bearing bars would have the same strength as (1" x 3/16") non-serrated bearing bars, therefore you would use the (1" x 3/16") load table.  U - Safe Uniform Load in lbs. per sq. ft. C - Safe Concentrated Load in lbs. per foot of grating width. D - Deflection in inches.						
	11-W-2	14.8		D	.058	.090	.129	.176	.231	.291	.358	.433	.520	.608							.704							.921							
	11-P-4	15.6		C	1521	2074	1728	1481	1296	1152	1038	943	864	796							742							648							
	11-P-2	16.2		D	.046	.072	.104	.141	.183	.233	.288	.349	.416	.487							.565							.737							
1 1/2" x 1/8"	11-W-4	11.8	0.831	U	1464	1596	1108	814	623	492	399	330	277	236	204	156	123	NOTE: Spans and loads to the right of the heavy line exceed a deflection of 1/4" for uniform loads of 100#/sq. ft., which provide safe pedestrian comfort, but can be exceeded for other types of loads at the discretion of the engineer.  NOTE: When calculating loads that require serrated bearing bars, subtract 1/4" from your grating depth and use that load table.  EXAMPLE: (11/4" x 3/16") serrate bearing bars would have the same strength as (1" x 3/16") non-serrated bearing bars, therefore you would use the (1" x 3/16") load table.  U - Safe Uniform Load in lbs. per sq. ft. C - Safe Concentrated Load in lbs. per foot of grating width. D - Deflection in inches.																	
	11-W-2	12.6		D	.048	.075	.106	.147	.192	.243	.300	.365	.433	.506	.587	.774	.978																		
	11-P-4	12.3		C	1464	1995	1662	1425	1246	1107	998	908	831	767	714	624	554																		
	11-P-2	13.9		D	.038	.059	.087	.117	.154	.195	.241	.289	.347	.406	.470	.614	.777																		
1 1/2" x 3/16"	11-W-4	17.0	1.244	U	2190	2388	1659	1219	933	737	597	493	415	353	305	233	184							NOTE: Spans and loads to the right of the heavy line exceed a deflection of 1/4" for uniform loads of 100#/sq. ft., which provide safe pedestrian comfort, but can be exceeded for other types of loads at the discretion of the engineer.  NOTE: When calculating loads that require serrated bearing bars, subtract 1/4" from your grating depth and use that load table.  EXAMPLE: (11/4" x 3/16") serrate bearing bars would have the same strength as (1" x 3/16") non-serrated bearing bars, therefore you would use the (1" x 3/16") load table.  U - Safe Uniform Load in lbs. per sq. ft. C - Safe Concentrated Load in lbs. per foot of grating width. D - Deflection in inches.											
	11-W-2	17.8		D	.048	.075	.106	.147	.192	.243	.300	.365	.433	.506	.587	.774	.978																		
	11-P-4	17.7		C	2190	2985	2489	2133	1866	1658	1493	1356	1245	1147	1068	932	828																		
	11-P-2	19.7		D	.038	.059	.087	.117	.154	.195	.241	.289	.347	.406	.470	.614	.777																		
1 3/4" x 3/16"	11-W-4	20.4	1.694	U	2982	3252	2259	1659	1271	1004	813	672	565	481	415	318	251													NOTE: Spans and loads to the right of the heavy line exceed a deflection of 1/4" for uniform loads of 100#/sq. ft., which provide safe pedestrian comfort, but can be exceeded for other types of loads at the discretion of the engineer.  NOTE: When calculating loads that require serrated bearing bars, subtract 1/4" from your grating depth and use that load table.  EXAMPLE: (11/4" x 3/16") serrate bearing bars would have the same strength as (1" x 3/16") non-serrated bearing bars, therefore you would use the (1" x 3/16") load table.  U - Safe Uniform Load in lbs. per sq. ft. C - Safe Concentrated Load in lbs. per foot of grating width. D - Deflection in inches.					
	11-W-2	20.8		D	.041	.064	.092	.126	.165	.208	.258	.310	.371	.435	.506	.664	.838																		
	11-P-4	21.0		C	2982	4065	3389	2903	2542	2259	2033	1848	1695	1563	1453	1272	1130																		
	11-P-2	22.7		D	.033	.052	.074	.101	.132	.167	.206	.249	.297	.347	.403	.527	.667																		
2" x 3/16"	11-W-4	23.2	2.212	U	3897	4247	2949	2167	1659	1311	1062	877	737	628	542	415	328	NOTE: Spans and loads to the right of the heavy line exceed a deflection of 1/4" for uniform loads of 100#/sq. ft., which provide safe pedestrian comfort, but can be exceeded for other types of loads at the discretion of the engineer.  NOTE: When calculating loads that require serrated bearing bars, subtract 1/4" from your grating depth and use that load table.  EXAMPLE: (11/4" x 3/16") serrate bearing bars would have the same strength as (1" x 3/16") non-serrated bearing bars, therefore you would use the (1" x 3/16") load table.  U - Safe Uniform Load in lbs. per sq. ft. C - Safe Concentrated Load in lbs. per foot of grating width. D - Deflection in inches.																	
	11-W-2	23.8		D	.036	.056	.081	.111	.144	.183	.226	.273	.325	.384	.447	.580	.732																		
	11-P-4	23.8		C	3897	5309	4424	3792	3318	2950	2655	2412	2211	2041	1897	1660	1476																		
	11-P-2	25.7		D	.029	.045	.064	.088	.115	.145	.180	.217	.259	.303	.353	.480	.583																		
2 1/4" x 3/16"	11-W-4	25.9	2.8	U	4932	5376	3733	2743	2100	1659	1344	1111	933	795	686	525	415							NOTE: Spans and loads to the right of the heavy line exceed a deflection of 1/4" for uniform loads of 100#/sq. ft., which provide safe pedestrian comfort, but can be exceeded for other types of loads at the discretion of the engineer.  NOTE: When calculating loads that require serrated bearing bars, subtract 1/4" from your grating depth and use that load table.  EXAMPLE: (11/4" x 3/16") serrate bearing bars would have the same strength as (1" x 3/16") non-serrated bearing bars, therefore you would use the (1" x 3/16") load table.  U - Safe Uniform Load in lbs. per sq. ft. C - Safe Concentrated Load in lbs. per foot of grating width. D - Deflection in inches.											
	11-W-2	26.5		D	.032	.050	.072	.098	.127	.162	.199	.241	.287	.338	.393	.512	.646																		
	11-P-4	26.5		C	4932	6720	5600	4800	4200	3733	3360	3055	2799	2584	2401	2100	1868																		
	11-P-2	28.4		D	.026	.039	.057	.079	.102	.129	.160	.194	.230	.270	.314	.410	.518																		
2 1/2" x 3/16"	11-W-4	28.7	3.456	U	6087	6636	4608	3385	2592	2048	1659	1371	1152	982	846	648	512													NOTE: Spans and loads to the right of the heavy line exceed a deflection of 1/4" for uniform loads of 100#/sq. ft., which provide safe pedestrian comfort, but can be exceeded for other types of loads at the discretion of the engineer.  NOTE: When calculating loads that require serrated bearing bars, subtract 1/4" from your grating depth and use that load table.  EXAMPLE: (11/4" x 3/16") serrate bearing bars would have the same strength as (1" x 3/16") non-serrated bearing bars, therefore you would use the (1" x 3/16") load table.  U - Safe Uniform Load in lbs. per sq. ft. C - Safe Concentrated Load in lbs. per foot of grating width. D - Deflection in inches.					
	11-W-2	29.3		D	.029	.044	.064	.088	.116	.145	.180	.217	.260	.304	.354	.465	.586																		
	11-P-4	29.4		C	6087	8295	6912	5924	5184	4608	4148	3770	3456	3192	2961	2652	2304																		
	11-P-2	31.2		D	.023	.036	.051	.071	.092	.116	.144	.173	.207	.242	.282	.369	.467																		

Panel Width Chart in Inche Dimensions are Outside to Outside of Bearing Bars. Also Available in Stainless Steel

No. of Bars	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
1/8" Bar	13 1/16	1 1/2	2 3/16	2 7/8	3 9/16	4 1/4	4 15/16	5 5/8	6 3/16	7	7 11/16	8 3/8	9 1/16	9 3/4	10 7/16	11 1/8	11 13/16	12 1/2
3/16" Bar	7/8	1 9/16	2 1/4	2 15/16	3 5/8	4 5/16	5	5 11/16	6 3/8	7 1/16	7 3/4	8 7/16	9 1/8	9 13/16	10 1/2	11 3/8	11 7/8	12 9/16
No. of Bars	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37
1/8" Bar	13 3/16	13 7/16	14 9/16	15 1/4	15 15/16	16 5/8	17 5/16	18	18 11/16	19 3/8	20 1/16	20 3/4	21 7/16	22 1/8	22 13/16	23 1/2	24 3/16	24 7/8
3/16" Bar	13 1/4	13 15/16	14 5/8	15 5/16	16	16 11/16	17 3/8	18 1/16	18 3/4	19 7/16	20 1/8	20 13/16	21 1/2	22 3/16	22 7/8	23 9/16	24 1/4	24 15/16
No. of Bars	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	
1/8" Bar	25 9/16	26 1/4	26 15/16	27 3/8	28 3/16	29	29 11/16	30 3/8	31 1/16	31 3/4	32 7/16	33 1/8	33 13/16	34 1/2	35 3/16	35 7/8	36 3/16	
3/16" Bar	25 5/8	26 5/16	27	27 11/16	28 3/8	29 1/16	29 3/4	30 7/16	31 1/8	31 13/16	32 1/2	33 3/16	33 7/8	34 9/16	35 1/4	35 15/16	36 5/8	

# LOADING TABLES (HEAVY DUTY)

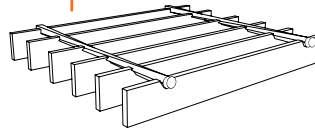
## 15 Space Load Table

Heavy Duty  $\frac{15}{16}$ " C/C Bearing Bars  
Non-Serrated & Serrated

U: Safe uniform load (psf)  
C: Concentrated load (psf)

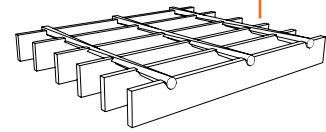
Heavy Duty Welded Bar Grating

$\frac{15}{16}$ " Center to Center of Bearing Bars



15-W-4

Cross Bars 4" Center to Center



15-W-2

Cross Bars 2" Center to Center

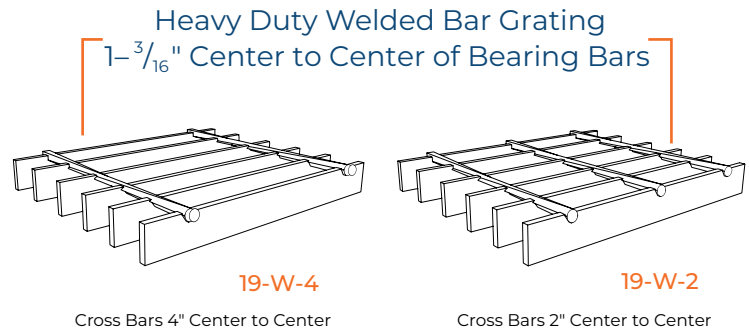
Bar Size	Type	Approx Weight psf	Sec Mod Per Ft of Width	Load Types	LOAD & DEFLECTION TABLE / SPAN (Direction of Bearing Bar)										
					24"	30"	36"	42"	48"	54"	60"	66"	72"	84"	96"
1" x 1/4"	15-W-4	11.7	0.533	U	1,778	1,138	790	580	444	351	284	235	198	145	111
	15-W-2	12.4		C	1,778	1,422	1,185	1,016	889	790	711	646	593	508	444
1" x 5/16"	15-W-4	14.9	0.667	U	2,222	1,422	988	726	556	439	356	294	247	181	139
	15-W-2	16.1		C	2,222	1,778	1,481	1,270	1,111	988	889	808	741	635	556
1-1/4" x 1/4"	15-W-4	14.5	0.833	U	2,778	1,778	1,235	907	694	549	444	367	309	227	174
	15-W-2	15.1		C	2,778	2,222	1,852	1,587	1,389	1,235	1,111	1,010	926	794	694
1-1/4" x 5/16"	15-W-4	18.4	1.042	U	3,472	2,222	1,543	1,134	868	686	556	459	386	283	217
	15-W-2	19.6		C	3,472	2,778	2,315	1,984	1,736	1,543	1,389	1,263	1,157	992	868
1-1/2" x 1/4"	15-W-4	17.3	1.200	U	4,000	2,560	1,778	1,306	1,000	790	640	529	444	327	250
	15-W-2	17.9		C	4,000	3,200	2,667	2,286	2,000	1,778	1,600	1,455	1,333	1,143	1,000
1-1/2" x 5/16"	15-W-4	21.9	1.500	U	5,000	3,200	2,222	1,633	1,250	988	800	661	556	408	313
	15-W-2	23.1		C	5,000	4,000	3,333	2,857	2,500	2,222	2,000	1,818	1,667	1,429	1,250
1-3/4" x 1/4"	15-W-4	20.1	1.633	U	5,444	3,484	2,420	1,778	1,361	1,075	871	720	605	444	340
	15-W-2	20.7		C	5,444	4,356	3,630	3,111	2,722	2,420	2,178	1,980	1,815	1,556	1,361
1-3/4" x 5/16"	15-W-4	25.3	2.042	U	6,806	4,356	3,025	2,222	1,701	1,344	1,089	900	756	556	425
	15-W-2	26.8		C	6,806	5,444	4,537	3,889	3,403	3,025	2,722	2,475	2,269	1,944	1,701
2" x 1/4"	15-W-4	22.8	2.133	U	7,111	4,551	3,160	2,322	1,778	1,405	1,138	940	790	580	444
	15-W-2	23.5		C	7,111	5,689	4,741	4,063	3,556	3,160	2,844	2,586	2,370	2,032	1,778
2" x 5/16"	15-W-4	28.8	2.667	U	8,889	5,689	3,951	2,902	2,222	1,756	1,422	1,175	988	726	556
	15-W-2	29.9		C	8,889	7,111	5,926	5,079	4,444	3,951	3,556	3,232	2,963	2,540	2,222
2-1/4" x 1/4"	15-W-4	25.6	2.700	U	9,000	5,760	4,000	2,939	2,250	1,778	1,440	1,190	1,000	735	563
	15-W-2	26.3		C	9,000	7,200	6,000	5,143	4,500	4,000	3,600	3,273	3,000	2,571	2,250
2-1/4" x 5/16"	15-W-4	32.3	3.375	U	11,250	7,200	5,000	3,673	2,813	2,222	1,800	1,488	1,250	918	703
	15-W-2	33.4		C	11,250	9,000	7,500	6,429	5,625	5,000	4,500	4,091	3,750	3,214	2,813
2-1/2" x 1/4"	15-W-4	28.4	3.333	U	11,111	7,111	4,938	3,628	2,778	2,195	1,778	1,469	1,235	907	694
	15-W-2	29.1		C	11,111	8,889	7,407	6,349	5,556	4,938	4,444	4,040	3,704	3,175	2,778
2-1/2" x 5/16"	15-W-4	35.7	4.167	U	13,889	8,889	6,173	4,535	3,472	2,743	2,222	1,837	1,543	1,134	868
	15-W-2	36.9		C	13,889	11,111	9,259	7,937	6,944	6,173	5,556	5,051	4,630	3,968	3,472
2-3/4" x 1/4"	15-W-4	31.2	4.033	U	13,444	8,604	5,975	4,390	3,361	2,656	2,151	1,778	1,494	1,098	840
	15-W-2	31.8		C	13,444	10,756	8,963	7,683	6,722	5,975	5,378	4,889	4,481	3,841	3,361
2-3/4" x 5/16"	15-W-4	39.6	5.042	U	16,806	10,756	7,469	5,488	4,201	3,320	2,689	2,222	1,867	1,372	1,050
	15-W-2	41.1		C	16,806	13,444	11,204	9,603	8,403	7,469	6,722	6,111	5,602	4,802	4,201
3" x 1/4"	15-W-4	34.4	4.800	U	16,000	10,240	7,111	5,224	4,000	3,160	2,560	2,116	1,778	1,306	1,000
	15-W-2	35.5		C	16,000	12,800	10,667	9,143	8,000	7,111	6,400	5,818	5,333	4,571	4,000
3" x 5/16"	15-W-4	43.1	6.000	U	20,000	12,800	8,889	6,531	5,000	3,951	3,200	2,645	2,222	1,633	1,250
	15-W-2	44.6		C	20,000	16,000	13,333	11,429	10,000	8,889	8,000	7,273	6,667	5,714	5,000

Note:

When gratings with serrated surface are specified, the depth of the grating required for a specific load will be 1/4" greater than that shown in these tables.

# 19 Space Load Table

Heavy Duty  $1\frac{3}{16}$ " C/C Bearing Bars  
Non-Serrated & Serrated



U: Safe uniform load (psf)  
C: Concentrated load (psf)

Bar Size	Type	Approx Weight psf	Sec Mod Per Ft of Width	Load Types	LOAD & DEFLECTION TABLE / SPAN (Direction of Bearing Bar)											
					24"	30"	36"	42"	48"	54"	60"	66"	72"	84"	96"	
1" x 1/4"	19-W-4	9.5	0.421	U	1,404	898	624	458	351	277	225	186	156	115	88	
	19-W-2	10.1		C	1,404	1,123	936	802	702	624	561	510	468	401	351	
1" x 5/16"	19-W-4	12.1	0.526	U	1,754	1,123	780	573	439	347	281	232	195	143	110	
	19-W-2	13.3		C	1,754	1,404	1,170	1,003	877	780	702	638	585	501	439	
1-1/4" x 1/4"	19-W-4	11.7	0.658	U	2,193	1,404	975	716	548	433	351	290	244	179	137	
	19-W-2	12.3		C	2,193	1,754	1,462	1,253	1,096	975	877	797	731	627	548	
1-1/4" x 5/16"	19-W-4	14.3	0.822	U	2,741	1,754	1,218	895	685	541	439	362	305	224	171	
	19-W-2	16.0		C	2,741	2,193	1,827	1,566	1,031	1,218	1,096	997	914	783	685	
1-1/2" x 1/4"	19-W-4	13.9	0.947	U	3,158	2,021	1,404	1,031	789	624	505	418	351	258	197	
	19-W-2	14.5		C	3,158	2,526	2,105	1,805	1,579	1,404	1,263	1,148	1,053	902	789	
1-1/2" x 5/16"	19-W-4	17.8	1.184	U	3,947	2,526	1,754	1,289	987	780	632	522	439	322	247	
	19-W-2	18.8		C	3,947	3,158	2,63	2,256	1,974	1,754	1,579	1,435	1,316	1,128	987	
1-3/4" x 1/4"	19-W-4	16.1	1.289	U	4,298	2,751	1,910	1,404	1,075	849	688	568	478	351	269	
	19-W-2	16.7		C	4,298	3,43	2,86	2,456	2,149	1,910	1,719	1,563	1,433	1,228	1,075	
1-3/4" x 5/16"	19-W-4	20.4	1.612	U	5,373	3,439	2,388	1,754	1,343	1,061	860	710	597	439	336	
	19-W-2	21.5		C	5,373	4,298	3,582	3,070	2,686	2,388	2,149	1,954	1,791	1,535	1,343	
2" x 1/4"	19-W-4	18.3	1.684	U	5,614	3,593	2,495	1,833	1,404	1,109	898	742	624	458	351	
	19-W-2	18.9		C	5,614	4,491	3,743	3,208	2,807	2,495	2,246	2,041	1,871	1,604	1,404	
2" x 5/16"	19-W-4	23.1	2.105	U	7,018	4,491	3,119	2,291	1,754	1,386	1,123	928	780	573	439	
	19-W-2	24.6		C	7,018	5,614	4,678	4,010	3,509	3,119	2,807	2,552	2,339	2,005	1,754	
2-1/4" x 1/4"	19-W-4	20.5	2.132	U	7,105	4,547	3,158	2,320	1,776	1,404	1,137	940	789	580	444	
	19-W-2	21.1		C	7,105	5,684	4,737	4,060	3,553	3,158	2,842	2,584	2,368	2,030	1,776	
2-1/4" x 5/16"	19-W-4	25.9	2.664	U	8,882	5,684	3,947	2,900	2,220	1,754	1,421	1,174	987	725	555	
	19-W-2	27		C	8,882	7,105	5,921	5,075	4,441	3,947	3,553	3,230	2,961	2,538	2,220	
2-1/2" x 1/4"	19-W-4	22.7	2.632	U	8,772	5,614	3,899	2,864	2,193	1,733	1,404	1,160	975	716	548	
	19-W-2	23.3		C	8,772	7,018	5,848	5,013	4,386	3,899	3,509	3,190	2,924	2,506	2,193	
2-1/2" x 5/16"	19-W-4	28.6	3.289	U	10,965	7,018	4,873	3,580	2,741	2,166	1,754	1,450	1,218	895	685	
	19-W-2	29.8		C	10,965	8,772	7,310	6,266	5,482	4,873	4,386	3,987	3,655	3,133	2,741	
2-3/4" x 1/4"	19-W-4	24.9	3.184	U	10,614	6,793	4,717	3,466	2,654	2,097	1,698	1,404	1,179	866	663	
	19-W-2	25.6		C	10,614	8,491	7,076	6,065	5,307	4,717	4,246	3,860	3,538	3,033	2,654	
2-3/4" x 5/16"	19-W-4	31.8	3.980	U	13,268	8,491	5,897	4,332	3,317	2,621	2,123	1,754	1,474	1,083	829	
	19-W-2	33.3		C	13,268	10,614	8,845	7,581	6,634	5,897	5,307	4,825	4,423	3,791	3,317	
3" x 1/4"	19-W-4	27.8	3.789	U	12,632	8,084	5,614	4,125	3,158	2,495	2,021	1,670	1,404	1,031	789	
	19-W-2	28.7		C	12,632	10,105	8,421	7,218	6,316	5,614	5,053	4,593	4,211	3,609	3,158	
3" x 5/16"	19-W-4	34.5	4.737	U	15,789	10,105	7,018	5,156	3,947	3,119	2,526	2,088	1,754	1,289	987	
	19-W-2	36.1		C	15,789	12,632	10,526	9,023	7,895	7,018	6,316	5,742	5,263	4,511	3,947	

**Note:**

When gratings with serrated surface are specified, the depth of the grating required for a specific load will be 1/4" greater than that shown in these tables.

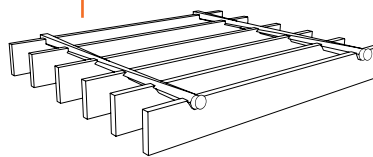


## 22 Space Load Table

Heavy Duty  $1\frac{3}{8}$ " C/C Bearing Bars  
Non-Serrated & Serrated

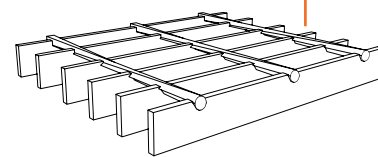
### Heavy Duty Welded Bar Grating

$1\frac{3}{8}$ " Center to Center of Bearing Bars



22-W-4

Cross Bars 4" Center to Center



22-W-2

Cross Bars 2" Center to Center

U: Safe uniform load (psf)  
C: Concentrated load (psf)

Bar Size	Type	Approx Weight psf	Sec Mod Per Ft of Width	Load Types	LOAD & DEFLECTION TABLE / SPAN (Direction of Bearing Bar)										
					24"	30"	36"	42"	48"	54"	60"	66"	72"	84"	96"
1" x 1/4"	22-W-4	8.3	0.364	U	1,212	776	539	396	303	239	194	160	135	99	76
	22-W-2	9.0		C	1,212	970	808	693	606	539	485	441	404	346	303
1" x 5/16"	22-W-4	10.7	0.455	U	1,515	970	673	495	379	299	242	200	168	124	95
	22-W-2	11.8		C	1,515	1,212	1,010	866	758	673	606	551	505	433	379
1-1/4" x 1/4"	22-W-4	10.2	0.568	U	1,894	1,212	842	618	473	374	303	250	210	155	118
	22-W-2	10.9		C	1,894	1,515	1,263	1,082	947	842	758	689	631	541	473
1-1/4" x 5/16"	22-W-4	13.1	0.710	U	2,367	1,515	1,052	773	592	468	379	313	263	193	148
	22-W-2	14.2		C	2,367	1,894	1,578	1,353	1,184	1,052	947	861	789	676	592
1-1/2" x 1/4"	22-W-4	12.1	0.818	U	2,727	1,745	1,212	891	682	539	436	361	303	223	170
	22-W-2	12.8		C	2,727	2,182	1,818	1,558	1,364	1,212	1,091	992	909	779	682
1-1/2" x 5/16"	22-W-4	15.4	1.023	U	3,409	2,182	1,515	1,113	852	673	545	451	379	278	213
	22-W-2	16.8		C	3,409	2,727	2,273	1,948	1,705	1,515	1,364	1,240	1,136	974	852
1-3/4" x 1/4"	22-W-4	14.0	1.114	U	3,712	2,376	1,650	1,212	928	733	594	491	412	303	232
	22-W-2	14.7		C	3,712	2,970	2,475	2,121	1,856	1,650	1,485	1,350	1,237	1,061	928
1-3/4" x 5/16"	22-W-4	17.8	1.392	U	4,640	2,970	2,062	1,515	1,160	917	742	614	516	379	290
	22-W-2	19.0		C	4,640	3,712	3,093	2,652	2,320	2,062	1,856	1,687	1,547	1,326	1,160
2" x 1/4"	22-W-4	16.0	1.455	U	4,848	3,103	2,155	1,583	1,212	958	776	641	539	396	303
	22-W-2	16.6		C	4,848	3,879	3,232	2,771	2,424	2,155	1,939	1,763	1,616	1,385	1,212
2" x 5/16"	22-W-4	20.2	1.818	U	6,061	3,879	2,694	1,979	1,515	1,197	970	801	673	495	379
	22-W-2	21.3		C	6,061	4,848	4,040	3,463	3,030	2,694	2,424	2,204	2,020	1,732	1,515
2-1/4" x 1/4"	22-W-4	17.9	1.841	U	6,136	3,927	2,727	2,004	1,534	1,212	982	811	682	501	384
	22-W-2	18.5		C	6,136	4,909	4,091	3,506	3,068	2,727	2,455	2,231	2,045	1,753	1,534
2-1/4" x 5/16"	22-W-4	22.6	2.301	U	7,670	4,909	3,409	2,505	1,918	1,515	1,227	1,014	852	626	479
	22-W-2	23.7		C	7,670	6,136	5,114	4,383	3,835	3,409	3,068	2,789	2,557	2,192	1,918
2-1/2" x 1/4"	22-W-4	19.8	2.273	U	7,576	4,848	3,367	2,474	1,894	1,496	1,212	1,002	842	618	473
	22-W-2	20.4		C	7,576	6,061	5,051	4,329	3,788	3,367	3,030	2,755	2,525	2,165	1,894
2-1/2" x 5/16"	22-W-4	25.0	2.841	U	9,470	6,061	4,209	3,092	2,367	1,871	1,515	1,252	1,052	773	592
	22-W-2	26.1		C	9,470	7,576	6,313	5,411	4,735	4,209	3,788	3,444	3,157	2,706	2,367
2-3/4" x 1/4"	22-W-4	21.7	2.750	U	9,167	5,867	4,074	2,993	2,292	1,811	1,467	1,212	1,019	748	573
	22-W-2	22.3		C	9,167	7,333	6,111	5,238	4,583	4,074	3,667	3,333	3,056	2,619	2,292
2-3/4" x 5/16"	22-W-4	27.8	3.438	U	11,458	7,333	5,093	3,741	2,865	2,263	1,833	1,515	1,273	935	716
	22-W-2	29.3		C	11,458	9,167	7,639	6,548	5,729	5,093	4,583	4,167	3,819	3,274	2,865
3" x 1/4"	15-W-4	24.1	3.273	U	10,909	6,982	4,848	3,562	2,727	2,155	1,745	1,443	1,212	891	682
	15-W-2	25.2		C	10,909	8,727	7,273	6,234	5,455	4,848	4,364	3,967	3,636	3,117	2,727
3" x 5/16"	15-W-4	30.2	4.091	U	13,636	8,727	6,061	4,553	3,409	2,694	2,182	1,803	1,515	1,113	852
	15-W-2	31.7		C	13,636	10,909	9,091	7,792	6,818	6,061	5,455	4,959	4,545	3,869	3,409

**Note:**

When gratings with serrated surface are specified, the depth of the grating required for a specific load will be 1/4" greater than that shown in these tables.

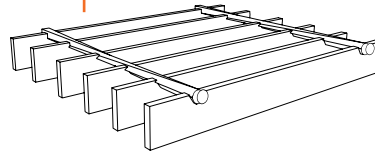


# 30 Space Load Table

Heavy Duty 1<sup>7</sup>/<sub>8</sub>" C/C Bearing Bars  
Non-Serrated & Serrated

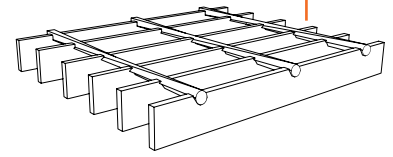
## Heavy Duty Welded Bar Grating

1-<sup>7</sup>/<sub>8</sub>" Center to Center of Bearing Bars



30-W-4

Cross Bars 4" Center to Center



30-W-2

Cross Bars 2" Center to Center

U: Safe uniform load (psf)  
C: Concentrated load (psf)

Bar Size	Type	Approx Weight psf	Sec Mod Per Ft of Width	Load Types	LOAD & DEFLECTION TABLE / SPAN (Direction of Bearing Bar)										
					24"	30"	36"	42"	48"	54"	60"	66"	72"	84"	96"
1" x 1/4"	30-W-4	6.3	0.267	U	889	569	395	290	222	176	142	118	99	73	56
	30-W-2	7.0		C	889	711	593	508	444	395	356	323	296	254	222
1" x 5/16"	30-W-4	8.2	0.333	U	1,111	711	494	363	278	219	178	147	123	91	69
	30-W-2	9.4		C	1,111	889	741	635	556	494	444	404	370	317	278
1-1/4" x 1/4"	30-W-4	7.8	0.417	U	1,389	889	617	454	347	274	222	184	154	113	87
	30-W-2	8.4		C	1,389	1,111	926	794	694	617	556	505	463	397	347
1-1/4" x 5/16"	30-W-4	10.0	0.521	U	1,736	1,111	772	567	434	343	278	230	193	142	109
	30-W-2	11.1		C	1,736	1,389	1,157	992	868	772	694	631	579	496	434
1-1/2" x 1/4"	30-W-4	9.2	0.600	U	2,000	1,280	889	653	500	395	320	264	222	163	125
	30-W-2	9.8		C	2,000	1,600	1,333	1,143	1,000	889	800	727	667	571	500
1-1/2" x 5/16"	30-W-4	11.8	0.750	U	2,500	1,600	1,111	816	625	494	400	331	278	204	156
	30-W-2	12.9		C	2,500	2,000	1,667	1,429	1,250	1,111	1,000	909	833	714	625
1-3/4" x 1/4"	30-W-4	10.6	0.817	U	2,722	1,742	1,210	889	681	538	436	360	302	222	170
	30-W-2	11.3		C	2,722	2,178	1,815	1,556	1,361	1,210	1,089	990	907	778	681
1-3/4" x 5/16"	30-W-4	13.6	1.021	U	3,403	2,178	1,512	1,111	851	672	544	450	378	278	213
	30-W-2	14.7		C	3,403	2,722	2,269	1,944	1,701	1,512	1,361	1,237	1,134	972	851
2" x 1/4"	30-W-4	12.0	1.067	U	3,556	2,276	1,580	1,161	889	702	569	470	395	290	222
	30-W-2	12.7		C	3,556	2,844	2,370	2,032	1,778	1,580	1,422	1,293	1,185	1,016	889
2" x 5/16"	30-W-4	15.3	1.333	U	4,444	2,844	1,975	1,451	1,111	878	711	588	494	363	278
	30-W-2	16.5		C	4,444	3,556	2,963	2,540	2,222	1,975	1,778	1,616	1,481	1,270	1,111
2-1/4" x 1/4"	30-W-4	13.6	1.350	U	4,500	2,880	2,000	1,469	1,125	889	720	595	500	367	281
	30-W-2	14.1		C	4,500	3,600	3,000	2,571	2,250	2,000	1,800	1,636	1,500	1,286	1,125
2-1/4" x 5/16"	30-W-4	17.1	1.688	U	5,625	3,600	2,500	1,837	1,406	1,111	900	744	625	459	352
	30-W-2	18.3		C	5,625	4,500	3,750	3,214	2,813	2,500	2,250	2,045	1,875	1,607	1,406
2-1/2" x 1/4"	30-W-4	14.9	1.667	U	5,556	3,556	2,469	1,814	1,389	1,097	889	735	617	454	347
	30-W-2	15.3		C	5,556	4,444	3,704	3,175	2,778	2,469	2,222	2,020	1,852	1,587	1,389
2-1/2" x 5/16"	30-W-4	18.9	2.083	U	6,944	4,444	3,086	2,268	1,736	1,372	1,111	918	772	567	434
	30-W-2	20.0		C	6,944	5,556	4,630	3,968	3,472	3,086	2,778	2,525	2,315	1,984	1,736
2-3/4" x 1/4"	30-W-4	16.3	2.017	U	6,722	4,302	2,988	2,195	1,681	1,328	1,076	889	747	549	420
	30-W-2	17.0		C	6,722	5,378	4,481	3,841	3,361	2,988	2,689	2,444	2,241	1,921	1,681
2-3/4" x 5/16"	30-W-4	21.0	2.521	U	8,403	5,378	3,735	2,744	2,101	1,660	1,344	1,111	934	686	525
	30-W-2	22.6		C	8,403	6,722	5,602	4,802	4,201	3,735	3,361	3,056	2,801	2,401	2,101
3" x 1/4"	30-W-4	18.2	2.400	U	8,000	5,120	3,556	2,612	2,000	1,580	1,280	1,058	889	653	500
	30-W-2	19.3		C	8,000	6,400	5,333	4,571	4,000	3,556	3,200	2,909	2,667	2,286	2,000
3" x 5/16"	30-W-4	22.8	3.000	U	10,000	6,400	4,444	3,265	2,500	1,975	1,600	1,322	1,111	816	625
	30-W-2	24.4		C	10,000	8,000	6,667	5,714	5,000	4,444	4,000	3,636	3,333	2,857	2,500

**Note:**

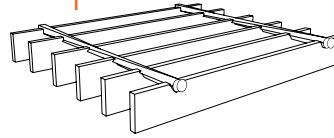
When gratings with serrated surface are specified, the depth of the grating required for a specific load will be 1/4" greater than that shown in these tables.



## 38 Space Load Table

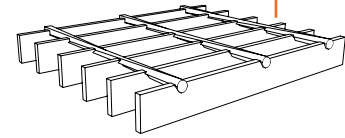
Heavy Duty 2<sup>3</sup>/<sub>8</sub>" C/C Bearing Bars  
Non-Serrated & Serrated

Heavy Duty Welded Bar Grating  
2<sup>3</sup>/<sub>8</sub>" Center to Center of Bearing Bars



38-W-4

Cross Bars 4" Center to Center



38-W-2

Cross Bars 2" Center to Center

U: Safe uniform load (psf)  
C: Concentrated load (psf)

Bar Size	Type	Approx Weight psf	Sec Mod Per Ft of Width	Load Types	LOAD & DEFLECTION TABLE / SPAN (Direction of Bearing Bar)										
					24"	30"	36"	42"	48"	54"	60"	66"	72"	84"	96"
1" x 1/4"	38-W-4	5.2	0.211	U	702	449	312	229	175	139	112	93	78	57	44
	38-W-2	5.9		C	702	561	468	401	351	312	281	255	234	201	175
1" x 5/16"	38-W-4	6.8	0.263	U	877	561	390	286	219	173	140	116	97	72	55
	38-W-2	7.9		C	877	702	585	501	439	390	351	319	292	251	219
1-1/4" x 1/4"	38-W-4	8.3	0.329	U	1,096	702	487	358	274	217	175	145	122	90	69
	38-W-2	7.0		C	1,096	877	731	627	548	487	439	399	365	313	274
1-1/4" x 5/16"	38-W-4	8.2	0.411	U	1,371	877	609	448	343	271	219	181	152	112	86
	38-W-2	9.4		C	1,371	1,096	914	783	685	609	548	498	457	392	343
1-1/2" x 1/4"	38-W-4	7.5	0.474	U	1,579	1,011	702	516	395	312	253	209	175	129	99
	38-W-2	8.1		C	1,579	1,263	1,053	902	789	702	632	574	526	451	395
1-1/2" x 5/16"	38-W-4	9.6	0.592	U	1,974	1,263	877	644	493	390	316	261	219	161	123
	38-W-2	10.8		C	1,974	1,579	1,316	1,128	987	877	789	718	658	564	493
1-3/4" x 1/4"	38-W-4	8.6	0.645	U	2,149	1,375	955	702	537	425	344	284	239	175	134
	38-W-2	9.3		C	2,149	1,719	1,433	1,228	1,075	955	860	781	716	614	537
1-3/4" x 5/16"	38-W-4	11.1	0.806	U	2,686	1,719	1,194	877	672	531	430	355	298	219	168
	38-W-2	12.2		C	2,686	2,149	1,791	1,535	1,343	1,194	1,075	977	895	768	672
2" x 1/4"	38-W-4	9.8	0.842	U	2,807	1,796	1,248	917	702	554	449	371	312	229	175
	38-W-2	10.4		C	2,807	2,246	1,871	1,604	1,404	1,248	1,123	1,021	936	802	702
2" x 5/16"	38-W-4	12.5	1.053	U	3,509	2,246	1,559	1,146	877	693	561	464	390	286	219
	38-W-2	13.6		C	3,509	2,807	2,339	2,005	1,754	1,559	1,404	1,276	1,170	1,003	877
2-1/4" x 1/4"	38-W-4	10.9	1.066	U	3,553	2,274	1,579	1,160	888	702	568	470	395	290	222
	38-W-2	11.5		C	3,553	2,842	2,368	2,030	1,776	1,579	1,421	1,292	1,184	1,015	888
2-1/4" x 5/16"	38-W-4	13.9	1.332	U	4,441	2,842	1,974	1,450	1,110	877	711	587	493	363	278
	38-W-2	15.0		C	4,441	3,553	2,961	2,538	2,220	1,974	1,776	1,615	1,480	1,269	1,110
2-1/2" x 1/4"	38-W-4	12.0	1.316	U	4,386	2,807	1,949	1,432	1,096	866	702	580	487	358	274
	38-W-2	12.7		C	4,386	3,509	2,924	2,506	2,193	1,949	1,754	1,595	1,462	1,253	1,096
2-1/2" x 5/16"	38-W-4	15.3	1.645	U	5,482	3,509	2,437	1,790	1,371	1,083	877	725	609	448	343
	38-W-2	16.5		C	5,482	4,386	3,655	3,133	2,741	2,437	2,193	1,994	1,827	1,566	1,371
2-3/4" x 1/4"	38-W-4	13.2	1.592	U	5,307	3,396	2,359	1,733	1,327	1,048	849	702	590	433	332
	38-W-2	13.8		C	5,307	4,246	3,538	3,033	2,654	2,359	2,123	1,930	1,769	1,516	1,327
2-3/4" x 5/16"	38-W-4	17.2	1.990	U	6,634	4,246	2,948	2,166	1,658	1,310	1,061	877	737	542	415
	38-W-2	18.7		C	6,634	5,307	4,423	3,791	3,317	2,948	2,654	2,412	2,211	1,895	1,658
3" x 1/4"	38-W-4	14.9	1.895	U	6,316	4,042	2,807	2,062	1,579	1,248	1,011	835	702	516	395
	38-W-2	15.9		C	6,316	5,053	4,211	3,609	3,158	2,807	2,526	2,297	2,105	1,805	1,579
3" x 5/16"	38-W-4	18.6	2.368	U	7,895	5,053	3,509	2,578	1,974	1,559	1,263	1,044	877	644	493
	38-W-2	20.1		C	7,895	6,316	5,263	4,511	3,947	3,509	3,158	2,871	2,632	2,256	1,974

**Note:**

When gratings with serrated surface are specified, the depth of the grating required for a specific load will be 1/4" greater than that shown in these tables.





## HEAVY DUTY STEEL BAR GRATING

The following shows the capacities on the basis of vehicular load distribution and concentrated loading per foot of grating width for a given span.

- Notes:**
- a) For continuous spans, use continuity factor = .80
  - b) This distribution results in larger grating sizes for lighter trucks on shorter spans. Spans shown for H15/H20 reflect the more critical condition.
  - c) The fork lift wheel loads and load distribution patterns depicted below, generally and only partially represent the broad range of rubber-tired lift trucks available.
  - d) Wheeled vehicles with urethane tires should NEVER be used in conjunction with open grid bar grating.
  - e) HS20 is the same as H-20 and HS15 is the same as H-15. The "S" stands for semi-trailer.

## EQUATION VARIABLES

M = Bending Moment

S = Section Modulus -<sup>3</sup>in / foot of grating width

i = Moment of Inertia -<sup>4</sup> in/ bar

E = Modulus of Elasticity (29,000,000 psi)

F = Allowable Bending Stress (20,000 psi)

ψ = Clear, Simple Span - inches

D = Deflection (inches)

a = Partial Load Contact Parallel to Span - inches

s = Center-to-Center Spacing Between Bearing Bars - inches

b = Partial Load Contact Dimension at 90° to Span - inches

b = a + (2s)

P = Total Wheel or Partial Load including Impact - Pounds

P<sub>1</sub> = P per bearing bar

P<sub>1</sub> = P x (s/b)

Step 1: Determine M

$$M = FS/12$$

Step 2: Substituting for M

$$(i) a > \psi \quad (ii) a < \psi$$

Solve for ψ:







$$M = \frac{P\psi^2}{8ab}$$

$$M = \frac{P(.25\psi - .125a)}{b}$$

Step 3: Check D\*

$$D = \frac{P1[(2\psi^3) - (a^2\psi) + (a^3/4)]}{8ab}$$

\*Deflection should be limited to  $\frac{1}{400}\text{Span}$

Maximum Traffic Conditions		Wheel Load in Pounds (1/2 Axle Load + 30% impact)	Loading	Load Distribution	
				a	b
	Truck Traffic 40,000 pound Axle Load Dual Wheels	26,000	H-25	25"	25" + (2s)
	Truck Traffic 32,000 pound Axle Load Dual Wheels	20,800	H-20	20"	20" + (2s)
	Truck Traffic 24,000 pound Axle Load Dual Wheels	15,600	H-15	15"	15" + (2s)
 Rubber Tires	10,000 Pound Capacity Lift Truck 14,400 Pound Vehicle 24,400 Pound Total Load 85% Drive Axle Load	13,480	5 Ton	11"	11" + (2s)
 Rubber Tires	6,000 Pound Capacity Lift Truck 9,800 Pound Vehicle 15,800 Pound Total Load 85% Drive Axle Load	8,730	3 Ton	7"	7" + (2s)
 Rubber Tires	2,000 Pound Capacity Lift Truck 4,200 Pound Vehicle 6,200 Pound Total Load 85% Drive Axle Load	3,425	1 Ton	4"	4" + (2s)



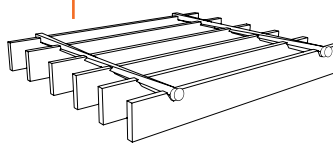
## HEAVY DUTY STEEL BAR GRATING

### 15 Space Load Table

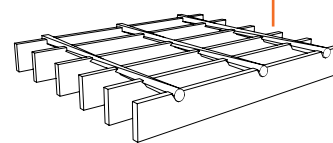
Heavy Duty  $\frac{5}{16}$ " C/C Bearing Bars  
Non-Serrated & Serrated

Heavy Duty Welded Bar Grating

$\frac{15}{16}$ " Center to Center of Bearing Bars



15-W-4



15-W-2



H-25 Load



H-20 Load



H-15 Load



Auto Traffic



5 Ton Forklift



3 Ton Forklift



1 Ton Forklift

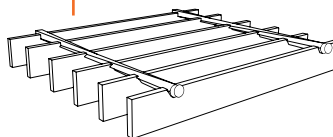
Bar Size	Section Modulus psf	Moment of Inertia psf	Approx Weight psf	Maximum Safe Span						
				H-25 Load	H-20 Load	H-15 Load	Auto Traffic	5 Ton Forklift	3 Ton Forklift	1 Ton Forklift
1" x 1/4"	0.533	0.267	12.0	1'-1"	1'-0"	0'-10"	1'-2"	0'-8"	0'-7"	0'-8"
1" x 5/16"	0.667	0.333	14.7	1'-3"	1'-2"	1'-0"	1'-5"	0'-9"	0'-8"	0'-9"
1-1/4" x 1/4"	0.833	0.521	14.7	1'-4"	1'-3"	1'-1"	1'-8"	0'-10"	0'-9"	0'-11"
1-1/4" x 5/16"	1.042	0.651	18.1	1'-6"	1'-5"	1'-3"	1'-11"	1'-0"	0'-10"	1'-1"
1-1/2" x 1/4"	1.200	0.900	17.4	1'-8"	1'-6"	1'-4"	2'-3"	1'-1"	0'-11"	1'-3"
1-1/2" x 5/16"	1.500	1.125	21.5	1'-10"	1'-8"	1'-6"	2'-6"	1'-3"	1'-10"	1'-7"
1-3/4" x 1/4"	1.633	1.429	20.2	1'-11"	1'-9"	1'-7"	2'-10"	1'-3"	1'-2"	1'-8"
1-3/4" x 5/16"	2.042	1.786	24.9	2'-2"	2'-0"	1'-10"	3'-2"	1'-6"	1'-5"	2'-1"
2" x 1/4"	2.133	2.133	22.9	2'-3"	2'-0"	1'-10"	3'-6"	1'-7"	1'-5"	2'-2"
2" x 5/16"	2.667	2.667	28.3	2'-6"	2'-4"	2'-2"	3'-11"	1'-10"	1'-9"	2'-8"
2-1/4" x 1/4"	2.700	3.038	25.6	2'-7"	2'-4"	2'-2"	4'-2"	1'-10"	1'-9"	2'-8"
2-1/4" x 5/16"	3.375	3.797	31.7	2'-11"	2'-9"	2'-7"	4'-5"	2'-2"	2'-2"	3'-4"
2-1/2" x 1/4"	3.333	4.167	28.3	2'-11"	2'-9"	2'-7"	4'-7"	2'-2"	2'-2"	3'-4"
2-1/2" x 5/16"	4.167	5.208	35.1	3'-5"	3'-3"	3'-1"	4'-11"	2'-8"	2'-7"	4'-1"
3" x 1/4"	4.800	7.200	33.8	3'-9"	3'-7"	3'-6"	5'-6"	3'-0"	3'-0"	4'-8"
3" x 5/16"	6.000	9.000	41.9	4'-5"	4'-4"	4'-2"	5'-11"	3'-7"	3'-8"	5'-0"

### 19 Space Load Table

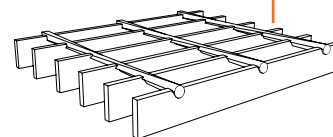
Heavy Duty  $1\frac{3}{16}$ " C/C Bearing Bars  
Non-Serrated & Serrated

Heavy Duty Welded Bar Grating

$1\frac{3}{16}$ " Center to Center of Bearing Bars



19-W-4



19-W-2



H-25 Load



H-20 Load



H-15 Load



Auto Traffic



5 Ton Forklift



3 Ton Forklift



1 Ton Forklift

Bar Size	Section Modulus psf	Moment of Inertia psf	Approx Weight psf	Maximum Safe Span						
				H-25 Load	H-20 Load	H-15 Load	Auto Traffic	5 Ton Forklift	3 Ton Forklift	1 Ton Forklift
1" x 1/4"	0.421	0.211	9.7	1'-0"	0'-10"	0'-9"	1'-0"	0'-7"	0'-6"	0'-7"
1" x 5/16"	0.526	0.263	11.9	1'-1"	1'-0"	0'-10"	1'-2"	0'-8"	0'-7"	0'-8"
1-1/4" x 1/4"	0.658	0.411	11.9	1'-3"	1'-1"	1'-0"	1'-5"	0'-9"	0'-8"	0'-10"
1-1/4" x 5/16"	0.822	0.514	14.5	1'-4"	1'-3"	1'-1"	1'-8"	0'-10"	0'-9"	1'-0"
1-1/2" x 1/4"	0.947	0.711	14.0	1'-6"	1'-4"	1'-2"	1'-11"	0'-11"	0'-10"	1'-1"
1-1/2" x 5/16"	1.184	0.888	17.2	1'-8"	1'-6"	1'-4"	2'-3"	1'-1"	0'-11"	1'-4"
1-3/4" x 1/4"	1.289	1.128	16.2	1'-9"	1'-7"	1'-5"	2'-5"	1'-2"	1'-0"	1'-5"
1-3/4" x 5/16"	1.612	1.410	19.9	1'-11"	1'-9"	1'-7"	2'-11"	1'-4"	1'-3"	1'-9"
2" x 1/4"	1.684	1.684	18.3	2'-0"	1'-10"	1'-8"	3'-1"	1'-4"	1'-3"	1'-10"
2" x 5/16"	2.105	2.105	22.6	2'-3"	2'-1"	1'-11"	3'-6"	1'-7"	1'-6"	2'-4"
2-1/4" x 1/4"	2.132	2.398	20.4	2'-3"	2'-1"	1'-11"	3'-9"	1'-7"	1'-6"	2'-4"
2-1/4" x 5/16"	2.664	2.998	25.3	2'-7"	2'-5"	2'-3"	4'-2"	1'-11"	1'-10"	2'-11"
2-1/2" x 1/4"	2.632	3.289	22.6	2'-6"	2'-4"	2'-3"	4'-4"	1'-10"	1'-10"	2'-10"
2-1/2" x 5/16"	3.289	4.112	28.0	2'-11"	2'-9"	2'-7"	4'-8"	2'-3"	2'-3"	3'-6"
3" x 1/4"	3.789	5.684	26.9	3'-3"	3'-1"	2'-11"	5'-2"	2'-6"	2'-6"	4'-1"
3" x 5/16"	4.737	7.105	33.3	3'-9"	3'-7"	3'-6"	5'-7"	3'-0"	3'-1"	4'-9"

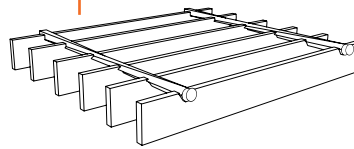


## 22 Space Load Table

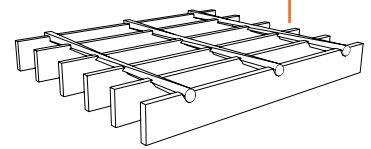
Heavy Duty 1-3/8" C/C Bearing Bars  
Non-Serrated & Serrated

### Heavy Duty Welded Bar Grating

1-3/8" Center to Center of Bearing Bars



20-W-4



20-W-2



H-25 Load



H-20 Load



H-15 Load



Auto Traffic



5 Ton Forklift



3 Ton Forklift



1 Ton Forklift

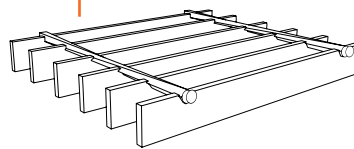
Bar Size	Section Modulus psf	Moment of Inertia psf	Approx Weight psf	Maximum Safe Span						
				H-25 Load	H-20 Load	H-15 Load	Auto Traffic	5 Ton Forklift	3 Ton Forklift	1 Ton Forklift
1" x 1/4"	0.364	0.182	8.5	0'-11"	0'-10"	0'-9"	0'-11"	0'-7"	0'-6"	0'-6"
1" x 5/16"	0.455	0.227	10.4	1'-0"	0'-11"	0'-10"	1'-1"	0'-8"	0'-6"	0'-7"
1-1/4" x 1/4"	0.568	0.355	10.4	1'-2"	1'-0"	0'-11"	1'-4"	0'-9"	0'-7"	0'-9"
1-1/4" x 5/16"	0.710	0.444	12.7	1'-3"	1'-2"	1'-0"	1'-6"	0'-10"	0'-8"	0'-11"
1-1/2" x 1/4"	0.818	0.614	12.2	1'-5"	1'-3"	1'-1"	1'-9"	0'-11"	0'-9"	1'-0"
1-1/2" x 5/16"	1.023	0.767	15.0	1'-7"	1'-5"	1'-3"	2'-1"	1'-0"	0'-11"	1'-3"
1-3/4" x 1/4"	1.114	0.974	14.1	1'-8"	1'-6"	1'-3"	2'-3"	1'-1"	0'-11"	1'-4"
1-3/4" x 5/16"	1.392	1.218	17.3	1'-10"	1'-8"	1'-6"	2'-8"	1'-2"	1'-1"	1'-8"
2" x 1/4"	1.455	1.455	16.0	1'-10"	1'-8"	1'-6"	2'-10"	1'-3"	1'-2"	1'-9"
2" x 5/16"	1.818	1.818	19.7	2'-1"	1'-11"	1'-9"	3'-4"	1'-5"	1'-5"	2'-1"
2-1/4" x 1/4"	1.841	2.071	17.8	2'-1"	1'-11"	1'-9"	3'-5"	1'-6"	1'-5"	2'-2"
2-1/4" x 5/16"	2.301	2.589	22.0	2'-4"	2'-2"	2'-0"	4'-0"	1'-9"	1'-8"	2'-8"
2-1/2" x 1/4"	2.273	2.841	19.7	2'-4"	2'-2"	2'-0"	4'-2"	1'-8"	1'-8"	2'-7"
2-1/2" x 5/16"	2.841	3.551	24.3	2'-8"	2'-6"	2'-5"	4'-6"	2'-0"	2'-0"	3'-3"
3" x 1/4"	3.273	4.909	23.4	2'-11"	2'-9"	2'-8"	5'-0"	2'-3"	2'-3"	3'-8"
3" x 5/16"	4.091	6.136	28.9	3'-5"	3'-3"	3'-2"	5'-4"	2'-9"	2'-9"	4'-7"

## 30 Space Load Table

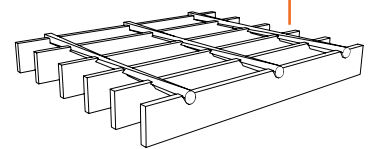
Heavy Duty 1-7/8" C/C Bearing Bars  
Non-Serrated & Serrated

### Heavy Duty Welded Bar Grating

1-7/8" Center to Center of Bearing Bars



30-W-4



30-W-2



H-25 Load



H-20 Load



H-15 Load



Auto Traffic



5 Ton Forklift



3 Ton Forklift

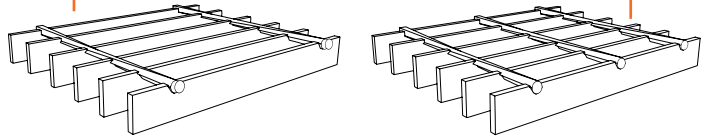


1 Ton Forklift

Bar Size	Section Modulus psf	Moment of Inertia psf	Approx Weight psf	Maximum Safe Span						
				H-25 Load	H-20 Load	H-15 Load	Auto Traffic	5 Ton Forklift	3 Ton Forklift	1 Ton Forklift
1" x 1/4"	0.267	0.133	6.6	0'-9"	0'-9"	0'-8"	0'-10"	0'-6"	0'-5"	0'-6"
1" x 5/16"	0.333	0.167	7.9	0'-11"	0'-10"	0'-8"	0'-11"	0'-7"	0'-6"	0'-7"
1-1/4" x 1/4"	0.417	0.260	7.9	1'-0"	0'-11"	0'-10"	1'-1"	0'-8"	0'-6"	0'-8"
1-1/4" x 5/16"	0.521	0.326	9.6	1'-1"	1'-0"	0'-11"	1'-3"	0'-9"	0'-7"	0'-9"
1-1/2" x 1/4"	0.600	0.450	9.3	1'-2"	1'-1"	1'-0"	1'-5"	0'-9"	0'-8"	0'-11"
1-1/2" x 5/16"	0.750	0.563	11.3	1'-4"	1'-3"	1'-1"	1'-9"	0'-10"	0'-9"	1'-1"
1-3/4" x 1/4"	0.817	0.715	10.6	1'-5"	1'-3"	1'-2"	1'-10"	0'-11"	0'-10"	1'-2"
1-3/4" x 5/16"	1.021	0.893	13.0	1'-7"	1'-5"	1'-3"	2'-2"	1'-0"	0'-11"	1'-5"
2" x 1/4"	1.067	1.067	12.0	1'-7"	1'-6"	1'-4"	2'-3"	1'-1"	1'-0"	1'-6"
2" x 5/16"	1.333	1.333	14.7	1'-10"	1'-8"	1'-6"	2'-9"	1'-3"	1'-2"	1'-10"
2-1/4" x 1/4"	1.350	1.519	13.4	1'-10"	1'-8"	1'-6"	2'-10"	1'-3"	1'-2"	1'-10"
2-1/4" x 5/16"	1.688	1.898	16.4	2'-0"	1'-10"	1'-9"	3'-5"	1'-5"	1'-5"	2'-3"
2-1/2" x 1/4"	1.667	2.083	14.7	2'-0"	1'-10"	1'-8"	3'-5"	1'-5"	1'-5"	2'-3"
2-1/2" x 5/16"	2.083	2.604	18.1	2'-3"	2'-1"	2'-0"	4'-2"	1'-8"	1'-8"	2'-9"
3" x 1/4"	2.400	3.600	17.4	2'-6"	2'-4"	2'-2"	4'-7"	1'-11"	1'-11"	3'-2"
3" x 5/16"	3.000	4.500	21.5	2'-10"	2'-8"	2'-7"	5'-0"	2'-3"	2'-4"	3'-11"



Heavy Duty Welded Bar Grating  
 $2\frac{3}{8}$ " Center to Center of Bearing Bars



38-W-4

38-W-2

## 38 Space Load Table

Heavy Duty  $2\frac{3}{8}$ " C/C Bearing Bars  
 Non-Serrated & Serrated



H-25 Load



H-20 Load



H-15 Load



Auto Traffic



5 Ton Forklift



3 Ton Forklift



1 Ton Forklift

Bar Size	Section Modulus psf	Moment of Inertia psf	Approx Weight psf	Maximum Safe Span						
				H-25 Load	H-20 Load	H-15 Load	Auto Traffic	5 Ton Forklift	3 Ton Forklift	1 Ton Forklift
1" x 1/4"	0.211	0.105	5.4	0'-8"	0'-8"	0'-7"	0'-9"	0'-6"	0'-5"	0'-5"
1" x 5/16"	0.263	0.132	6.5	0'-10"	0'-9"	0'-8"	0'-10"	0'-6"	0'-5"	0'-6"
1-1/4" x 1/4"	0.329	0.206	6.5	0'-11"	0'-10"	0'-9"	1'-0"	0'-8"	0'-6"	0'-7"
1-1/4" x 5/16"	0.411	0.257	7.8	1'-0"	0'-11"	0'-10"	1'-2"	0'-8"	0'-7"	0'-9"
1-1/2" x 1/4"	0.474	0.355	7.6	1'-1"	1'-0"	0'-10"	1'-3"	0'-9"	0'-7"	0'-10"
1-1/2" x 5/16"	0.592	0.444	9.2	1'-3"	1'-1"	1'-0"	1'-6"	0'-10"	0'-8"	1'-0"
1-3/4" x 1/4"	0.645	0.564	8.6	1'-4"	1'-2"	1'-0"	1'-7"	0'-10"	0'-9"	1'-0"
1-3/4" x 5/16"	0.806	0.705	10.5	1'-5"	1'-3"	1'-2"	1'-11"	0'-11"	0'-10"	1'-3"
2" x 1/4"	0.842	0.842	9.7	1'-5"	1'-4"	1'-2"	2'-0"	1'-0"	0'-11"	1'-4"
2" x 5/16"	1.053	1.053	11.9	1'-8"	1'-6"	1'-4"	2'-5"	1'-1"	1'-0"	1'-7"
2-1/4" x 1/4"	1.066	1.199	10.8	1'-8"	1'-6"	1'-4"	2'-5"	1'-1"	1'-1"	1'-8"
2-1/4" x 5/16"	1.332	1.499	13.2	1'-10"	1'-8"	1'-6"	3'-0"	1'-3"	1'-3"	2'-0"
2-1/2" x 1/4"	1.316	1.645	11.9	1'-10"	1'-8"	1'-6"	2'-11"	1'-3"	1'-3"	2'-0"
2-1/2" x 5/16"	1.645	2.056	14.5	2'-1"	1'-11"	1'-9"	3'-7"	1'-6"	1'-6"	2'-6"
3" x 1/4"	1.895	2.842	14.0	2'-2"	2'-1"	1'-11"	4'-1"	1'-8"	1'-8"	2'-10"
3" x 5/16"	2.368	3.553	17.2	2'-6"	2'-4"	2'-3"	4'-9"	1'-11"	2'-0"	3'-6"

# ORDER INFORMATION

**Ordering** steel grating can be a confusing task if one has not ordered before. Below is a check list that can help you making certain each dimension of the job is correct when placing an order.

## Material

- › Carbon steel
- › Stainless steel

## Surface

- › Plain surface
- › Serrated surface

## Type of grating

- › Welded
- › Press-locked

## Finish

- › Painted
- › Galvanized
- › Untreated

## Type of anchorage

- › Welded
- › Saddle clip
- › G-clip
- › Grate fast clip

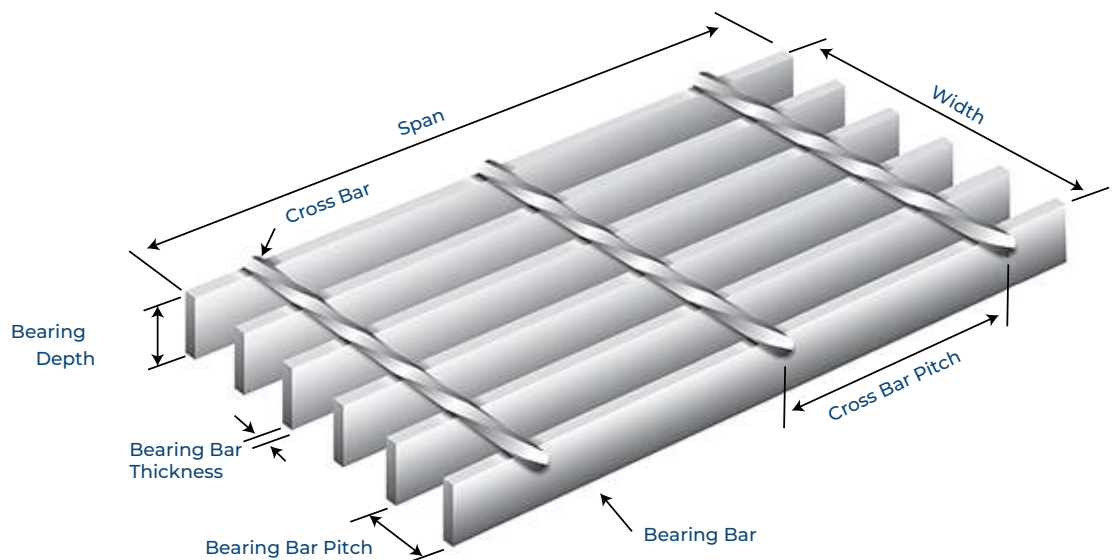
## Bearing bar size

### Cross bar size

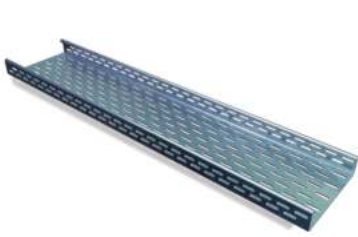
### Bearing bar pitch

### Cross bar pitch

### Span (bearing bar direction)



# CABLE MANAGEMENT SYSTEM



**Cable Tray**



**Cable Ladder**



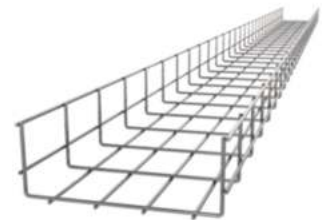
**Cable Trunk**



**Unistrut Support System**



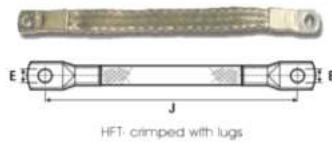
**Base Plate**



**Basket Tray & Accessories**



**C-ChannelB2B**



**H F T - Crimped with Lugs**



**EMT Conduits**



**PVC Pipe**



**Electrical Boxes**



**Control Panel Boxes**

# ARCHITECTURAL ENGINEERING SOLUTIONS



**Expansion Joint System**



**Tile & Carpet Trim**



**Stair Nosing**



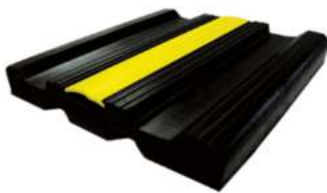
**Corner Guard  
(Impact Protection)**



**Wall Guard  
(Impact Protection)**



**Rubber Corner Guard  
(Impact Protection)**



**Rubber Wall Guard  
(Impact Protection)**



**D Fender**



**Speed Humps**



**Rubber Wheel Stopper**



**Movement Joint Cover**

# ARCHITECTURAL ENGINEERING SOLUTIONS



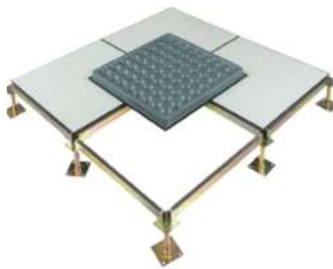
**Roof Hatch**



**Handrail**



**Garbage & Linen Chute**



**Access Raised Floor**



**Lockers**



**Ladders**



**Gratings ( Steel / Galvanized )**



**Steel Bollards**



**Fence**



**Metal Gates**



**Entrance Mats**



**Cubicle Toilet Partitions**



# CLADDING ACCESSORIES



**Z-Bracket with returned Leg Horizontal Joint**



**Returned Leg Bracket**



**Up & Down Bracket**



**L - Bracket**



**Unistrut Support System**



**Tam Anchor Bolt**



**Through Bolt**



**Sleeve Anchor Flange Nut Type**



**Hex Bolt with Nut Washer & S rin Nut**

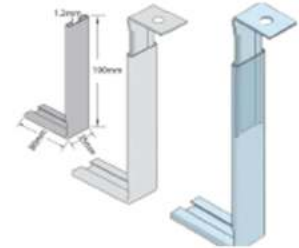
# BLOCK WORK & PLASTERING



**Steel Lintel**



**Block Reinforcement  
(Ladder Type & Truss Type)**



**Adjustable Head  
Restraint IAHR)**



**Hy-Rib Lath**



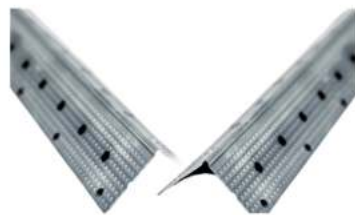
**Control Joint**



**Corrugated Strip &  
Corrugated Angle**



**Coil Lath**



**Corner Bead**



**Architrave Bead**



**Corner Mesh**



**Expanded Metal Lath**



**Plaster Stop Bead**

# CONCRETE FORM WORK ACCESSORIES



**Plywood**



**Timber**



**Binding Wire**



**Tie Rods & Accessories**



**PVC Pipes**



**PVC Cone**



**PVC Chamfer**



**Rapid Clamp**



**Shuttering Clamp**



**Concrete Spacer**



**Plastic Spacer**



**Steel Wire Mesh**

# WATER PROOFING & THERMAL INSULATION



**Bitumen Membrane**



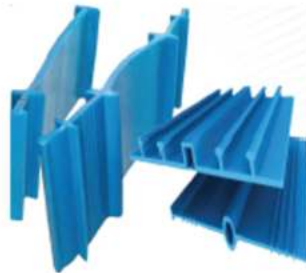
**Rock Wool**



**Geotextile**



**Extruded Polystyrene**



**PVC Water Stop**



**Protection Board -  
Filler Board**



**Liquid Membrane**



**Expanded Polystyrene**



**Foam Backing Rods**



**Polyethelene Sheet**



**Cork Sheet**



**Aluminum Flashing**

# PIPE CLAMP, HANGERS FIXING LETTERING



**Pipe Clamp with Rubber**



**Long Nut Pipe Clamp**



**Clevis Pipe Hanger**



**Adjustable Band Hanger**



**Channel Clamp**



**U Clamp**



**Pipe Clamp (Snap)**



**Beam Clamp**



**Conduit Clamp (Omega)**



**Anchor J Bolt**

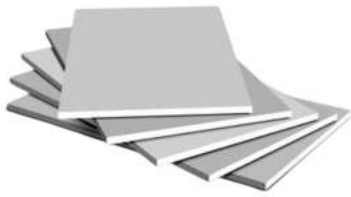


**Threaded Rods**



**Steel U-Bolt**

# GYPSUM PARTITIONS SUSPENDED CEILING



**Gypsum Board**



**Access Panel**



**Studs & Runners**



**Ceiling Furring Channel & Channel Bracket**



**Perimeter Angle & Dry Wall Angle**



**Furring Channel**



**Adjustable Rod Hanger**



**Dry Wall & Self Drilling Screws**



**C - Bracket**



**Joint Mesh**



**Wire Connecting Clip**



**Gypsum Putty**

# TOOLS & CONSUMABLE ITEMS



**PPE Personal  
Protective Equipment**



**Hand Tools**



**Spring Nut / Washer  
& Drop in Anchor**



**Common Nails**



**Concrete Nails**



**Nylon Anchor Plugs**



**Hammer Drilling**



**Burlap**



**Silicon & Sealant**



**Jig Saw Machine**



**Abrasive & Diamond  
Blades**



**Cordless Drill  
Machine**

# QUALITY POLICY



**NMTC** provides quality management, co-ordination, production and processing, manufacture and installation services throughout KSA and sometimes abroad. The **NMTC** has developed its expertise since its establishment and its aim is to achieve a high standard of construction and service to its customers.

It is the policy of **NMTC** to provide the customer with goods and services to the agreed requirement accordance with the details and price. The Directors, Management and Staff are responsible for Quality Control through the Quality Management System seeking improvement by constant review, with suppliers and sub-contractors being encouraged to co-operate. The **NMTC** is committed to achieving customer satisfaction by the use of quality procedures which will be operated to meet or exceed the requirements of ISO 9001-2015.





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