

# Mighti-Rib®



## INDUSTRIAL-COMMERCIAL ROOFING & SIDING

Effective September 2007



MATERIAL AND THICKNESS	WT./SQ. PLAIN	WT./SQ. PAINTED	METAL SPECIFICATION	FINISH
GALVANIZED STEEL 26 ga. 24 ga. 22 ga. 20 ga. 18 ga.	88.5 lb.	90.0 lb.	Grade 50 (50 ksi yield strength) Grade 40 (40 ksi yield strength) for 18 ga. Grade 80 (80 ksi yield strength) for 26 ga. structural steel with G90 coating, both conforming to ASTM A 653	<b>plain:</b> regular spangle <b>Painted:</b> two-coat 70% Kynar® 500/ Hylar® 5000; sili-conized polyester; vinyl plastisol; 0.5 mil two-coat polyester backer (26 ga. panels have Enduracote® paint)
	108.8 lb.	110.2 lb.		
	137.6 lb.	139.1 lb.		
	165.1 lb.	166.5 lb.		
	216.4 lb.	217.8 lb.		
ALUMINUM-ZINC ALLOY COATED STEEL 26 ga. 24 ga. 22 ga. 20 ga. 18 ga.	85.3 lb.	86.7 lb.	Grade 50 (50 ksi yield strength) Grade 40 (40 ksi yield strength) for 18 ga. Grade 80 (80 ksi yield strength) for 26 ga. structural steel with AZ50 coating, both conforming to ASTM A 792	<b>plain:</b> regular spangle <b>Painted:</b> two-coat 70% Kynar® 500/ Hylar® 5000; sili-conized polyester; vinyl plastisol; 0.5 mil two-coat polyester backer (26 ga. panels have Enduracote® paint)
	105.5 lb.	107.0 lb.		
	134.4 lb.	135.8 lb.		
	161.8 lb.	163.3 lb.		
	213.1 lb.	214.6 lb.		
ALUMINUM .032" .040" .050"	49.8 lb.	50.9 lb.	3004-H36 or equivalent (28 ksi yield strength) aluminum alloy conforming to ASTM B 209	<b>plain:</b> mill finish <b>Painted:</b> two-coat 70% Kynar® 500/ Hylar® 5000; sili-conized polyester; vinyl plastisol; 0.5 mil two-coat polyester backer
	62.2 lb.	63.4 lb.		
	77.8 lb.	78.9 lb.		

**UL90 RATING:** 26 ga. steel (Grade 80, 80 ksi yield strength) or 24 ga. or heavier steel (Grade 40, 40 ksi yield strength) over 16 ga. steel purlins (50 ksi minimum yield strength) spaced at maximum of 60" o.c. The panels are secured to purlins with #12-14 x 1½" SDST screws using 6-6-12-12-6-6 fastener pattern (Construction No. 169).

**POSITIVE GRAVITY LOAD TABLE (STEEL) (psf)**

ga.	spans	3'-0"	4'-0"	5'-0"	6'-0"	7'-0"	8'-0"	9'-0"
26	1	129	60	31	NR	NR	NR	NR
	2	158	89	57	40	27	NR	NR
	3	198	111	71	34	21	NR	NR
24	1	112	66	40	23	NR	NR	NR
	2	130	73	47	32	24	NR	NR
	3	162	91	58	40	27	NR	NR
22	1	155	87	54	31	20	NR	NR
	2	166	94	60	42	31	23	NR
	3	208	117	75	52	37	25	NR
20	1	199	112	68	39	25	NR	NR
	2	201	113	72	50	37	28	22
	3	252	141	91	63	46	31	22
18	1	263	148	91	53	33	22	NR
	2	263	148	95	66	48	37	29
	3	329	185	118	82	60	42	29

**POSITIVE GRAVITY LOAD TABLE (ALUMINUM) (psf)**

thk.	spans	3'-0"	4'-0"	5'-0"	6'-0"	7'-0"	8'-0"	9'-0"
.032"	1	100	42	22	NR	NR	NR	NR
	2	204	101	52	NR	NR	NR	NR
	3	188	80	41	NR	NR	NR	NR
.040"	1	124	52	27	NR	NR	NR	NR
	2	290	126	65	37	NR	NR	NR
	3	235	99	51	29	NR	NR	NR
.050"	1	156	66	34	NR	NR	NR	NR
	2	375	158	81	47	30	NR	NR
	3	294	124	64	37	23	NR	NR

**NOTES:**

- The allowable loads are based on 1986 AISI and 1986 Aluminum Association specifications.
- The allowable loads are based on stress and L/180 deflection.
- The minimum recommended slope for Mighti-Rib panels is 5° (1:12 pitch).
- The maximum recommended individual panel length for aluminum panels on roofs is 16' due to thermal movement considerations.

Jackson, GA (800) 884-4484  
 Grapevine, TX (800) 477-9066  
 Salem, OR (800) 477-8028  
 Headquarters - Lancaster, PA (800) 477-2741

# MIGHTI-RIB<sup>®</sup> SPECIFICATIONS

## Part I GENERAL

### 1.01 WORK INCLUDED

Furnish all material, labor, and equipment to complete installation of Mighti-Rib roofing/siding as shown on the drawings and herein specified. Include all copings, gutters, and flashings contiguous with the roofing or siding.

### 1.02 SYSTEM DESCRIPTION

- A. The metal roofing/siding system including required trim members shall meet the specified requirements for snow loads and wind loads.
- B. The panel will have a 1¼" high ribs at 12" o.c. There shall be two small stiffening ribs between the main ribs.

### 1.03 QUALITY ASSURANCE

- A. Manufacturer Qualifications  
Minimum of 10 years experience in manufacturing of industrial metal roofing/siding systems.
- B. Installer Qualifications  
Minimum of 5 years experience in installation of metal roofing/siding of similar size and scope.
- C. Inspections
  - 1. The substrate shall be inspected before panel installation to verify that it complies with shop drawings and specified tolerances.
  - 2. The final inspection shall be conducted to verify that the installation complies with the shop drawings.

### 1.04 REFERENCES

- A. AAMA E 605-2 Finish Standards
- B. ASTM 84-70 Flame Spreading Rating
- C. SMACNA (Sheet Metal and Air Conditioning Contractors' National Association) Architectural Sheet Metal Manual Specifications.
- D. 1973 ASHRAE Handbook of Fundamentals.

### 1.05 SUBMITTALS

- A. Complete shop drawings, including roof plan and/or elevations and sections of each condition, shall be submitted for approval prior to fabrication. Such drawings shall also include material type, metal thickness, finish, and manufacturer's installation procedures.
- B. Submit a sample and selected finish and color for architect/owner approval.

### 1.06 DELIVERY, STORAGE, AND HANDLING

- A. Store the panels properly and adequately to protect from damage on jobsite.
- B. Protect roofing/siding from adverse job conditions (i.e., moisture) prior to installation.
- C. Protect roofing/siding from other trades after installation.

### 1.07 WARRANTY

- A. Paint finish shall have manufacturer's standard 20-year warranty.
- B. The installation contractor shall issue a separate two-year warranty against defects in installed materials and workmanship. Warranty shall begin from date of substantial completion and acceptance of the project.

## Part II PRODUCTS

### 2.01 ACCEPTABLE MANUFACTURER

Fabral -- Mighti-Rib  
Lancaster, PA (717) 397-2741  
Cedar City, UT (435) 586-1215  
Idabel, OK (580) 286-7521  
Jackson, GA (770) 775-4484

### 2.02 MATERIALS

- A. Panels
  - 1. Panels shall be custom fabricated from:
    - a. 26 ga. Grade 80 (80 ksi yield strength), 24 or 22 ga. Grade 50 (50 ksi yield strength), 18 ga. Grade 40 (40 ksi yield strength) structural steel with G90 (0.90 oz./ft<sup>2</sup>) hot dipped galvanized coating, both conforming to ASTM A 653.
    - b. 26 ga. Grade 80 (80 ksi yield strength), 24 or 22 ga. Grade 50 (50 ksi yield strength) 18 ga. Grade 40 (40 ksi yield strength) structural steel with AZ50 aluminum-zinc alloy coating, both conforming to ASTM A 792.
    - c. 0.032", 0.040", or 0.050" 3004-H36 or equivalent (28 ksi yield strength) aluminum alloy conforming to ASTM B 209.
  - 2. The main ribs of the Mighti-Rib panels shall be 12" o.c., 1¼" high. Panel coverage shall be 36". The panels shall have an overlapping sidelap feature.
- B. Screws
  - 1. All screws shall be aluminum, plated steel, or stainless steel. They shall have a combination steel and EPDM washer.
  - 2. Screws for panel to girt/purlins shall be of the type and size \_\_\_\_\_ and of sufficient length to penetrate the supporting member by 1". All fasteners shall be applied in accordance with the fastening schedule for Mighti-Rib.

- 3. Screws for flashings and sidelaps shall be #14 HHA x ¾" sheet

metal stitch screws. All accessories, flashings, and sidelaps shall be fastened 12" o.c.

- C. Flashings shall be fabricated from material that is the same thickness and finish as the Mighti-Rib panels to which they are attached. Where practicable, flashings shall be furnished in maximum 10' lengths. Exposed flashings shall be lapped 6".
- D. Closures shall be pre-molded polyethylene to match the profile of the Mighti-Rib panel and shall be in lengths as supplied by the panel manufacturer.
- E. Caulking shall be a polyurethane where it is exposed. All caulking or sealing shall be done in a neat manner with excess caulking or sealant removed from exposed surfaces.
- F. Caulking shall be a non-skinning, non-hardening gun grade butyl sealant or butyl sealant tape with a minimum thickness of ¼" where it is concealed. All caulking or sealing shall be done in a neat manner with excess caulking or sealant removed from exposed surfaces.

### 2.03 FABRICATION

- A. Maximum allowable fabrication tolerances shall be as follows:
  - 1. Panel coverage: 36".
  - 2. Main rib height: 1¼" ± ⅛".
  - 3. Panel shearing length: ± ¼" maximum.
- B. Accessories and trim components shall be factory fabricated or field formed in finish and metal thickness, same as the panels, except as otherwise noted on the drawings.

### 2.04 FINISHES

Refer to manufacturer's standard color card to determine appropriate finish and color. All panels shall receive a factory-applied (siliconized polyester) (Kynar<sup>®</sup> 500/Hylar<sup>®</sup> 5000) (vinyl plastisol) (Enduracote<sup>®</sup> for 26 ga. panels only) conforming to the following:

- A. Metal preparation: all metal shall have the surfaces carefully prepared for painting on a continuous process coil coating line by alkali cleaning, hot water rinsing, application of chemical conversion coating, cold water rinsing, sealing with an acid rinse, and thorough drying.
- B. Prime coating: a base coat of primer, specifically formulated to interact with the top-coat, shall be applied to the prepared surfaces by roll coating to a dry film thickness of 0.20 ± 0.05 mils. This prime coat shall be oven cured prior to application of finish coat.
- C. Exterior coating: a (siliconized polyester) (Kynar<sup>®</sup> 500/Hylar<sup>®</sup> 5000) (vinyl plastisol) (Enduracote<sup>®</sup> for 26 ga. only) finish coating shall be applied over the primer by roll coating to a dry film thickness of 0.80 ± 0.05 mils (3.80 ± 0.05 mils for vinyl plastisol) for a total dry film thickness of 1.00 ± 0.10 mils (4.00 ± 0.10 mils for vinyl plastisol). This finish coating shall be oven-cured.
- D. Interior finish coating: a washcoat shall be applied on the reverse side over the primer by roll coating to a dry film thickness of 0.30 ± 0.05 mils for a total dry film thickness of 0.50 ± 0.10 mils. The washcoat shall be oven-cured.
- E. Color: the color of the exterior finish shall be as chosen from the manufacturer's standard color chart.
- F. Physical properties: the coating shall conform to the manufacturer's standard performance criteria as listed by certified test reports for fade, chalk, abrasion, humidity, adhesion, pollution resistance, and others as required and standard within the industry.

## Part III EXECUTION

### 3.01 PREPARATION

Installer shall:

- A. Verify that substrate layout complies with shop drawing layout.
- B. Report any variations and potential problems to the general contractor.
- C. Not start work until unsatisfactory conditions have been corrected.

### 3.02 INSTALLATION

- A. The roofing/siding system shall be installed plumb, straight, and true to adjacent work.
- B. Polyethylene profile closures shall be provided and used as needed.
- C. No perforations shall be made in roofing/siding by fasteners except as shown on the drawings.

\* Kynar<sup>®</sup> 500 is a registered trademark of Elf Atochem North America, Inc. Hylar<sup>®</sup> 5000 is a registered trademark of Ausimont USA, Inc.