# METL-SPAN III CF42/CF45 PANELS

## Allowable Span (feet) For Insulated Partition Panels

| Panel Thickness | Allowable Span |
|---|---|
| 2" | 21'-1" |
| 2.5" | 24'-9" |
| 3" | 28'-2" |
| 4" | 34'-3" |
| 5" | 40'-0" |
| 6" | 45'-3" |

## NOTES:

1. For non load bearing interior partition walls only. Based on 5 PSF lateral load with deflection limited to L/120. Simple span condition only. Some jurisdictions require that deflection be limited to L/180 for interior walls. Contact Metl Span LLC for maximum allowable spans if the deflection limit is L/180 for 5 PSF lateral load.
2. Maximum panel width is 44.5", CF mesa/mesa profile with 26 ga facings both sides. **IMPORTANT NOTE:** The above chart is for panels with a mesa profile on both sides. Contact Metl-Span for panels with light mesa or no-profile faces as maximum allowable spans will be less than those shown above.
3. Safety factor against shear failure = 3.0. Safety factor against bending failure = 2.5.
4. Except for self supporting the dead weight of the panel, partition wall panels are non load bearing.
5. Panel skins must be captured at both ends of the panel by supporting members which must be designed to support reaction pressures from 5 PSF internal wind pressure and from thermal bow.
6. **IMPORTANT NOTE:** Deflection caused by temperature differential induced thermal bow is not addressed in the above table and may result in allowable spans that are less than are listed in this table. Contact Metl Span LLC for a review and analysis of the specific temperature differentials which will occur for each application.

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Introduction

The purpose of this report is to establish the maximum allowable panel span for the interior partition panel application.

Structural Conditions

The interior partition panels included in this report are limited to the following structural conditions.

1. The panels are simply supported on both ends, to members that carry the reaction created by the lateral pressure differential to the structure above and to the floor.
2. Both the fascia and the liner steel skins are captured within the flanges of the continuous panel end supporting members, typically, a channel profile at the base and a double angle profile at the top (see attached figure 1).

Design Parameter and Design Theory

The interior partition panels are to be designed for a lateral uniform live load of 5 psf and the design limiting factors include the following listed items.

1. Allowable Deflection = L/120 where L = panel span.
2. Safety Factors Against Bending Failure = 2.5
3. Safety Factor Against Shear Failure = 3.0
4. Except self supporting the dead weight, the partition wall is a non-bearing wall.

Due to the fact that the panel ends are captured within the panel supporting members, the panel side joint connection failure is eliminated from the design consideration. Since the design does not consider the side joint connection, the widest (44.5" net coverage) can be used. This allowable span table included in this report listed 44.5" wide panels and the application of any narrower panels would be on the conservative side.

Table 1: Allowable Spans For Nonbearing Partition Wall

| Lateral Load = 5.0 psf<br>Simple Span Condition Only | Deflection = L/120 |
|---|---|
| Panel Notation | Allowable Span |
| 2.0 CFA45MM-26/26 | 21'-1" |
| 2.5 CFA45MM-26/26 | 24'-9" |
| 3.0 CFA45MM-26/26 | 28'-2" |
| 4.0 CFA45MM-26/26 | 34'-3" |
| 5.0 CFA45MM-26/26 | 40'-0" |
| 6.0 CFA45MM-26/26 | 45'-3" |

The above chart is for panels with a mesa profile on both sides. Contact Metl-Span for panels with light mesa or no-profile faces.

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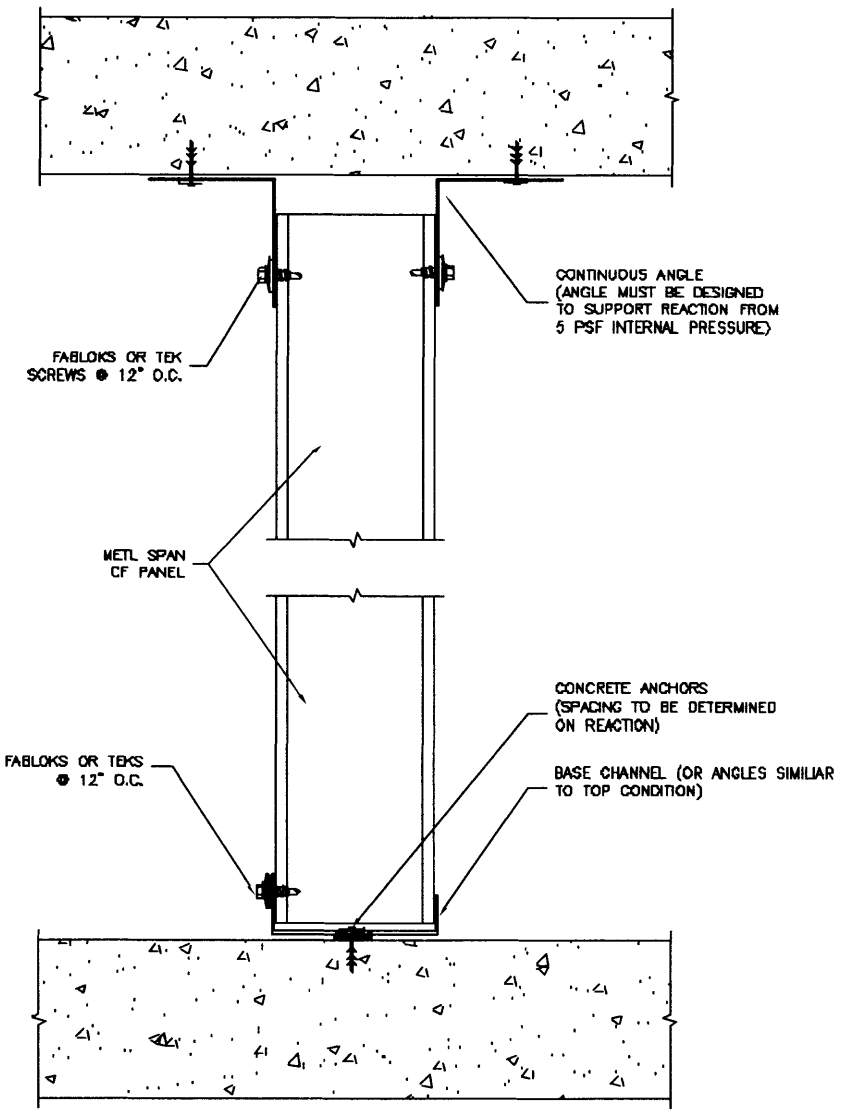


FIGURE 1: TYPICAL PANEL END CONNECTION DETAILS