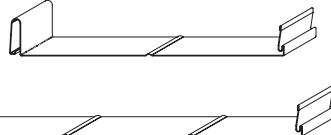


LOAD TABLES  
.032  
ALUMINUM  
ASTM B209  
3105-H14

# DUTCH SEAM ROOF PANEL MRD110, MRD150, MRD194



## L/180 MAXIMUM DEFLECTION CRITERIA

GAUGE .032

11" COVERAGE

### POSITIVE BENDING

$Y_t = 1.379 \text{ in.}$

$S = 0.068 \text{ cubic in/ft. (bend.)}$

$I = 0.095 \text{ in.}^4/\text{ft. (defl.)}$

### NEGATIVE BENDING

$Y_t = 1.344 \text{ in.}$

$S = 0.078 \text{ cubic in/ft. (bend.)}$

$I = 0.090 \text{ in.}^4/\text{ft. (defl.)}$

LOAD (PSF)	DOWNWARD LOAD			UPWARD LOAD		
	SINGLE SPAN	DOUBLE SPAN	THREE SPAN	SINGLE SPAN	DOUBLE SPAN	THREE SPAN
10	* 6'- 6"	6'- 3"	6'- 5"	6'- 3"	7'- 1"	6'- 11"
15	* 5'- 8"	5'- 1"	5'- 3"	5'- 1"	5'- 10"	5'- 8"
20	5'- 0"	4'- 5"	4'- 7"	4'- 5"	5'- 0"	4'- 11"
25	4'- 6"	3'- 11"	4'- 1"	3'- 11"	4'- 6"	4'- 4"
30	4'- 1"	3'- 7"	3'- 8"	3'- 7"	4'- 1"	4'- 0"
35	3'- 9"	3'- 4"	3'- 5"	3'- 4"	3'- 9"	3'- 8"
40	3'- 6"	3'- 1"	3'- 2"	3'- 1"	3'- 6"	3'- 5"
45	3'- 4"	2'- 11"	3'- 0"	2'- 11"	3'- 4"	3'- 3"
50	3'- 2"	2'- 9"	2'- 10"	2'- 9"	3'- 2"	3'- 1"
55	3'- 0"	2'- 8"	2'- 9"	2'- 8"	3'- 0"	2'- 11"
60	2'- 11"	2'- 6"	2'- 7"	2'- 6"	2'- 11"	2'- 10"
65	2'- 9"	2'- 5"	2'- 6"	2'- 5"	2'- 9"	2'- 8"
70	2'- 8"	2'- 4"	2'- 5"	2'- 4"	2'- 8"	2'- 7"

## L/180 MAXIMUM DEFLECTION CRITERIA

GAUGE .032

15" COVERAGE

### POSITIVE BENDING

$Y_t = 1.422 \text{ in.}$

$S = 0.051 \text{ cubic in/ft. (bend.)}$

$I = 0.073 \text{ in.}^4/\text{ft. (defl.)}$

### NEGATIVE BENDING

$Y_t = 1.392 \text{ in.}$

$S = 0.059 \text{ cubic in/ft. (bend.)}$

$I = 0.069 \text{ in.}^4/\text{ft. (defl.)}$

LOAD (PSF)	DOWNWARD LOAD			UPWARD LOAD		
	SINGLE SPAN	DOUBLE SPAN	THREE SPAN	SINGLE SPAN	DOUBLE SPAN	THREE SPAN
10	* 5'- 11"	5'- 3"	5'- 6"	5'- 3"	6'- 2"	5'- 10"
15	5'- 0"	4'- 4"	4'- 5"	4'- 4"	5'- 0"	4'- 9"
20	4'- 4"	3'- 9"	3'- 10"	3'- 9"	4'- 4"	4'- 2"
25	3'- 10"	3'- 4"	3'- 5"	3'- 4"	3'- 10"	3'- 8"
30	3'- 6"	3'- 0"	3'- 2"	3'- 0"	3'- 6"	3'- 4"
35	3'- 3"	2'- 10"	2'- 11"	2'- 10"	3'- 3"	3'- 1"
40	3'- 1"	2'- 7"	2'- 9"	2'- 7"	3'- 1"	2'- 11"
45	2'- 10"	2'- 6"	2'- 7"	2'- 6"	2'- 10"	2'- 9"
50	2'- 9"	2'- 4"	2'- 5"	2'- 4"	2'- 9"	2'- 7"
55	2'- 7"	2'- 3"	2'- 4"	2'- 3"	2'- 7"	2'- 6"
60	2'- 6"	2'- 2"	2'- 2"	2'- 2"	2'- 6"	2'- 4"
65	2'- 5"	2'- 1"	2'- 1"	2'- 5"	2'- 3"	2'- 3"
70	2'- 4"	2'- 0"	2'- 0"	2'- 4"	2'- 2"	2'- 2"

## L/180 MAXIMUM DEFLECTION CRITERIA

GAUGE .032

19.25" COVERAGE

### POSITIVE BENDING

$Y_t = 1.451 \text{ in.}$

$S = 0.040 \text{ cubic in/ft. (bend.)}$

$I = 0.059 \text{ in.}^4/\text{ft. (defl.)}$

### NEGATIVE BENDING

$Y_t = 1.425 \text{ in.}$

$S = 0.046 \text{ cubic in/ft. (bend.)}$

$I = 0.055 \text{ in.}^4/\text{ft. (defl.)}$

LOAD (PSF)	DOWNWARD LOAD			UPWARD LOAD		
	SINGLE SPAN	DOUBLE SPAN	THREE SPAN	SINGLE SPAN	DOUBLE SPAN	THREE SPAN
10	5'- 5"	4'- 8"	4'- 10"	4'- 8"	5'- 5"	5'- 2"
15	4'- 5"	3'- 9"	3'- 11"	3'- 9"	4'- 5"	4'- 2"
20	3'- 10"	3'- 3"	3'- 5"	3'- 3"	3'- 10"	3'- 8"
25	3'- 5"	2'- 11"	3'- 0"	2'- 11"	3'- 5"	3'- 3"
30	3'- 2"	2'- 8"	2'- 9"	2'- 8"	3'- 2"	2'- 11"
35	2'- 11"	2'- 5"	2'- 7"	2'- 5"	2'- 11"	2'- 9"
40	2'- 8"	2'- 4"	2'- 5"	2'- 4"	2'- 8"	2'- 7"
45	2'- 7"	2'- 2"	2'- 3"	2'- 2"	2'- 7"	2'- 5"
50	2'- 5"	2'- 1"	2'- 1"	2'- 5"	2'- 3"	2'- 3"
55	2'- 4"	1'- 11"	2'- 0"	1'- 11"	2'- 4"	2'- 2"
60	2'- 2"	1'- 10"	1'- 11"	1'- 10"	2'- 2"	1'- 10"
65	2'- 1"	1'- 10"	1'- 10"	2'- 1"	2'- 0"	1'- 10"
70	2'- 0"	1'- 9"	1'- 9"	2'- 0"	1'- 11"	2'- 0"

- Notes:**
- \*Indicates maximum span controlled by deflection.
  - All loads are applied perpendicular to surface of panel.
  - No increase for wind loading has been assumed.
  - Shaded area denotes loads at which deflection of the panel in the transverse direction due to static gravity load may cause permanent deformations.

## L/240 MAXIMUM DEFLECTION CRITERIA

GAUGE .032

11" COVERAGE

### POSITIVE BENDING

$Y_t = 1.379 \text{ in.}$

$S = 0.068 \text{ cubic in/ft. (bend.)}$

$I = 0.090 \text{ in.}^4/\text{ft. (defl.)}$

### NEGATIVE BENDING

$Y_t = 1.344 \text{ in.}$

$S = 0.078 \text{ cubic in/ft. (bend.)}$

$I = 0.090 \text{ in.}^4/\text{ft. (defl.)}$

LOAD (PSF)	DOWNWARD LOAD			UPWARD LOAD		
	SINGLE SPAN	DOUBLE SPAN	THREE SPAN	SINGLE SPAN	DOUBLE SPAN	THREE SPAN
10	* 5'- 11"	6'- 3"	6'- 5"	* 5'- 10"	7'- 1"	6'- 11"
15	* 5'- 2"	5'- 1"	5'- 3"	5'- 1"	5'- 10"	5'- 8"
20	* 4'- 8"	4'- 5"	4'- 7"	4'- 5"	4'- 5"	4'- 11"
25	* 4'- 4"	3'- 11"	4'- 1"	3'- 11"	4'- 6"	4'- 4"
30	* 4'- 1"	3'- 7"	3'- 8"	3'- 7"	4'- 1"	4'- 0"
35	3'- 9"	3'- 4"	3'- 5"	3'- 9"	3'- 4"	3'- 8"
40	3'- 6"	3'- 1"	3'- 2"	3'- 1"	3'- 6"	3'- 5"
45	3'- 4"	2'- 11"	3'- 0"	2'- 11"	3'- 4"	3'- 3"
50	3'- 2"	2'- 9"	2'- 10"	2'- 9"	2'- 2"	2'- 11"
55	3'- 0"	2'- 8"	2'- 9"	2'- 8"	2'- 8"	2'- 11"
60	2'- 11"	2'- 6"	2'- 7"	2'- 11"	2'- 10"	2'- 10"
65	2'- 9"	2'- 5"	2'- 6"	2'- 9"	2'- 6"	2'- 8"
70	2'- 8"	2'- 4"	2'- 5"	2'- 4"	2'- 4"	2'- 7"

## L/240 MAXIMUM DEFLECTION CRITERIA

GAUGE .032

15" COVERAGE

### POSITIVE BENDING

$Y_t = 1.422 \text{ in.}$

$S = 0.051 \text{ cubic in/ft. (bend.)}$

$I = 0.073 \text{ in.}^4/\text{ft. (defl.)}$

### NEGATIVE BENDING

$Y_t = 1.392 \text{ in.}$

$S = 0.059 \text{ cubic in/ft. (bend.)}$

$I = 0.069 \text{ in.}^4/\text{ft. (defl.)}$

LOAD (PSF)	DOWNWARD LOAD			UPWARD LOAD		
	SINGLE SPAN	DOUBLE SPAN	THREE SPAN	SINGLE SPAN	DOUBLE SPAN	THREE SPAN
10	* 5'- 5"	5'- 3"	5'- 6"	5'- 3"	6'- 2"	5'- 10"
15	* 4'- 9"	4'- 4"	4'- 5"	4'- 4"	4'- 4"	4'- 9"
20	* 4'- 3"	3'- 9"	3'- 10"	3'- 9"	3'- 10"	4'- 2"
25	* 3'- 10"	3'- 4"	3'- 5"	3'- 10"	3'- 5"	3'- 8"
30	* 3'- 6"	3'- 0"	3'- 2"	3'- 0"	3'- 6"	3'- 4"
35	3'- 3"	2'- 10"	2'- 11"	2'- 10"	2'- 11"	3'- 1"
40	3'- 1"	2'- 7"	2'- 9"	2'- 7"	2'- 9"	2'- 11"
45	2'- 10"	2'- 6"	2'- 7"	2'- 10"	2'- 6"	2'- 9"
50	2'- 9"	2'- 4"	2'- 5"	2'- 4"	2'- 9"	2'- 7"
55	2'- 7"	2'- 3"	2'- 4"	2'- 7"	2'- 3"	2'- 6"
60	2'- 6"	2'- 2"	2'- 2"	2'- 6"	2'- 2"	2'- 4"
65	2'- 5"	2'- 1"	2'- 1"	2'- 5"	2'- 1"	2'- 3"
70	2'- 4"	2'- 0"	2'- 0"	2'- 4"	2'- 0"	2'- 2"

## L/240 MAXIMUM DEFLECTION CRITERIA

GAUGE .032

19.25" COVERAGE

### POSITIVE BENDING

$Y_t = 1.451 \text{ in.}$

$S = 0.040 \text{ cubic in/ft. (bend.)}$

$I = 0.059 \text{ in.}^4/\text{ft. (defl.)}$

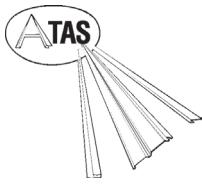
### NEGATIVE BENDING

$Y_t = 1.425 \text{ in.}$

$S = 0.046 \text{ cubic in/ft. (bend.)}$

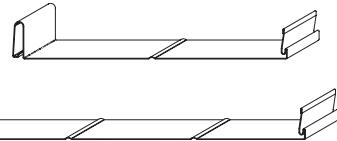
$I = 0.055 \text{ in.}^4/\text{ft. (defl.)}$

LOAD (PSF)	DOWNWARD LOAD			UPWARD LOAD		
	SINGLE SPAN	DOUBLE SPAN	THREE SPAN	SINGLE SPAN	DOUBLE SPAN	THREE SPAN
10	* 5'- 0"	4'- 8"	4'- 10"	4'- 8"	4'- 10"	4'- 2"
15	* 4'- 5"	3'- 9"	3'- 11"	3'- 9"	3'- 11"	3'- 9"
20	* 3'- 10"	3'- 3"	3'- 5"	3'- 3"	3'- 5"	3'- 8"
25	* 3'- 5"	2'- 11"	3'- 0"	2'- 11"	3'- 0"	2'- 11"
30	* 3'- 2"	2'- 8"	2'- 9"	2'- 8"	2'- 9"	2'- 11"
35	2'- 11"	2'- 5"	2'- 7"	2'- 5"	2'- 7"	2'- 9"
40	2'- 8"	2'- 4"	2'- 5"	2'- 4"	2'- 8"	2'- 7"
45	2'- 7"	2'- 2"	2'- 3"			



LOAD TABLES  
.040  
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ASTM B209  
3105-H14

# DUTCH SEAM ROOF PANEL MRD110, MRD150, MRD194



## L/180 MAXIMUM DEFLECTION CRITERIA

GAUGE .040

11" COVERAGE

### POSITIVE BENDING

$Y_t = 1.379 \text{ in.}$

$S = 0.085 \text{ cubic in./ft. (bend.)}$

$I = 0.119 \text{ in.}^{1/4}/\text{ft. (defl.)}$

### NEGATIVE BENDING

$Y_t = 1.344 \text{ in.}$

$S = 0.098 \text{ cubic in./ft. (bend.)}$

$I = 0.117 \text{ in.}^{1/4}/\text{ft. (defl.)}$

LOAD (PSF)	DOWNWARD LOAD			UPWARD LOAD		
	SINGLE SPAN	DOUBLE SPAN	THREE SPAN	SINGLE SPAN	DOUBLE SPAN	THREE SPAN
10	* 7'- 0"	7'- 8"	7'- 11"	* 7'- 0"	8'- 0"	8'- 3"
15	* 6'- 2"	6'- 3"	6'- 6"	* 6'- 1"	6'- 6"	6'- 9"
20	* 5'- 7"	5'- 5"	5'- 7"	5'- 5"	5'- 7"	5'- 10"
25	5'- 0"	4'- 10"	5'- 0"	4'- 10"	5'- 0"	5'- 2"
30	4'- 7"	4'- 5"	4'- 7"	4'- 5"	4'- 7"	4'- 9"
35	4'- 3"	4'- 1"	4'- 3"	4'- 1"	4'- 3"	4'- 5"
40	4'- 0"	3'- 10"	3'- 11"	3'- 10"	4'- 0"	4'- 1"
45	3'- 9"	3'- 7"	3'- 9"	3'- 7"	3'- 9"	3'- 10"
50	3'- 6"	3'- 5"	3'- 6"	3'- 5"	3'- 6"	3'- 8"
55	3'- 4"	3'- 3"	3'- 4"	3'- 3"	3'- 4"	3'- 6"
60	3'- 3"	3'- 1"	3'- 3"	3'- 1"	3'- 3"	3'- 4"
65	3'- 1"	3'- 0"	3'- 1"	3'- 0"	3'- 1"	3'- 2"
70	3'- 0"	2'- 11"	3'- 0"	2'- 11"	3'- 0"	3'- 1"

## L/180 MAXIMUM DEFLECTION CRITERIA

GAUGE .040

15" COVERAGE

### POSITIVE BENDING

$Y_t = 1.422 \text{ in.}$

$S = 0.063 \text{ cubic in./ft. (bend.)}$

$I = 0.091 \text{ in.}^{1/4}/\text{ft. (defl.)}$

### NEGATIVE BENDING

$Y_t = 1.392 \text{ in.}$

$S = 0.073 \text{ cubic in./ft. (bend.)}$

$I = 0.089 \text{ in.}^{1/4}/\text{ft. (defl.)}$

LOAD (PSF)	DOWNWARD LOAD			UPWARD LOAD		
	SINGLE SPAN	DOUBLE SPAN	THREE SPAN	SINGLE SPAN	DOUBLE SPAN	THREE SPAN
10	* 6'- 5"	6'- 6"	6'- 9"	* 6'- 4"	6'- 10"	7'- 1"
15	5'- 7"	5'- 4"	5'- 6"	5'- 4"	5'- 7"	5'- 10"
20	4'- 10"	4'- 7"	4'- 9"	4'- 7"	4'- 10"	5'- 0"
25	4'- 4"	4'- 1"	4'- 3"	4'- 1"	4'- 4"	4'- 6"
30	3'- 11"	3'- 9"	3'- 11"	3'- 9"	3'- 11"	4'- 1"
35	3'- 8"	3'- 6"	3'- 7"	3'- 6"	3'- 8"	3'- 9"
40	3'- 5"	3'- 3"	3'- 4"	3'- 3"	3'- 5"	3'- 6"
45	3'- 3"	3'- 1"	3'- 2"	3'- 1"	3'- 3"	3'- 4"
50	3'- 1"	2'- 11"	3'- 0"	2'- 11"	3'- 1"	3'- 2"
55	2'- 11"	2'- 9"	2'- 10"	2'- 9"	2'- 11"	3'- 0"
60	2'- 9"	2'- 8"	2'- 9"	2'- 8"	2'- 9"	2'- 11"
65	2'- 8"	2'- 6"	2'- 7"	2'- 6"	2'- 8"	2'- 9"
70	2'- 7"	2'- 5"	2'- 6"	2'- 5"	2'- 7"	2'- 8"

## L/180 MAXIMUM DEFLECTION CRITERIA

GAUGE .040

19.25" COVERAGE

### POSITIVE BENDING

$Y_t = 1.451 \text{ in.}$

$S = 0.050 \text{ cubic in./ft. (bend.)}$

$I = 0.073 \text{ in.}^{1/4}/\text{ft. (defl.)}$

### NEGATIVE BENDING

$Y_t = 1.425 \text{ in.}$

$S = 0.058 \text{ cubic in./ft. (bend.)}$

$I = 0.071 \text{ in.}^{1/4}/\text{ft. (defl.)}$

LOAD (PSF)	DOWNWARD LOAD			UPWARD LOAD		
	SINGLE SPAN	DOUBLE SPAN	THREE SPAN	SINGLE SPAN	DOUBLE SPAN	THREE SPAN
10	* 6'- 0"	5'- 9"	5'- 11"	5'- 9"	6'- 1"	6'- 4"
15	5'- 0"	4'- 8"	4'- 10"	4'- 8"	5'- 0"	5'- 2"
20	4'- 3"	4'- 0"	4'- 2"	4'- 0"	4'- 3"	4'- 5"
25	3'- 10"	3'- 7"	3'- 9"	3'- 7"	3'- 10"	4'- 0"
30	3'- 6"	3'- 3"	3'- 5"	3'- 3"	3'- 6"	3'- 2"
35	3'- 3"	3'- 0"	3'- 2"	3'- 0"	3'- 3"	3'- 4"
40	3'- 0"	2'- 10"	2'- 11"	2'- 10"	3'- 0"	3'- 2"
45	2'- 10"	2'- 8"	2'- 9"	2'- 8"	2'- 10"	2'- 11"
50	2'- 8"	2'- 6"	2'- 8"	2'- 6"	2'- 8"	2'- 10"
55	2'- 7"	2'- 5"	2'- 6"	2'- 5"	2'- 7"	2'- 8"
60	2'- 6"	2'- 4"	2'- 5"	2'- 4"	2'- 6"	2'- 7"
65	2'- 4"	2'- 3"	2'- 4"	2'- 3"	2'- 4"	2'- 5"
70	2'- 3"	2'- 2"	2'- 3"	2'- 2"	2'- 4"	2'- 3"

## L/240 MAXIMUM DEFLECTION CRITERIA

GAUGE .040

11" COVERAGE

### POSITIVE BENDING

$Y_t = 1.379 \text{ in.}$

$S = 0.085 \text{ cubic in./ft. (bend.)}$

$I = 0.119 \text{ in.}^{1/4}/\text{ft. (defl.)}$

### NEGATIVE BENDING

$Y_t = 1.344 \text{ in.}$

$S = 0.098 \text{ cubic in./ft. (bend.)}$

$I = 0.117 \text{ in.}^{1/4}/\text{ft. (defl.)}$

LOAD (PSF)	DOWNWARD LOAD			UPWARD LOAD		
	SINGLE SPAN	DOUBLE SPAN	THREE SPAN	SINGLE SPAN	DOUBLE SPAN	THREE SPAN
10	* 6'- 5"	7'- 8"	7'- 11"	* 7'- 11"	8'- 0"	* 7'- 10"
15	* 5'- 7"	6'- 3"	6'- 6"	* 5'- 7"	6'- 6"	6'- 9"
20	* 4'- 1"	5'- 1"	5'- 5"	* 5'- 7"	5'- 0"	5'- 10"
25	* 4'- 8"	4'- 10"	5'- 0"	* 4'- 10"	5'- 0"	5'- 2"
30	* 4'- 5"	4'- 2"	4'- 7"	* 4'- 7"	4'- 1"	4'- 3"
35	* 4'- 2"	4'- 1"	4'- 3"	* 4'- 3"	4'- 1"	4'- 5"
40	* 4'- 0"	3'- 10"	3'- 11"	* 3'- 11"	3'- 10"	4'- 1"
45	* 3'- 9"	3'- 7"	3'- 9"	* 3'- 9"	3'- 7"	3'- 10"
50	* 3'- 6"	3'- 5"	3'- 6"	* 3'- 6"	3'- 5"	3'- 8"
55	* 3'- 4"	3'- 3"	3'- 4"	* 3'- 4"	3'- 3"	3'- 6"
60	* 3'- 3"	3'- 1"	3'- 3"	* 3'- 3"	3'- 1"	3'- 4"
65	* 3'- 1"	3'- 0"	3'- 1"	* 3'- 0"	3'- 1"	3'- 2"
70	* 3'- 0"	2'- 11"	3'- 0"	* 2'- 11"	3'- 0"	3'- 1"

## L/240 MAXIMUM DEFLECTION CRITERIA

GAUGE .040

15" COVERAGE

### POSITIVE BENDING

$Y_t = 1.422 \text{ in.}$

$S = 0.063 \text{ cubic in./ft. (bend.)}$

$I = 0.091 \text{ in.}^{1/4}/\text{ft. (defl.)}$

### NEGATIVE BENDING

$Y_t = 1.392 \text{ in.}$

$S = 0.073 \text{ cubic in./ft. (bend.)}$

$I = 0.089 \text{ in.}^{1/4}/\text{ft. (defl.)}$

LOAD (PSF)	DOWNWARD LOAD			UPWARD LOAD		
	SINGLE SPAN	DOUBLE SPAN	THREE SPAN	SINGLE SPAN	DOUBLE SPAN	THREE SPAN
10	* 5'- 5"	5'- 9"	5'- 11"	* 5'- 11"	6'- 1"	6'- 4"
15	* 4'- 9"	4'- 8"	4'- 10"	* 4'- 10"	5'- 0"	5'- 2"
20	* 4'- 3"	4'- 0"	4'- 2"	* 4'- 0"	4'- 2"	4'- 5"
25	* 3'- 10"	3'- 7"	3'- 9"	* 3'- 7"	3'- 9"	3'- 10"
30	* 3'- 6"	3'- 3"	3'- 5"	* 3'- 3"	3'- 5"	3'- 7"
35	* 3'- 3"	3'- 0"	3'- 2"	* 3'- 0"	3'- 2"	3'- 4"
40	* 3'- 0"	2'- 10"	2'- 11"	* 2'- 11"	2'- 10"	3'- 2"
45	* 2'- 10"	2'- 8"	2'- 9"	* 2'- 8"	2'- 10"	2'- 11"
50	* 2'- 8"	2'- 6"	2'- 8"	* 2'- 8"	2'- 6"	2'- 10"
55	* 2'- 7"	2'- 5"	2'- 6"	* 2'- 5"	2'- 7"	2'- 8"
60	* 2'- 6"	2'- 4"	2'- 5"	* 2'- 4"	2'- 6"	2'- 7"
65	* 2'- 4"	2'- 3"	2'- 4"	* 2'- 4"	2'- 3"	2'- 5"
70	* 2'- 3"	2'- 2"	2'- 3"	* 2'- 3"	2'- 2"	2'- 4"

## L/240 MAXIMUM DEFLECTION CRITERIA

GAUGE .040

19.25" COVERAGE

### POSITIVE BENDING

$Y_t = 1.451 \text{ in.}$

$S = 0.050 \text{ cubic in./ft. (bend.)}$

$I = 0.073 \text{ in.}^{1/4}/\text{ft. (defl.)}$

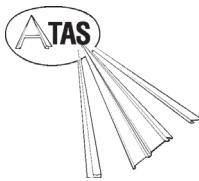
### NEGATIVE BENDING

$Y_t = 1.425 \text{ in.}$

$S = 0.058 \text{ cubic in./ft. (bend.)}$

$I = 0.071 \text{ in.}^{1/4}/\text{ft. (defl.)}$

LOAD (PSF)	DOWNWARD LOAD			UPWARD LOAD		
	SINGLE SPAN	DOUBLE SPAN	THREE SPAN	SINGLE SPAN	DOUBLE SPAN	THREE SPAN
10	* 5'- 5"	5'- 9"	5'- 11"	* 5'- 11"	6'- 1"	6'- 4"
15	* 4'- 9"	4'- 8"	4'- 10"	* 4'- 10"	5'- 0"	5'- 2"
20	* 4'- 3"	4'- 0"	4'- 2"	* 4'- 0"	4'- 2"	4'- 5"
25	* 3'- 10"	3'- 7"	3'- 9"	* 3'- 7"	3'- 9"	3'- 10"
30	* 3'- 6"	3'- 3"	3'- 5"	* 3'- 3"	3'- 5"	3'- 7"
35	* 3'- 3"	3'- 0"	3'- 2"	* 3'- 0"	3'- 2"	3'- 4"
40	* 3'- 0"	2'- 10"	2'- 11"	* 2'- 11"	2'- 10"	3'- 2"
45	* 2'- 10"	2'- 8"	2'- 9"	* 2'- 8"	2'- 10	



LOAD TABLES

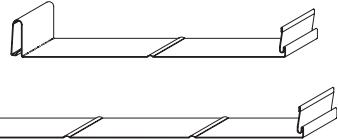
22 ga. STEEL

ASTM A653

SS 40

# DUTCH SEAM ROOF PANEL

## MRD110, MRD150, MRD194



## L/180 MAXIMUM DEFLECTION CRITERIA

22 GAUGE

11" COVERAGE

## POSITIVE BENDING

 $Y_t = 1.344 \text{ in.}$  $S = 0.070 \text{ cubic in./ft. (bend.)}$  $I = 0.095 \text{ in.}^4/\text{ft. (defl.)}$ 

## NEGATIVE BENDING

 $Y_t = 1.018 \text{ in.}$  $S = 0.055 \text{ cubic in./ft. (bend.)}$  $I = 0.057 \text{ in.}^4/\text{ft. (defl.)}$ 

LOAD (PSF)	DOWNWARD LOAD			UPWARD LOAD		
	SINGLE SPAN	DOUBLE SPAN	THREE SPAN	SINGLE SPAN	DOUBLE SPAN	THREE SPAN
10	* 9'- 4"	9'- 4"	10'- 6"	* 7'- 10"	10'- 6"	* 9'- 9"
15	* 8'- 2"	7'- 8"	8'- 7"	* 6'- 10"	8'- 7"	* 8'- 6"
20	* 7'- 5"	6'- 7"	7'- 5"	* 6'- 3"	7'- 5"	* 7'- 9"
25	6'- 8"	5'- 11"	6'- 7"	* 5'- 9"	6'- 8"	* 7'- 2"
30	6'- 1"	5'- 5"	6'- 0"	* 5'- 5"	6'- 1"	6'- 7"
35	5'- 7"	5'- 0"	5'- 7"	* 5'- 0"	5'- 7"	6'- 1"
40	5'- 3"	4'- 8"	5'- 3"	4'- 8"	5'- 3"	5'- 9"
45	4'- 11"	4'- 5"	4'- 11"	4'- 5"	4'- 11"	5'- 5"
50	4'- 8"	4'- 2"	4'- 8"	4'- 2"	4'- 8"	5'- 1"
55	4'- 5"	4'- 0"	4'- 5"	4'- 0"	4'- 5"	4'- 11"
60	4'- 3"	3'- 10"	4'- 3"	3'- 10"	4'- 3"	4'- 8"
65	4'- 1"	3'- 8"	4'- 1"	3'- 8"	4'- 1"	4'- 6"
70	3'- 11"	3'- 6"	3'- 11"	3'- 6"	3'- 11"	4'- 4"

## L/180 MAXIMUM DEFLECTION CRITERIA

22 GAUGE

15" COVERAGE

## POSITIVE BENDING

 $Y_t = 1.392 \text{ in.}$  $S = 0.052 \text{ cubic in./ft. (bend.)}$  $I = 0.074 \text{ in.}^4/\text{ft. (defl.)}$ 

## NEGATIVE BENDING

 $Y_t = 1.021 \text{ in.}$  $S = 0.041 \text{ cubic in./ft. (bend.)}$  $I = 0.042 \text{ in.}^4/\text{ft. (defl.)}$ 

LOAD (PSF)	DOWNWARD LOAD			UPWARD LOAD		
	SINGLE SPAN	DOUBLE SPAN	THREE SPAN	SINGLE SPAN	DOUBLE SPAN	THREE SPAN
10	* 8'- 7"	8'- 0"	9'- 0"	* 7'- 1"	9'- 1"	* 8'- 9"
15	7'- 5"	6'- 7"	7'- 4"	* 6'- 2"	7'- 5"	* 7'- 8"
20	6'- 5"	5'- 8"	6'- 4"	* 5'- 7"	6'- 5"	6'- 11"
25	5'- 9"	5'- 1"	5'- 8"	5'- 1"	5'- 9"	6'- 3"
30	5'- 3"	4'- 7"	5'- 2"	4'- 7"	5'- 3"	5'- 8"
35	4'- 10"	4'- 3"	4'- 9"	4'- 3"	4'- 10"	5'- 3"
40	4'- 6"	4'- 0"	4'- 6"	4'- 0"	4'- 6"	4'- 11"
45	4'- 3"	3'- 9"	4'- 3"	3'- 9"	4'- 3"	4'- 7"
50	4'- 1"	3'- 7"	4'- 0"	3'- 7"	4'- 1"	4'- 5"
55	3'- 10"	3'- 5"	3'- 10"	3'- 5"	3'- 10"	4'- 2"
60	3'- 8"	3'- 3"	3'- 8"	3'- 3"	3'- 8"	4'- 0"
65	3'- 6"	3'- 1"	3'- 1"	3'- 1"	3'- 6"	3'- 10"
70	3'- 5"	3'- 0"	3'- 0"	3'- 0"	3'- 5"	3'- 8"

## L/180 MAXIMUM DEFLECTION CRITERIA

22 GAUGE

19.25" COVERAGE

## POSITIVE BENDING

 $Y_t = 1.425 \text{ in.}$  $S = 0.041 \text{ cubic in./ft. (bend.)}$  $I = 0.059 \text{ in.}^4/\text{ft. (defl.)}$ 

## NEGATIVE BENDING

 $Y_t = 1.022 \text{ in.}$  $S = 0.032 \text{ cubic in./ft. (bend.)}$  $I = 0.032 \text{ in.}^4/\text{ft. (defl.)}$ 

LOAD (PSF)	DOWNWARD LOAD			UPWARD LOAD		
	SINGLE SPAN	DOUBLE SPAN	THREE SPAN	SINGLE SPAN	DOUBLE SPAN	THREE SPAN
10	* 8'- 0"	7'- 1"	7'- 11"	* 6'- 6"	8'- 1"	* 8'- 1"
15	6'- 7"	5'- 9"	6'- 6"	* 5'- 8"	6'- 7"	* 7'- 1"
20	5'- 8"	5'- 0"	5'- 7"	5'- 0"	5'- 8"	6'- 2"
25	5'- 1"	4'- 6"	5'- 0"	4'- 6"	5'- 1"	5'- 6"
30	4'- 8"	4'- 1"	4'- 7"	4'- 1"	4'- 8"	5'- 0"
35	4'- 4"	3'- 9"	4'- 3"	3'- 9"	4'- 4"	4'- 8"
40	4'- 0"	3'- 6"	3'- 11"	3'- 6"	4'- 0"	4'- 4"
45	3'- 9"	3'- 4"	3'- 9"	3'- 4"	3'- 9"	4'- 1"
50	3'- 7"	3'- 2"	3'- 6"	3'- 2"	3'- 7"	3'- 10"
55	3'- 5"	3'- 0"	3'- 4"	3'- 0"	3'- 5"	3'- 8"
60	3'- 3"	2'- 10"	3'- 3"	2'- 10"	3'- 3"	3'- 6"
65	3'- 2"	2'- 9"	3'- 1"	2'- 9"	3'- 2"	3'- 5"
70	3'- 0"	2'- 8"	3'- 0"	2'- 8"	3'- 0"	3'- 3"

- Notes:**
- \*Indicates maximum span controlled by deflection.
  - All loads are applied perpendicular to surface of panel.
  - No increase for wind loading has been assumed.
  - Shaded area denotes loads at which deflection of the panel in the transverse direction due to static gravity load may cause permanent deformations.

## L/240 MAXIMUM DEFLECTION CRITERIA

22 GAUGE

11" COVERAGE

## POSITIVE BENDING

 $Y_t = 1.344 \text{ in.}$  $S = 0.070 \text{ cubic in./ft. (bend.)}$  $I = 0.095 \text{ in.}^4/\text{ft. (defl.)}$ 

## NEGATIVE BENDING

 $Y_t = 1.018 \text{ in.}$  $S = 0.055 \text{ cubic in./ft. (bend.)}$  $I = 0.057 \text{ in.}^4/\text{ft. (defl.)}$ 

LOAD (PSF)	DOWNWARD LOAD			UPWARD LOAD		
	SINGLE SPAN	DOUBLE SPAN	THREE SPAN	SINGLE SPAN	DOUBLE SPAN	THREE SPAN
10	* 8'- 6"	9'- 2"	10'- 6"	* 7'- 2"	9'- 7"	* 8'- 10"
15	* 7'- 5"	8'- 3"	9'- 4"	* 6'- 3"	8'- 5"	* 7'- 9"
20	* 6'- 9"	6'- 7"	7'- 5"	* 5'- 8"	7'- 5"	* 7'- 0"
25	* 6'- 3"	5'- 11"	5'- 5"	* 5'- 3"	6'- 8"	* 6'- 6"
30	* 5'- 11"	5'- 5"	5'- 0"	* 4'- 11"	6'- 1"	* 6'- 1"
35	* 5'- 7"	5'- 0"	5'- 7"	* 5'- 7"	4'- 8"	* 5'- 10"
40	* 5'- 3"	4'- 8"	4'- 8"	* 4'- 3"	5'- 3"	* 5'- 7"
45	* 4'- 11"	4'- 5"	4'- 11"	* 4'- 4"	4'- 11"	* 5'- 4"
50	4'- 8"	4'- 2"	4'- 8"	4'- 2"	4'- 8"	5'- 1"
55	4'- 5"	4'- 0"	4'- 5"	4'- 0"	4'- 5"	4'- 11"
60	4'- 3"	3'- 10"	4'- 3"	3'- 10"	4'- 3"	4'- 8"
65	4'- 1"	3'- 8"	4'- 1"	3'- 8"	4'- 1"	4'- 6"
70	3'- 11"	3'- 6"	3'- 11"	3'- 6"	3'- 11"	4'- 4"

## L/240 MAXIMUM DEFLECTION CRITERIA

22 GAUGE

15" COVERAGE

## POSITIVE BENDING

 $Y_t = 1.392 \text{ in.}$  $S = 0.052 \text{ cubic in./ft. (bend.)}$  $I = 0.074 \text{ in.}^4/\text{ft. (defl.)}$ 

## NEGATIVE BENDING

 $Y_t = 1.021 \text{ in.}$  $S = 0.041 \text{ cubic in./ft. (bend.)}$  $I = 0.042 \text{ in.}^4/\text{ft. (defl.)}$ 

LOAD (PSF)	DOWNWARD LOAD			UPWARD LOAD		
	SINGLE SPAN	DOUBLE SPAN	THREE SPAN	SINGLE SPAN	DOUBLE SPAN	THREE SPAN
10	* 7'- 10"	8'- 0"	9'- 0"	* 6'- 5"	8'- 8"	* 8'- 0"
15	* 6'- 10"	6'- 7"	7'- 4"	* 5'- 7"	7'- 5"	* 7'- 0"
20	* 6'- 2"	5'- 8"	6'- 4"	* 5'- 1"	6'- 5"	* 6'- 4"
25	* 5'- 0"	5'- 1"	5'- 1"	* 4'- 9"	5'- 9"	* 5'- 10"
30	* 5'- 3"	4'- 7"	5'- 2"	* 4'- 7"	5'- 2"	* 5'- 6"
35	* 4'- 10"	4'- 3"	4'- 9"	* 4'- 9"	4'- 10"	* 5'- 3"
40	* 4'- 6"	4'- 0"	4'- 6"	* 4'- 6"	4'- 0"	4'- 11"
45	* 4'- 3"	3'- 9"	4'- 3"	* 3'- 9"	4'- 3"	4'- 7"
50	* 4'- 1"	3'- 7"	4'- 1"	* 4'- 7"	4'- 0"	4'- 5"
55	* 3'- 10"	3'- 5"	3'- 10"	* 3'- 5"	3'- 10"	4'- 2"
60	* 3'- 8"	3'- 3"	3'- 8"	* 3'- 3"	3'- 8"	4'- 0"
65	* 3'- 6"	3'- 1"	3'- 1"	* 3'- 1"	3'- 6"	3'- 10"
70	* 3'- 5"	3'- 0"	3'- 0"	* 3'- 0"	3'- 4"	3'- 5"

## L/240 MAXIMUM DEFLECTION CRITERIA

22 GAUGE

19.25" COVERAGE

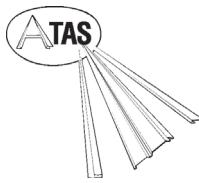
## POSITIVE BENDING

 $Y_t = 1.425 \text{ in.}$  $S = 0.041 \text{ cubic in./ft. (bend.)}$  $I = 0.059 \text{ in.}^4/\text{ft. (defl.)}$ 

## NEGATIVE BENDING

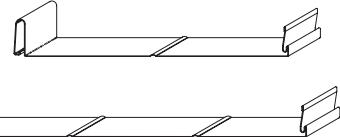
 $Y_t = 1.022 \text{ in.}$  $S = 0.032 \text{ cubic in./ft. (bend.)}$  $I = 0.032 \text{ in.}^4/\text{ft. (defl.)}$ 

LOAD (PSF)	DOWNWARD LOAD			UPWARD LOAD		
	SINGLE SPAN	DOUBLE SPAN	THREE SPAN	SINGLE SPAN	DOUBLE SPAN	THREE SPAN
10	* 8'- 0"	7'- 1"	7'- 11"	* 6'- 6"	8'- 1"	* 8'- 4"
15	6'- 7"	5'- 9"	6'- 6"	* 5'- 8"	6'- 7"	* 6'- 5"
20	5'- 8"	5'- 0"	5'- 7"	* 5'- 8"	5'- 7"	* 5'- 10"
25	5'- 1"	4'- 6"	5'- 0"	* 4'- 6"	5'- 0"	* 5'- 5"
30	4'- 8"	4'- 1"	4'- 7"	* 4'- 8"	4'- 1"	* 4'- 0"
35	4'- 4"	3'- 9"	4'- 3"	* 4'- 4"	3'- 9"	* 4'- 8"
40	4'- 0"	3'- 6"	3'- 11"	* 3'- 6"	3'- 11"	* 4'- 4"
45	3'- 9"	3'- 4"	3'- 9"	* 3'- 9"	3'- 4"	* 3'- 9"
50	3'- 7"	3'- 2"	3'- 6"	* 3'- 7"	3'- 2"	* 3'- 7"
55	3'- 5"	3'- 0"	3'- 4"	* 3'- 5"	3'- 0"	* 3'- 5"
60	3'- 3"	2'- 10"	3'- 3"	* 2'- 10"	3'- 3"	* 2'- 10"
65						



LOAD TABLES  
24 ga. STEEL  
ASTM A653  
SS 40

# DUTCH SEAM ROOF PANEL MRD110, MRD150, MRD194



## L/180 MAXIMUM DEFLECTION CRITERIA

### 24 GAUGE

### 11" COVERAGE

#### POSITIVE BENDING

Yt= 1.308 in.

S= 0.047 cubic in./ft. (bend.)

I= 0.061 in.^4/ft. (defl.)

#### NEGATIVE BENDING

Yt= 0.915 in.

S= 0.035 cubic in./ft. (bend.)

I= 0.036 in.^4/ft. (defl.)

LOAD (PSF)	DOWNWARD LOAD			UPWARD LOAD		
	SINGLE SPAN	DOUBLE SPAN	THREE SPAN	SINGLE SPAN	DOUBLE SPAN	THREE SPAN
10	* 8'- 4"	7'- 9"	8'- 8"	* 7'- 0"	9'- 6"	* 8'- 7"
15	* 7'- 3"	6'- 4"	7'- 1"	* 6'- 1"	7'- 4"	* 7'- 6"
20	6'- 4"	5'- 6"	6'- 2"	5'- 6"	6'- 4"	6'- 9"
25	5'- 8"	4'- 11"	5'- 6"	4'- 11"	5'- 8"	6'- 0"
30	5'- 2"	4'- 6"	5'- 0"	4'- 6"	5'- 2"	5'- 6"
35	4'- 10"	4'- 2"	4'- 8"	4'- 2"	4'- 10"	5'- 1"
40	4'- 6"	3'- 10"	4'- 4"	3'- 10"	4'- 6"	4'- 9"
45	4'- 3"	3'- 8"	4'- 1"	3'- 8"	4'- 3"	4'- 6"
50	4'- 0"	3'- 5"	3'- 10"	3'- 5"	4'- 0"	4'- 3"
55	3'- 10"	3'- 3"	3'- 8"	3'- 3"	3'- 10"	4'- 0"
60	3'- 8"	3'- 2"	3'- 6"	3'- 2"	3'- 8"	3'- 10"
65	3'- 6"	3'- 0"	3'- 5"	3'- 0"	3'- 6"	3'- 9"
70	3'- 5"	2'- 11"	3'- 3"	2'- 11"	3'- 5"	3'- 7"

## L/180 MAXIMUM DEFLECTION CRITERIA

### 24 GAUGE

### 15" COVERAGE

#### POSITIVE BENDING

Yt= 1.308 in.

S= 0.047 cubic in./ft. (bend.)

I= 0.061 in.^4/ft. (defl.)

#### NEGATIVE BENDING

Yt= 0.915 in.

S= 0.035 cubic in./ft. (bend.)

I= 0.036 in.^4/ft. (defl.)

LOAD (PSF)	DOWNWARD LOAD			UPWARD LOAD		
	SINGLE SPAN	DOUBLE SPAN	THREE SPAN	SINGLE SPAN	DOUBLE SPAN	THREE SPAN
10	* 7'- 6"	6'- 8"	7'- 5"	* 6'- 3"	7'- 9"	* 7'- 9"
15	6'- 3"	5'- 5"	6'- 1"	5'- 5"	6'- 3"	6'- 8"
20	5'- 5"	4'- 8"	5'- 3"	4'- 8"	5'- 5"	5'- 9"
25	4'- 10"	4'- 2"	4'- 8"	4'- 2"	4'- 10"	5'- 2"
30	4'- 5"	3'- 10"	4'- 3"	3'- 10"	4'- 5"	4'- 8"
35	4'- 1"	3'- 6"	4'- 0"	3'- 6"	4'- 1"	4'- 4"
40	3'- 10"	3'- 4"	3'- 8"	3'- 4"	3'- 10"	4'- 1"
45	3'- 7"	3'- 1"	3'- 6"	3'- 1"	3'- 7"	3'- 10"
50	3'- 5"	2'- 11"	3'- 4"	2'- 11"	3'- 5"	3'- 7"
55	3'- 3"	2'- 10"	3'- 2"	2'- 10"	3'- 3"	3'- 5"
60	3'- 1"	2'- 8"	3'- 0"	2'- 8"	3'- 1"	3'- 4"
65	3'- 0"	2'- 7"	2'- 11"	2'- 7"	3'- 0"	3'- 2"
70	2'- 11"	2'- 6"	2'- 9"	2'- 6"	2'- 11"	3'- 1"

## L/180 MAXIMUM DEFLECTION CRITERIA

### 24 GAUGE

### 19.25" COVERAGE

#### POSITIVE BENDING

Yt= 1.308 in.

S= 0.047 cubic in./ft. (bend.)

I= 0.061 in.^4/ft. (defl.)

#### NEGATIVE BENDING

Yt= 0.915 in.

S= 0.035 cubic in./ft. (bend.)

I= 0.036 in.^4/ft. (defl.)

LOAD (PSF)	DOWNWARD LOAD			UPWARD LOAD		
	SINGLE SPAN	DOUBLE SPAN	THREE SPAN	SINGLE SPAN	DOUBLE SPAN	THREE SPAN
10	6'- 10"	5'- 10"	6'- 7"	* 5'- 9"	6'- 10"	* 7'- 2"
15	5'- 7"	4'- 9"	5'- 4"	4'- 9"	5'- 7"	5'- 10"
20	4'- 10"	4'- 2"	4'- 8"	4'- 2"	4'- 10"	5'- 1"
25	4'- 3"	3'- 8"	4'- 2"	3'- 8"	4'- 3"	4'- 6"
30	3'- 11"	3'- 4"	3'- 9"	3'- 4"	3'- 11"	4'- 2"
35	3'- 7"	3'- 1"	3'- 6"	3'- 1"	3'- 7"	3'- 10"
40	3'- 5"	2'- 11"	3'- 3"	2'- 11"	3'- 5"	3'- 7"
45	3'- 2"	2'- 9"	3'- 1"	2'- 9"	3'- 4"	3'- 4"
50	3'- 0"	2'- 7"	2'- 11"	2'- 7"	3'- 0"	3'- 2"
55	2'- 11"	2'- 6"	2'- 9"	2'- 6"	2'- 11"	3'- 1"
60	2'- 9"	2'- 4"	2'- 8"	2'- 4"	2'- 9"	2'- 11"
65	2'- 8"	2'- 3"	2'- 7"	2'- 3"	2'- 10"	2'- 10"
70	2'- 7"	2'- 2"	2'- 5"	2'- 2"	2'- 8"	2'- 8"

<b>Notes:</b>	1. *Indicates maximum span controlled by deflection.	5. Since allowable loads and spans can be affected by actual conditions of use, information in these tables is intended for use only by those qualified to assess these effects.
	2. All loads are applied perpendicular to surface of panel.	
	3. No increase for wind loading has been assumed.	
	4. Shaded area denotes loads at which deflection of the panel in the transverse direction due to static gravity load may cause permanent deformations.	