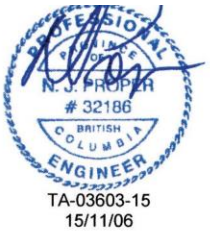
TACOMA ENGINEERS

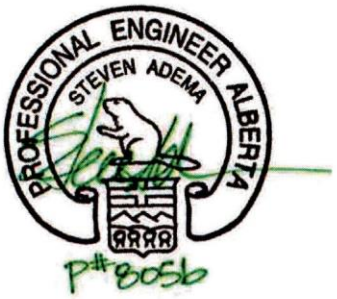
אישור הנדסה עבור נספח E

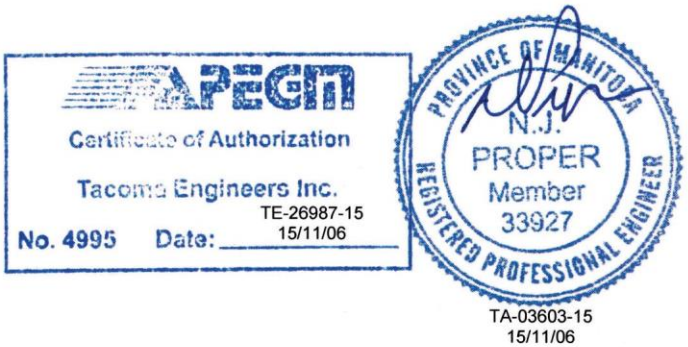
טבלאות חיזוקי משקופים בנספח E לשימוש בקנדה אושרו ב-30 לאוקטובר, 2015 על ידי Tacoma Engineers לשימוש במחוז אונטאריו. טבלאות אלה נבחנו גם על פי התקינות הבאות:

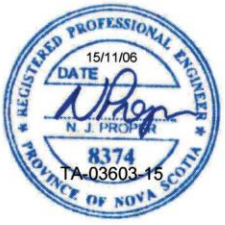
- תקינת בניה אלברטה 2014
- תקינת בניה בריטיש קולומביה 2012
- תקינת בניה מניטובה 2014
- תקינת בניה נובה סקוצ'ה 2014
- תקינת הבניה הארצית כפי שעודכנה על ידי תקינת Uniform Building and Accessibility בסקצ'ואן (2010)

הדרישות הבאות נדרשות במקום בו Sa(0.2 >= 0.67
- לוודא לפחות 3 חישוקי היקף בכל משקוף לפי הרווח המוגדר בטבלאות המשקופים.









הגבלות תכנון
וטבלאות למשקופים

TACOMA ENGINEERS

הגבלות תכנון

1. טבלאות אלו חלות על בניני מגורים **בלבד** העומדים בתקנות קודי הבנייה הבינלאומיים או מדריכי התכנון המוכרים על ידי דו"חות הערכת מוצרים קנדיים עבור תאגיד NUDURA. יש להניח כי הבנייה תעמוד בחוקי הבנייה המקומיים המתאימים, אשר עשויים לכלול את:
   - חלק 9 בקוד הבנייה הלאומי של קנדה – 2010
   - חלק 9 בקודי הבנייה הפרובנציאליים הישימים, שהונפק על בסיס הדרישה לעיל

   הערה: אם תכנית הבנייה המוצעת אינה עומדת בפרמטרי התכנון או היישום המצויים במסמך זה, יש להעסיק מתכנן מקצועי מקומי על מנת להכין תכנון בהתאם לסטנדרטים הישימים.

2. העומסים המקסימליים הבאים אינם כלולים בחישובים, והונחו בתכנון טבלאות הבנייה בנספח זה:
   א) עומס שלג על גג (חי) = 4.0kPa (84 psf)
   ב) עומס שימוש בקומה מרכזית (חי) = 1.9 kPa (40 psf)
   ג) עומס גג ורצפה (מת) = 0.7 kPa (15 psf)
   ד) צפיפות בטון (מת) = 23.6 קילו ניוטון\מ^3 (150 פאונד\רגל^3)
   ה) צפיפות לבנה (מת) = 20.0 קילו ניוטון\מ^3 (128 פאונד\רגל^3)

3. העומסים המפוזרים באופן אחיד המצוינים בטבלאות בנספח זה אינם כלולים בחישוב ושוערו בתכנון משקופים בהתאמה לעומסים הלא-מחושבים המצוינים בהערה 2.

4. על העומס המפוזר באופן אחיד להיות מחושב על ידי הכפלת עומס רצפה, חי (LL) ומת (DL), ברוחב רצפה ו\או גג תומכים, רוחב תומך של רצפה\גג נקבע על ידי הוספת חיזוק בכל מחצית אורך כל קורת גג אופקית או שיפועי על משקוף הבטון. לדוגמה, בעבור משקוף התומך בקורות רצפה ומגיע לאורך 3.05 מ (''0 – '10) בקצה אחד בלבד, יחושב עומס מפוזר באופן אחיד (UDL) בצורה הבאה:

חישוב מטרי:
UDL = TW (LL + DL) = 3.05 מ\2 (1.9 kPa + 0.7 kPA) = 3.965 קילו ניוטון\מ

חישוב אימפריאלי:
UDL = TW (LL + DL) = 10 רגל\2 (40 psf + 15 psf) = 275 פאונד\רגל

5. תכנוני משקופים בטבלאות בנספח זה בעלי הגבלת סטייה של L/360.

6. התכנון מוגבל לקומה אחת מתחת פני האדמה ומקסימום של שתי קומות מעל פני האדמה.

7. טווח גבולות רצפה מקסימלי = 7.32 מ (24 רגל).

8. טווח גבולות תקרה מקסימלי = 12.2 מ (40 רגל).

9. המשקופים מתכוננים לשאת בפיזורי עומס קו כבידה אחיד בלבד. יש להעסיק מתכנן מקצועי מקומי על מנת לתכנן את המשקופים כך שיוכלו לעמוד בעומסים רוחביים או נקודתיים, למשל עומסים מרוכזים כגון קורות תמיכה, עמודים ומוטות, בהתאם לסטנדרטים הישימים.

10. חיזוק משקוף מינימלי יכלול את הבאים:
- מוט עליון 10M הממוקם 38 מ"מ (''1A) מהחלק העליון של המשקוף ומתמשך לאורך מינימלי של 610 מ"מ (”24) מעבר לפתח הקיר בכל קצה.
- מוטות תחתונים יהיו יסופקו בכמות ובקוטר המצוינים בטבלאות המשקופים בנספח זה, יותקנו עם כיסוי בטון של 38 מ"מ (''1A) ויתמשכו לאורך מינימלי של 610 מ"מ (”24) מעבר לפתח הקיר בכל קצה.
- כאשר ישנה דרישה, יותקנו חישוקים מכופפים 10M סביב המוטות העליונים והתחתונים, בהתאם למימדים והריווח המצוינים בטבלאות ובציורים הנמצאים בסוף חלק זה.

11. מפרטי ברזל משקוף בהערה 10 מניחים כי חיזוק קיר אופקי רציף 10M, נשמר משני צדי פתח הקיר ב-457 מ"מ (''18) .o.c.

12. כשאורך קיר בטון בין שני פתחים קטן מ-305 מ"מ (''12), יש לחזק את המשקוף כך לכסות את שני הפתחים.

13. כשאורך קיר בטון בין שני פתחים הקטן מ-610 מ"מ (''24), והיכן שכל אחד מהפתחים גדול מ-1.53 מ (''0 – 5') באורכו, יש לחזק את המשקוף כך לכסות את שני הפתחים.

14. אין להתקין מחברי בנייה בתוך 610 מ"מ (''24) משני צידי כל פתח קיר.

15. אורך חפיפת מוטות מינימלי יעמוד על:

א) 457 מ"מ (''18) עבור מוטות 10M
ב) 660 מ"מ (''26) עבור מוטות 15M
ג) 762 מ"מ (''30) עבור מוטות 20M

16. כשמוטות בתוך המשקוף אינם יכולים להגיע לכיסוי צד בטון וריווח שהינו 38 מ"מ (''1A) מינימליים, יש לאגד את המוטות. ההערות הבאות חלות על כל המוטות המאוגדים:

א) ניתן לקבץ לכל היותר ארבעה מוטות חיזוק מקבילים במגע אחד עם השני, וההנחה היא שהם יפעלו כיחידה אחת. מוטות מאוגדים יהיו קשורים, מחווטים או לחילופין מהודקים כדי להבטיח שיישארו במקומם.

ב) מוטות יחידים בתוך אגד נתון של מוטות עשויים להסתיים בטווח אורך משקוף (או מחבר כפיפה), עם זאת, על המוטות להסתיים בנקודות שונות הנמצאות במרחק של לפחות 40 פעמים קוטר המוט אחד מהשני.

ג) בכל אגד נתון של מוטות העמוס במתח או דחיסה, על אורך החפיפה ואורך התפתחות המוטות בתוך האגד, להיות כמוט יחיד **I**-מוגדל ב-10% עבור אגד 2 מוטות, 20% עבור אגד 3 מוטות, ו-33% עבור אגד 4 מוטות. שוב, כפי שצוין בתת-הערה ב' לעיל, אין לאפשר חפיפה של מוטות בודדים השזורים באגד.

17. על עבודות הבטון להתאים למהדורות האחרונות של התקנים הבאים עבור חומרים ועבודה:
    - CAN/CSA—A23.1 /A23.2 /A23.3

18. על ברזל החיזוק להיות מעוות, וימוקם בהתאם לכללי התעשייה ודרישות הסטנדרטיים הנהוגות בקנדה ויסופקו כמאמץ הדסי הבא:
    - קנדה: Grade 400 (400 MPa)

19. על התכנון להניח שחוזק הדחיסה המינימלי למשך 28 ימים של הבטון שבשימוש בהתקנה יהיה 20 Mpa (3,000 psi).

20. על התכנון והבנייה של כל העבודה באתר להתאים למהדורות האחרונות של קודי הבנייה עבור האזור בו ההתקנה מתבצעת, לרבות תקנות קודים וחוקי עזר מקומיים וכן כל תקנות הבריאות והבטיחות החלות.

21. על הקבלן לדאוג לחלוקה מתאימה של עומסי בנייה ולחיזוקים זמניים על מנת לשמור על המבנה בצורה אנכית וישרה במהלך כל שלבי הבנייה.

22. על החלק העליון של המשקופים להתמך בצורה רוחבית על ידי מערכות רצפת או גג הבנייה, שיתוכננו על ידי אחרים.

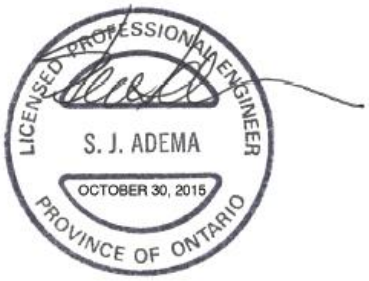
23. על הקבלן לבצע רטט בתדר גבוה במהלך הנחת כל הבטון.

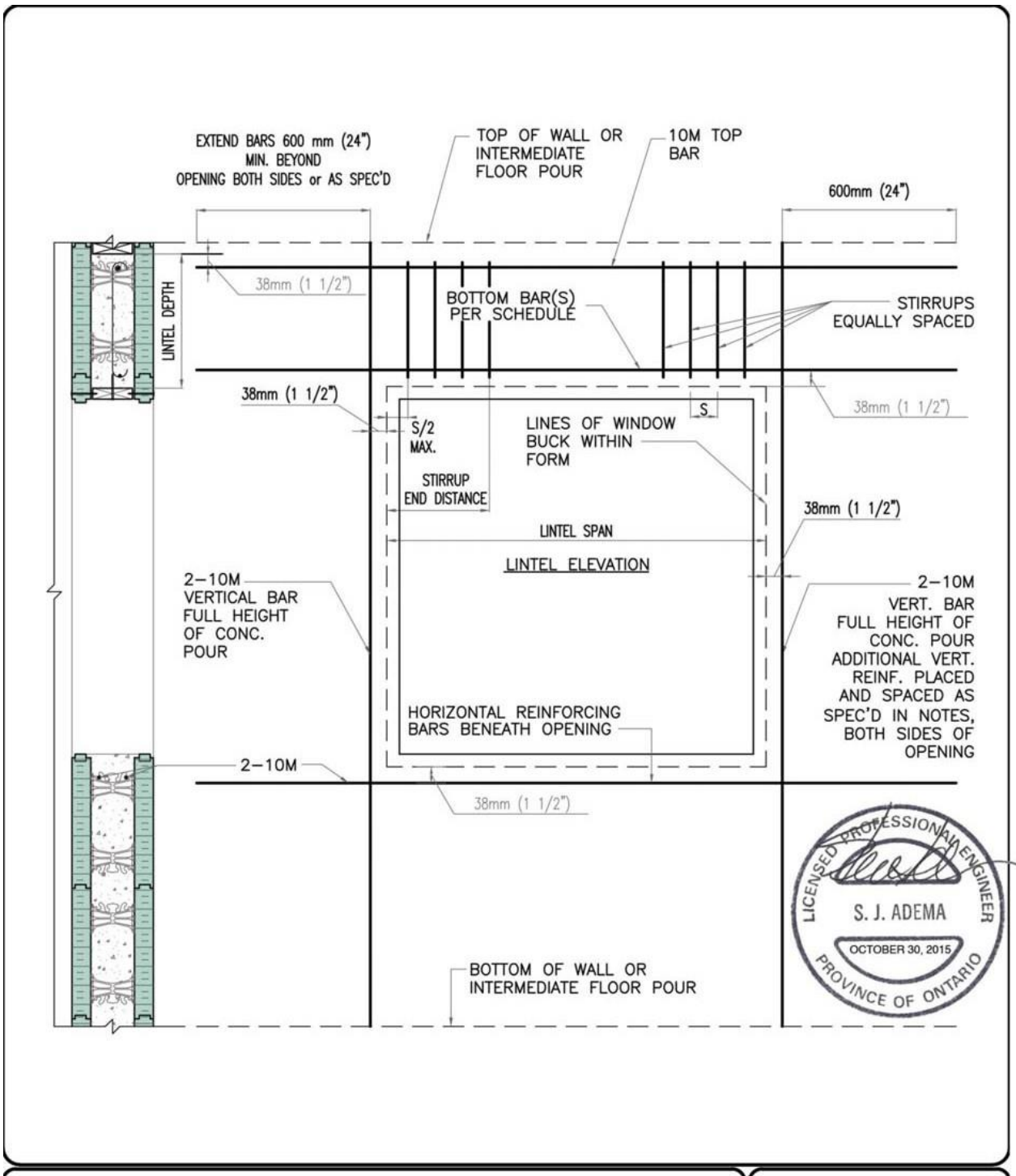
24. על הקבלן לנקוט בצעדים מתאימים על מנת להגן על הבטון מחשיפה לקיפאון ומשקעים במשך שבעה ימים לפחות לאחר מיקום הבטון.

25. אופטימלי לעשות שימוש בחצץ אפונה בקוטר מקסימלי של 9.5 מ"מ (3/8'') או בחצץ אגרגט בקוטר מקסימלי של 9.5 מ"מ (3/8'').

עבור קירות בטון בעובי 100 מ"מ (4'') ו-150 מ"מ (6'') מותר להשתמש בחצץ אגרגט בקוטר של עד 12.7 מ"מ (1/2''), ועבור קירות בטון בעובי 200 מ"מ (8'') ו-250 מ"מ (10'') בחצץ אגרגט בקוטר מקסימלי של 19.1 מ"מ (3/4'').

תשומת לב מיוחדת יש לתת בביצוע הרטט בעת השמת הבטון לשם הבטחת חלוקת חצץ אגרגט הומוגנית. שימוש בקוטר חצץ אגרגט גדול יותר עשוי לגרום לכיסי אוויר וחללים ותערובת בטון גרועה באופן כללי כתוצאה מרטט לקוי.





NUDURA®
INTEGRATED BUILDING TECHNOLOGY
Building Value.

LINTEL DIAGRAM

REV. NO. 005 KS	DWG NO. L-1 CAN
REV. DATE: SEPT 2015	
DRAWN BY: T. VAN CLIEAF	SCALE: "Not to Scale"

Opening Width	225mm (9") Lintel Depth – Uniformly Distributed Load																	
	7.0 KN/m (480 lb/ft)		10.5 KN/m (715 lb/ft)		14.0 KN/m (955 lb/ft)		17.5 KN/m (1195 lb/ft)		21.0 KN/m (1435 lb/ft)		24.5 KN/m (1675 lb/ft)		28.0 KN/m (1915 lb/ft)		31.5 KN/m (2155 lb/ft)		35.0 KN/m (2395 lb/ft)	
	Bottom Reinf. Steel	Stirrup End Dist.	Bottom Reinf. Steel	Stirrup End Dist.	Bottom Reinf. Steel	Stirrup End Dist.	Bottom Reinf. Steel	Stirrup End Dist.	Bottom Reinf. Steel	Stirrup End Dist.	Bottom Reinf. Steel	Stirrup End Dist.	Bottom Reinf. Steel	Stirrup End Dist.	Bottom Reinf. Steel	Stirrup End Dist.	Bottom Reinf. Steel	Stirrup End Dist.
900mm (3'-0")	1-10M	0	1-10M	0	1-10M	0	1-10M	204 (8")	1-10M	204 (8")	1-10M	306 (12")	1-10M	306 (12")	1-10M	306 (12")	1-15M	306 (12")
1200mm (4'-0")	1-10M	0	1-10M	0	1-10M	204 (8")	1-10M	306 (12")	1-15M	408 (16")	1-15M	408 (16")	1-15M	408 (16")	1-15M	510 (20")		
1500mm (5'-0")	1-10M	0	1-10M	306 (12")	1-15M	408 (16")	1-15M	510 (20")	1-15M	510 (20")								
1800mm (6'-0")	1-15M	204 (8")	1-15M	408 (16")	1-20M	510 (20")	1-20M	612 (24")										
2400mm (8'-0")	1-20M	510 (20")																
3000mm (10'-0")																		
3600mm (12'-0")																		
4200mm (14'-0")																		
4800mm (16'-0")																		
5400mm (18'-0")																		
6000mm (20'-0")																		

LICENSED PROFESSIONAL ENGINEER
S. J. ADEMA
OCTOBER 30, 2015
PROVINCE OF ONTARIO

NOTES:
1. **This table to be used in conjunction with the general notes and details located at the beginning of this section.**
2. Stirrup Spacing = **102mm (4")**

All Stirrup End Distance measurements above are listed in mm (in)

The following substitutions are permitted:
1-10M + 1-15M may be substituted for 1-20M
2-10M may be substituted for 1-15M

NUDURA® INTEGRATED BUILDING TECHNOLOGY™ *Building Value.*

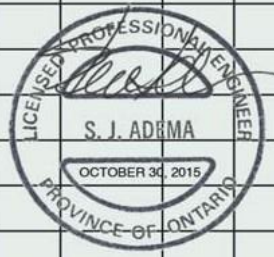
Table Prepared by:
TACOMA ENGINEERS

100mm (4") Thick
225mm (9") Deep
Table No.
L 4-9M

300mm (12") Lintel Depth

Uniformly Distributed Load

Opening Width	7.0 KN/m (480 lb/ft)		10.5 KN/m (715 lb/ft)		14.0 KN/m (955 lb/ft)		17.5 KN/m (1195 lb/ft)		21.0 KN/m (1435 lb/ft)		24.5 KN/m (1675 lb/ft)		28.0 KN/m (1915 lb/ft)		31.5 KN/m (2155 lb/ft)		35.0 KN/m (2395 lb/ft)	
	Bottom Reinf. Steel	Stirrup End Dist.	Bottom Reinf. Steel	Stirrup End Dist.	Bottom Reinf. Steel	Stirrup End Dist.	Bottom Reinf. Steel	Stirrup End Dist.	Bottom Reinf. Steel	Stirrup End Dist.	Bottom Reinf. Steel	Stirrup End Dist.	Bottom Reinf. Steel	Stirrup End Dist.	Bottom Reinf. Steel	Stirrup End Dist.	Bottom Reinf. Steel	Stirrup End Dist.
900mm (3'-0")	1-10M	0	1-10M	0	1-10M	304 (12")	1-10M	304 (12")	1-10M	304 (12")	1-10M	304 (12")	1-10M	304 (12")	1-10M	456 (18")	1-10M	456 (18")
1200mm (4'-0")	1-10M	0	1-10M	304 (12")	1-10M	456 (18")	1-10M	456 (18")	1-10M	456 (18")	1-10M	456 (18")	1-15M	456 (18")	1-15M	608 (24")	1-15M	608 (24")
1500mm (5'-0")	1-10M	304 (12")	1-10M	456 (18")	1-10M	608 (24")	1-15M	608 (24")	1-15M	608 (24")	1-15M	608 (24")	1-15M	608 (24")	1-15M	760 (30")	1-20M	760 (30")
1800mm (6'-0")	1-10M	456 (18")	1-10M	608 (24")	1-15M	760 (30")	1-15M	760 (30")	1-15M	760 (30")	1-20M	760 (30")	1-20M	760 (30")				
2400mm (8'-0")	1-15M	760 (30")	1-15M	912 (36")	1-20M	1064 (42")	2-15M	1064 (42")										
3000mm (10'-0")	1-20M	1064 (42")	2-15M	1216 (48")														
3600mm (12'-0")	2-15M	1368 (54")																
4200mm (14'-0")																		
4800mm (16'-0")																		
5400mm (18'-0")																		
6000mm (20'-0")																		



NOTES:
1. **This table to be used in conjunction with the general notes and details located at the beginning of this section.**
2. Stirrup Spacing = **152mm (6")**

All Stirrup End Distance measurements above are listed in mm (in)

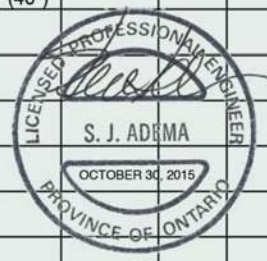
The following substitutions are permitted:
1-10M + 1-15M may be substituted for 1-20M
2-10M may be substituted for 1-15M

NUDURA® INTEGRATED BUILDING TECHNOLOGY™ *Building Value.*

Table Prepared by:
TACOMA ENGINEERS

100mm (4") Thick
300mm (12") Deep
Table No.
L 4-12M

Opening Width	375mm (15") Lintel Depth – Uniformly Distributed Load																	
	7.0 KN/m (480 lb/ft)		10.5 KN/m (715 lb/ft)		14.0 KN/m (955 lb/ft)		17.5 KN/m (1195 lb/ft)		21.0 KN/m (1435 lb/ft)		24.5 KN/m (1675 lb/ft)		28.0 KN/m (1915 lb/ft)		31.5 KN/m (2155 lb/ft)		35.0 KN/m (2395 lb/ft)	
	Bottom Reinf. Steel	Stirrup End Dist.	Bottom Reinf. Steel	Stirrup End Dist.	Bottom Reinf. Steel	Stirrup End Dist.	Bottom Reinf. Steel	Stirrup End Dist.	Bottom Reinf. Steel	Stirrup End Dist.	Bottom Reinf. Steel	Stirrup End Dist.	Bottom Reinf. Steel	Stirrup End Dist.	Bottom Reinf. Steel	Stirrup End Dist.	Bottom Reinf. Steel	Stirrup End Dist.
900mm (3'-0")	1-10M	0	1-10M	0	1-10M	0	1-10M	0	1-10M	0	1-10M	406 (16")	1-10M	406 (16")	1-10M	406 (16")	1-10M	406 (16")
1200mm (4'-0")	1-10M	0	1-10M	0	1-10M	406 (16")	1-10M	406 (16")	1-10M	406 (16")	1-10M	406 (16")	1-10M	406 (16")	1-10M	609 (24")	1-10M	609 (24")
1500mm (5'-0")	1-10M	0	1-10M	406 (16")	1-10M	406 (16")	1-10M	609 (24")	1-10M	609 (24")	1-15M	609 (24")	1-15M	609 (24")	1-15M	609 (24")	1-15M	609 (24")
1800mm (6'-0")	1-10M	406 (16")	1-10M	609 (24")	1-10M	609 (24")	1-15M	609 (24")	1-15M	812 (32")	1-15M	812 (32")	1-15M	812 (32")	1-20M	812 (32")	1-20M	812 (32")
2400mm (8'-0")	1-10M	609 (24")	1-15M	812 (32")	1-15M	1015 (40")	1-20M	1015 (40")	1-20M	1015 (40")	2-15M	1015 (40")	2-15M	1015 (40")				
3000mm (10'-0")	1-15M	1015 (40")	1-20M	1218 (48")	1-20M	1218 (48")	2-15M	1218 (48")										
3600mm (12'-0")	1-20M	1218 (48")	2-15M	1421 (56")	1-15M 1-20M	1624 (64")												
4200mm (14'-0")	2-15M	1624 (64")																
4800mm (16'-0")																		
5400mm (18'-0")																		
6000mm (20'-0")																		



NOTES:
1. **This table to be used in conjunction with the general notes and details located at the beginning of this section.**
2. Stirrup Spacing = **203mm (8")**

All Stirrup End Distance measurements above are listed in mm (in)

The following substitutions are permitted:
1-10M + 1-15M may be substituted for 1-20M
2-10M may be substituted for 1-15M

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Table Prepared by:
TACOMA ENGINEERS

100mm (4") Thick
375mm (15") Deep
Table No.
L 4-15M

450mm (18") Lintel Depth

Uniformly Distributed Load

Opening Width	7.0 KN/m (480 lb/ft)		10.5 KN/m (715 lb/ft)		14.0 KN/m (955 lb/ft)		17.5 KN/m (1195 lb/ft)		21.0 KN/m (1435 lb/ft)		24.5 KN/m (1675 lb/ft)		28.0 KN/m (1915 lb/ft)		31.5 KN/m (2155 lb/ft)		35.0 KN/m (2395 lb/ft)	
	Bottom Reinf. Steel	Stirrup End Dist.	Bottom Reinf. Steel	Stirrup End Dist.	Bottom Reinf. Steel	Stirrup End Dist.	Bottom Reinf. Steel	Stirrup End Dist.	Bottom Reinf. Steel	Stirrup End Dist.	Bottom Reinf. Steel	Stirrup End Dist.	Bottom Reinf. Steel	Stirrup End Dist.	Bottom Reinf. Steel	Stirrup End Dist.	Bottom Reinf. Steel	Stirrup End Dist.
900mm (3'-0")	1-10M	0	1-10M	0	1-10M	0	1-10M	0	1-10M	0	1-10M	0	1-10M	0	1-10M	0	1-10M	0
1200mm (4'-0")	1-10M	0	1-10M	0	1-10M	0	1-10M	0	1-10M	508 (20")	1-10M	508 (20")	1-10M	508 (20")	1-10M	508 (20")	1-10M	508 (20")
1500mm (5'-0")	1-10M	0	1-10M	0	1-10M	508 (20")	1-10M	508 (20")	1-10M	508 (20")	1-10M	508 (20")	1-10M	762 (30")	1-15M	762 (30")	1-15M	762 (30")
1800mm (6'-0")	1-10M	0	1-10M	508 (20")	1-10M	508 (20")	1-10M	762 (30")	1-15M	762 (30")	1-15M	762 (30")	1-15M	762 (30")	1-15M	762 (30")	1-15M	762 (30")
2400mm (8'-0")	1-10M	508 (20")	1-15M	762 (30")	1-15M	762 (30")	1-15M	1016 (40")	1-20M	1016 (40")	1-20M	1016 (40")	1-20M	1016 (40")	2-15M	1016 (40")	2-15M	1016 (40")
3000mm (10'-0")	1-15M	762 (30")	1-15M	1016 (40")	1-20M	1270 (50")	1-20M	1270 (50")	2-15M	1270 (50")	2-15M	1270 (50")	1-15M 1-20M	1524 (60")				
3600mm (12'-0")	1-15M	1270 (50")	1-20M	1270 (50")	2-15M	1524 (60")	1-15M 1-20M	1524 (60")	2-20M	1524 (60")								
4200mm (14'-0")	1-20M	1524 (60")	2-15M	1778 (70")	2-20M	1778 (70")												
4800mm (16'-0")	2-15M	1778 (70")	2-20M	2032 (80")														
5400mm (18'-0")	1-15M 1-20M	2032 (80")																
6000mm (20'-0")																		

LICENSED PROFESSIONAL ENGINEER
S. J. ADEMA
OCTOBER 30, 2015
PROVINCE OF ONTARIO

NOTES:
1. **This table to be used in conjunction with the general notes and details located at the beginning of this section.**
2. Stirrup Spacing = **254mm (10")**

All Stirrup End Distance measurements above are listed in mm (in)

The following substitutions are permitted:
1-10M + 1-15M may be substituted for 1-20M
2-10M may be substituted for 1-15M

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Table Prepared by:
TACOMA ENGINEERS

100mm (4") Thick
450mm (18") Deep
Table No.
L 4-18M

525mm (21") Lintel Depth

Uniformly Distributed Load

Opening Width	7.0 KN/m (480 lb/ft)		10.5 KN/m (715 lb/ft)		14.0 KN/m (955 lb/ft)		17.5 KN/m (1195 lb/ft)		21.0 KN/m (1435 lb/ft)		24.5 KN/m (1675 lb/ft)		28.0 KN/m (1915 lb/ft)		31.5 KN/m (2155 lb/ft)		35.0 KN/m (2395 lb/ft)	
	Bottom Reinf. Steel	Stirrup End Dist.	Bottom Reinf. Steel	Stirrup End Dist.	Bottom Reinf. Steel	Stirrup End Dist.	Bottom Reinf. Steel	Stirrup End Dist.	Bottom Reinf. Steel	Stirrup End Dist.	Bottom Reinf. Steel	Stirrup End Dist.	Bottom Reinf. Steel	Stirrup End Dist.	Bottom Reinf. Steel	Stirrup End Dist.	Bottom Reinf. Steel	Stirrup End Dist.
900mm (3'-0")	1-10M	0	1-10M	0	1-10M	0	1-10M	0	1-10M	0	1-10M	0	1-10M	0	1-10M	0	1-10M	0
1200mm (4'-0")	1-10M	0	1-10M	0	1-10M	0	1-10M	0	1-10M	0	1-10M	0	1-10M	0	1-10M	660 (26")	1-10M	660 (26")
1500mm (5'-0")	1-10M	0	1-10M	0	1-10M	0	1-10M	0	1-10M	660 (26")	1-10M	660 (26")	1-10M	660 (26")	1-10M	660 (26")	1-10M	660 (26")
1800mm (6'-0")	1-10M	0	1-10M	0	1-10M	660 (26")	1-10M	660 (26")	1-10M	660 (26")	1-15M	660 (26")	1-15M	660 (26")	1-15M	660 (26")	1-15M	990 (39")
2400mm (8'-0")	1-10M	0	1-10M	660 (26")	1-15M	990 (39")	1-15M	990 (39")	1-15M	990 (39")	1-15M	990 (39")	1-20M	990 (39")	1-20M	990 (39")	1-20M	990 (39")
3000mm (10'-0")	1-15M	660 (26")	1-15M	990 (39")	1-15M	990 (39")	1-20M	1320 (52")	1-20M	1320 (52")	2-15M	1320 (52")	2-15M	1320 (52")	1-15M 1-20M	1320 (52")	1-15M 1-20M	1320 (52")
3600mm (12'-0")	1-15M	990 (39")	1-20M	1320 (52")	1-20M	1320 (52")	2-15M	1650 (65")	1-15M 1-20M	1650 (65")	1-15M 1-20M	1650 (65")						
4200mm (14'-0")	1-20M	1320 (52")	2-15M	1650 (65")	2-15M	1650 (65")	1-15M 1-20M	1980 (78")	1-10M 2-20M	1980 (78")								
4800mm (16'-0")	1-20M	1650 (65")	1-15M 1-20M	1980 (78")	2-20M	1980 (78")	1-15M 2-20M	2310 (91")										
5400mm (18'-0")	2-15M	1980 (78")	2-20M	2310 (91")	1-15M 2-20M	2310 (91")												
6000mm (20'-0")	1-15M 1-20M	2310 (91")	1-15M 2-20M	2640 (104")														

NOTES:
1. **This table to be used in conjunction with the general notes and details located at the beginning of this section.**
2. Stirrup Spacing = **330mm (13")**

All Stirrup End Distance measurements above are listed in mm (in)

The following substitutions are permitted:
1-10M + 1-15M may be substituted for 1-20M
2-10M may be substituted for 1-15M

LICENSED PROFESSIONAL ENGINEER
S. J. ADEMA
OCTOBER 30, 2015
PROVINCE OF ONTARIO

NUDURA® INTEGRATED BUILDING TECHNOLOGY™ *Building Value.*

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Table Prepared by:
TACOMA ENGINEERS

100mm (4") Thick
525mm (21") Deep
Table No.
L 4-21M

600mm (24") Lintel Depth

Uniformly Distributed Load

Opening Width	7.0 KN/m (480 lb/ft)		10.5 KN/m (715 lb/ft)		14.0 KN/m (955 lb/ft)		17.5 KN/m (1195 lb/ft)		21.0 KN/m (1435 lb/ft)		24.5 KN/m (1675 lb/ft)		28.0 KN/m (1915 lb/ft)		31.5 KN/m (2155 lb/ft)		35.0 KN/m (2395 lb/ft)	
	Bottom Reinf. Steel	Stirrup End Dist.	Bottom Reinf. Steel	Stirrup End Dist.	Bottom Reinf. Steel	Stirrup End Dist.	Bottom Reinf. Steel	Stirrup End Dist.	Bottom Reinf. Steel	Stirrup End Dist.	Bottom Reinf. Steel	Stirrup End Dist.	Bottom Reinf. Steel	Stirrup End Dist.	Bottom Reinf. Steel	Stirrup End Dist.	Bottom Reinf. Steel	Stirrup End Dist.
900mm (3'-0")	1-10M	0	1-10M	0	1-10M	0	1-10M	0	1-10M	0	1-10M	0	1-10M	0	1-10M	0	1-10M	0
1200mm (4'-0")	1-10M	0	1-10M	0	1-10M	0	1-10M	0	1-10M	0	1-10M	0	1-10M	0	1-10M	0	1-10M	0
1500mm (5'-0")	1-10M	0	1-10M	0	1-10M	0	1-10M	0	1-10M	0	1-10M	0	1-10M	760 (30")	1-15M	760 (30")	1-15M	760 (30")
1800mm (6'-0")	1-10M	0	1-10M	0	1-10M	0	1-10M	760 (30")	1-15M	760 (30")	1-15M	760 (30")	1-15M	760 (30")	1-15M	760 (30")	1-15M	760 (30")
2400mm (8'-0")	1-10M	0	1-15M	760 (30")	1-15M	760 (30")	1-15M	760 (30")	1-15M	1140 (45")	1-15M	1140 (45")	1-15M	1140 (45")	1-20M	1140 (45")	1-20M	1140 (45")
3000mm (10'-0")	1-15M	760 (30")	1-15M	760 (30")	1-15M	1140 (45")	1-15M	1140 (45")	1-20M	1140 (45")	1-20M	1140 (45")	2-15M	1520 (60")	2-15M	1520 (60")	2-15M	1520 (60")
3600mm (12'-0")	1-15M	1140 (45")	1-15M	1140 (45")	1-20M	1520 (60")	1-20M	1520 (60")	2-15M	1520 (60")	2-15M	1520 (60")	1-15M 1-20M	1520 (60")	2-20M	1520 (60")		
4200mm (14'-0")	1-15M	1140 (45")	1-20M	1520 (60")	2-15M	1520 (60")	1-15M 1-20M	1900 (75")	1-15M 1-20M	1900 (75")	2-20M	1900 (75")						
4800mm (16'-0")	1-20M	1520 (60")	2-15M	1900 (75")	1-15M 1-20M	1900 (75")	2-20M	2280 (90")	1-10M 2-20M	2280 (90")								
5400mm (18'-0")	2-15M	1900 (75")	1-15M 1-20M	2280 (90")	2-20M	2280 (90")	1-15M 2-20M	2280 (90")										
6000mm (20'-0")	1-15M 1-20M	2280 (90")	2-20M	2280 (90")	1-15M 2-20M	2660 (105")												

NOTES:

1. **This table to be used in conjunction with the general notes and details located at the beginning of this section.**
2. Stirrup Spacing = **380mm (15")**

All Stirrup End Distance measurements above are listed in mm (in)

The following substitutions are permitted:
1-10M + 1-15M may be substituted for 1-20M
2-10M may be substituted for 1-15M

LICENSED PROFESSIONAL ENGINEER
S.J. ADEMA
OCTOBER 30, 2015
PROVINCE OF ONTARIO

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Table Prepared by:
TACOMA ENGINEERS

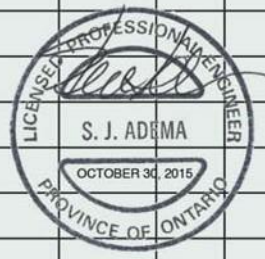
100mm (4") Thick
600mm (24") Deep

Table No.
L 4-24M

225mm (9") Lintel Depth

Uniformly Distributed Load

Opening Width	7.0 KN/m (480 lb/ft)		10.5 KN/m (715 lb/ft)		14.0 KN/m (955 lb/ft)		17.5 KN/m (1195 lb/ft)		21.0 KN/m (1435 lb/ft)		24.5 KN/m (1675 lb/ft)		28.0 KN/m (1915 lb/ft)		31.5 KN/m (2155 lb/ft)		35.0 KN/m (2395 lb/ft)	
	Bottom Reinf. Steel	Stirrup End Dist.	Bottom Reinf. Steel	Stirrup End Dist.	Bottom Reinf. Steel	Stirrup End Dist.	Bottom Reinf. Steel	Stirrup End Dist.	Bottom Reinf. Steel	Stirrup End Dist.	Bottom Reinf. Steel	Stirrup End Dist.	Bottom Reinf. Steel	Stirrup End Dist.	Bottom Reinf. Steel	Stirrup End Dist.	Bottom Reinf. Steel	Stirrup End Dist.
900mm (3'-0")	1-10M	0	1-10M	0	1-10M	0	1-10M	0	1-10M	0	1-10M	0	1-10M	204 (8")	1-10M	204 (8")	1-10M	204 (8")
1200mm (4'-0")	1-10M	0	1-10M	0	1-10M	0	1-10M	204 (8")	1-15M	204 (8")	1-15M	306 (12")	1-15M	306 (12")	1-15M	408 (16")	1-15M	408 (16")
1500mm (5'-0")	1-10M	0	1-10M	0	1-15M	204 (8")	1-15M	306 (12")	1-15M	408 (16")	1-20M	408 (16")	1-20M	510 (20")	1-20M	510 (20")	2-15M	510 (20")
1800mm (6'-0")	1-15M	0	1-15M	204 (8")	1-15M	306 (12")	1-20M	510 (20")	1-20M	510 (20")	2-15M	612 (24")						
2400mm (8'-0")	1-15M	204 (8")	1-20M	510 (20")	2-15M	612 (24")												
3000mm (10'-0")	2-15M	510 (20")																
3600mm (12'-0")																		
4200mm (14'-0")																		
4800mm (16'-0")																		
5400mm (18'-0")																		
6000mm (20'-0")																		



NOTES:
1. **This table to be used in conjunction with the general notes and details located at the beginning of this section.**
2. Stirrup Spacing = **102mm (4")**

All Stirrup End Distance measurements above are listed in mm (in)

The following substitutions are permitted:
1-10M + 1-15M may be substituted for 1-20M
2-10M may be substituted for 1-15M

NUDURA® INTEGRATED BUILDING TECHNOLOGY™ *Building Value.*

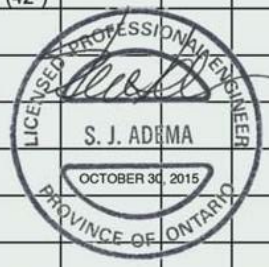
Table Prepared by: TACOMA ENGINEERS

150mm (6") Thick
225mm (9") Deep
Table No.
L 6-9M

300mm (12") Lintel Depth

Uniformly Distributed Load

Opening Width	7.0 KN/m (480 lb/ft)		10.5 KN/m (715 lb/ft)		14.0 KN/m (955 lb/ft)		17.5 KN/m (1195 lb/ft)		21.0 KN/m (1435 lb/ft)		24.5 KN/m (1675 lb/ft)		28.0 KN/m (1915 lb/ft)		31.5 KN/m (2155 lb/ft)		35.0 KN/m (2395 lb/ft)	
	Bottom Reinf. Steel	Stirrup End Dist.	Bottom Reinf. Steel	Stirrup End Dist.	Bottom Reinf. Steel	Stirrup End Dist.	Bottom Reinf. Steel	Stirrup End Dist.	Bottom Reinf. Steel	Stirrup End Dist.	Bottom Reinf. Steel	Stirrup End Dist.	Bottom Reinf. Steel	Stirrup End Dist.	Bottom Reinf. Steel	Stirrup End Dist.	Bottom Reinf. Steel	Stirrup End Dist.
900mm (3'-0")	1-10M	0	1-10M	0	1-10M	0	1-10M	0	1-10M	304 (12")	1-10M	304 (12")	1-10M	304 (12")	1-10M	304 (12")	1-10M	304 (12")
1200mm (4'-0")	1-10M	0	1-10M	0	1-10M	304 (12")	1-10M	304 (12")	1-10M	456 (18")	1-10M	456 (18")	1-10M	456 (18")	1-15M	456 (18")	1-15M	456 (18")
1500mm (5'-0")	1-10M	0	1-10M	304 (12")	1-10M	456 (18")	1-15M	456 (18")	1-15M	608 (24")	1-15M	608 (24")	1-15M	608 (24")	1-15M	608 (24")	1-20M	608 (24")
1800mm (6'-0")	1-10M	304 (12")	1-10M	456 (18")	1-15M	608 (24")	1-15M	608 (24")	1-15M	760 (30")	1-20M	760 (30")	1-20M	760 (30")	1-20M	760 (30")	2-15M	760 (30")
2400mm (8'-0")	1-15M	608 (24")	1-15M	760 (30")	1-20M	912 (36")	1-20M	912 (36")	2-15M	1064 (42")	1-15M 1-20M	1064 (42")	1-15M 1-20M	1064 (42")				
3000mm (10'-0")	1-20M	912 (36")	1-20M	1064 (42")	2-15M	1216 (48")	2-20M	1216 (48")										
3600mm (12'-0")	2-15M	1216 (48")	1-15M 1-20M	1368 (54")														
4200mm (14'-0")	1-15M 1-20M	1520 (60")																
4800mm (16'-0")																		
5400mm (18'-0")																		
6000mm (20'-0")																		



NOTES:
1. **This table to be used in conjunction with the general notes and details located at the beginning of this section.**
2. Stirrup Spacing = **152mm (6")**

All Stirrup End Distance measurements above are listed in mm (in)

The following substitutions are permitted:
1-10M + 1-15M may be substituted for 1-20M
2-10M may be substituted for 1-15M

NUDURA® INTEGRATED BUILDING TECHNOLOGY™ *Building Value.*

Table Prepared by:
TACOMA ENGINEERS

150mm (6") Thick
300mm (12") Deep
Table No.
L 6-12M

375mm (15") Lintel Depth

Uniformly Distributed Load

Opening Width	7.0 KN/m (480 lb/ft)		10.5 KN/m (715 lb/ft)		14.0 KN/m (955 lb/ft)		17.5 KN/m (1195 lb/ft)		21.0 KN/m (1435 lb/ft)		24.5 KN/m (1675 lb/ft)		28.0 KN/m (1915 lb/ft)		31.5 KN/m (2155 lb/ft)		35.0 KN/m (2395 lb/ft)	
	Bottom Reinf. Steel	Stirrup End Dist.	Bottom Reinf. Steel	Stirrup End Dist.	Bottom Reinf. Steel	Stirrup End Dist.	Bottom Reinf. Steel	Stirrup End Dist.	Bottom Reinf. Steel	Stirrup End Dist.	Bottom Reinf. Steel	Stirrup End Dist.	Bottom Reinf. Steel	Stirrup End Dist.	Bottom Reinf. Steel	Stirrup End Dist.	Bottom Reinf. Steel	Stirrup End Dist.
900mm (3'-0")	1-10M	0	1-10M	0	1-10M	0	1-10M	0	1-10M	0	1-10M	0	1-10M	0	1-10M	0	1-10M	406 (16")
1200mm (4'-0")	1-10M	0	1-10M	0	1-10M	0	1-10M	0	1-10M	406 (16")	1-10M	406 (16")	1-15M	406 (16")	1-15M	406 (16")	1-15M	406 (16")
1500mm (5'-0")	1-10M	0	1-10M	0	1-10M	406 (16")	1-15M	406 (16")	1-15M	406 (16")	1-15M	609 (24")	1-15M	609 (24")	1-15M	609 (24")	1-15M	609 (24")
1800mm (6'-0")	1-10M	0	1-15M	406 (16")	1-15M	406 (16")	1-15M	609 (24")	1-15M	609 (24")	1-15M	609 (24")	1-15M	812 (32")	1-15M	812 (32")	1-20M	812 (32")
2400mm (8'-0")	1-15M	406 (16")	1-15M	609 (24")	1-15M	609 (24")	1-20M	812 (32")	1-20M	1015 (40")	1-20M	1015 (40")	2-15M	1015 (40")	2-15M	1015 (40")	1-15M 1-20M	1015 (40")
3000mm (10'-0")	1-15M	609 (24")	1-20M	1015 (40")	1-20M	1015 (40")	2-15M	1218 (48")	1-15M 1-20M	1218 (48")	1-15M 1-20M	1218 (48")	2-20M	1421 (56")	1-10M 2-20M	1421 (56")		
3600mm (12'-0")	1-20M	1015 (40")	2-15M	1218 (48")	1-15M 1-20M	1421 (56")	2-20M	1421 (56")	1-10M 2-20M	1624 (64")								
4200mm (14'-0")	2-15M	1218 (48")	1-15M 1-20M	1624 (64")	1-10M 2-20M	1624 (64")												
4800mm (16'-0")	1-15M 1-20M	1624 (64")	1-10M 2-20M	1827 (72")														
5400mm (18'-0")	1-10M 2-20M	1827 (72")																
6000mm (20'-0")																		

NOTES:

1. **This table to be used in conjunction with the general notes and details located at the beginning of this section.**
2. Stirrup Spacing = **203mm (8")**

All Stirrup End Distance measurements above are listed in mm (in)

The following substitutions are permitted:
1-10M + 1-15M may be substituted for 1-20M
2-10M may be substituted for 1-15M

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S. J. ADEMA
OCTOBER 30, 2015
PROVINCE OF ONTARIO

NUDURA® INTEGRATED BUILDING TECHNOLOGY™
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Table Prepared by:
TACOMA ENGINEERS

150mm (6") Thick
375mm (15") Deep
Table No.
L 6-15M

450mm (18") Lintel Depth

Uniformly Distributed Load

Opening Width	7.0 KN/m (480 lb/ft)		10.5 KN/m (715 lb/ft)		14.0 KN/m (955 lb/ft)		17.5 KN/m (1195 lb/ft)		21.0 KN/m (1435 lb/ft)		24.5 KN/m (1675 lb/ft)		28.0 KN/m (1915 lb/ft)		31.5 KN/m (2155 lb/ft)		35.0 KN/m (2395 lb/ft)	
	Bottom Reinf. Steel	Stirrup End Dist.	Bottom Reinf. Steel	Stirrup End Dist.	Bottom Reinf. Steel	Stirrup End Dist.	Bottom Reinf. Steel	Stirrup End Dist.	Bottom Reinf. Steel	Stirrup End Dist.	Bottom Reinf. Steel	Stirrup End Dist.	Bottom Reinf. Steel	Stirrup End Dist.	Bottom Reinf. Steel	Stirrup End Dist.	Bottom Reinf. Steel	Stirrup End Dist.
900mm (3'-0")	1-10M	0	1-10M	0	1-10M	0	1-10M	0	1-10M	0	1-10M	0	1-10M	0	1-10M	0	1-10M	0
1200mm (4'-0")	1-10M	0	1-10M	0	1-10M	0	1-10M	0	1-10M	0	1-10M	0	1-10M	0	1-10M	508 (20")	1-15M	508 (20")
1500mm (5'-0")	1-10M	0	1-10M	0	1-10M	0	1-10M	0	1-15M	508 (20")	1-15M	508 (20")	1-15M	508 (20")	1-15M	508 (20")	1-15M	508 (20")
1800mm (6'-0")	1-10M	0	1-10M	0	1-15M	0	1-15M	508 (20")	1-15M	508 (20")	1-15M	508 (20")	1-15M	762 (30")	1-15M	762 (30")	1-15M	762 (30")
2400mm (8'-0")	1-15M	0	1-15M	508 (20")	1-15M	762 (30")	1-15M	762 (30")	1-15M	762 (30")	1-20M	1016 (40")	1-20M	1016 (40")	1-20M	1016 (40")	2-15M	1016 (40")
3000mm (10'-0")	1-15M	508 (20")	1-15M	762 (30")	1-20M	1016 (40")	1-20M	1016 (40")	2-15M	1270 (50")	2-15M	1270 (50")	1-10M 2-15M	1270 (50")	1-15M 1-20M	1270 (50")	2-20M	1270 (50")
3600mm (12'-0")	1-15M	762 (30")	1-20M	1016 (40")	2-15M	1270 (50")	1-15M 1-20M	1524 (60")	1-15M 1-20M	1524 (60")	2-20M	1524 (60")	1-10M 2-20M	1524 (60")	1-15M 2-20M	1524 (60")		
4200mm (14'-0")	1-20M	1270 (50")	2-15M	1524 (60")	1-15M 1-20M	1524 (60")	2-20M	1778 (70")	1-15M 2-20M	1778 (70")	3-20M	1778 (70")						
4800mm (16'-0")	2-15M	1524 (60")	1-15M 1-20M	1778 (70")	1-10M 2-20M	1778 (70")	3-20M	2032 (80")										
5400mm (18'-0")	1-15M 1-20M	1778 (70")	1-10M 2-20M	2032 (80")	1-10M 3-20M	2286 (90")												
6000mm (20'-0")	1-10M 2-20M	2032 (80")	3-20M	2286 (90")														

NOTES:

1. **This table to be used in conjunction with the general notes and details located at the beginning of this section.**
2. Stirrup Spacing = **254mm (10")**

All Stirrup End Distance measurements above are listed in mm (in)

The following substitutions are permitted:
1-10M + 1-15M may be substituted for 1-20M
2-10M may be substituted for 1-15M

LICENSED PROFESSIONAL ENGINEER
S. I. ADEMA
OCTOBER 30, 2015
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Table Prepared by:
TACOMA ENGINEERS

150mm (6") Thick
450mm (18") Deep
Table No.
L 6-18M

525mm (21") Lintel Depth

Uniformly Distributed Load

Opening Width	7.0 KN/m (480 lb/ft)		10.5 KN/m (715 lb/ft)		14.0 KN/m (955 lb/ft)		17.5 KN/m (1195 lb/ft)		21.0 KN/m (1435 lb/ft)		24.5 KN/m (1675 lb/ft)		28.0 KN/m (1915 lb/ft)		31.5 KN/m (2155 lb/ft)		35.0 KN/m (2395 lb/ft)	
	Bottom Reinf. Steel	Stirrup End Dist.	Bottom Reinf. Steel	Stirrup End Dist.	Bottom Reinf. Steel	Stirrup End Dist.	Bottom Reinf. Steel	Stirrup End Dist.	Bottom Reinf. Steel	Stirrup End Dist.	Bottom Reinf. Steel	Stirrup End Dist.	Bottom Reinf. Steel	Stirrup End Dist.	Bottom Reinf. Steel	Stirrup End Dist.	Bottom Reinf. Steel	Stirrup End Dist.
900mm (3'-0")	1-10M	0	1-10M	0	1-10M	0	1-10M	0	1-10M	0	1-10M	0	1-10M	0	1-10M	0	1-10M	0
1200mm (4'-0")	1-10M	0	1-10M	0	1-10M	0	1-10M	0	1-10M	0	1-10M	0	1-10M	0	1-10M	0	1-10M	0
1500mm (5'-0")	1-10M	0	1-10M	0	1-10M	0	1-10M	0	1-10M	0	1-10M	0	1-15M	0	1-15M	660 (26")	1-15M	660 (26")
1800mm (6'-0")	1-10M	0	1-10M	0	1-10M	0	1-15M	0	1-15M	660 (26")	1-15M	660 (26")	1-15M	660 (26")	1-15M	660 (26")	1-15M	660 (26")
2400mm (8'-0")	1-10M	0	1-15M	0	1-15M	660 (26")	1-15M	660 (26")	1-15M	660 (26")	1-15M	990 (39")	1-20M	990 (39")	1-20M	990 (39")	1-20M	990 (39")
3000mm (10'-0")	1-15M	0	1-15M	660 (26")	1-15M	990 (39")	1-20M	990 (39")	1-20M	990 (39")	2-15M	1320 (52")	2-15M	1320 (52")	2-15M	1320 (52")	1-15M 1-20M	1320 (52")
3600mm (12'-0")	1-15M	660 (26")	1-20M	990 (39")	1-20M	1320 (52")	2-15M	1320 (52")	2-15M	1320 (52")	1-15M 1-20M	1650 (65")	2-20M	1650 (65")	2-20M	1650 (65")	1-10M 2-20M	1650 (65")
4200mm (14'-0")	1-20M	990 (39")	2-15M	1320 (52")	2-15M	1650 (65")	1-15M 1-20M	1650 (65")	2-20M	1650 (65")	1-10M 2-20M	1650 (65")	1-15M 2-20M	1980 (78")	3-20M	1980 (78")		
4800mm (16'-0")	1-20M	1320 (52")	1-15M 1-20M	1650 (65")	2-20M	1980 (78")	1-10M 2-20M	1980 (78")	1-15M 2-20M	1980 (78")	1-10M 3-20M	1980 (78")						
5400mm (18'-0")	2-15M	1650 (65")	2-20M	1980 (78")	1-10M 2-20M	1980 (78")	3-20M	2310 (91")										
6000mm (20'-0")	1-10M 2-15M	1980 (78")	1-10M 2-20M	2310 (91")	1-10M 3-20M	2310 (91")												

NOTES:

1. **This table to be used in conjunction with the general notes and details located at the beginning of this section.**
2. Stirrup Spacing = **330mm (13")**

All Stirrup End Distance measurements above are listed in mm (in)

The following substitutions are permitted:
1-10M + 1-15M may be substituted for 1-20M
2-10M may be substituted for 1-15M

LICENSED PROFESSIONAL ENGINEER
S. J. ADEMA
OCTOBER 30, 2015
PROVINCE OF ONTARIO

NUDURA® INTEGRATED BUILDING TECHNOLOGY™
Building Value.

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Table Prepared by:
TACOMA ENGINEERS

150mm (6") Thick
525mm (21") Deep
Table No.
L 6-21M

600mm (24") Lintel Depth

Uniformly Distributed Load

Opening Width	7.0 KN/m (480 lb/ft)		10.5 KN/m (715 lb/ft)		14.0 KN/m (955 lb/ft)		17.5 KN/m (1195 lb/ft)		21.0 KN/m (1435 lb/ft)		24.5 KN/m (1675 lb/ft)		28.0 KN/m (1915 lb/ft)		31.5 KN/m (2155 lb/ft)		35.0 KN/m (2395 lb/ft)	
	Bottom Reinf. Steel	Stirrup End Dist.	Bottom Reinf. Steel	Stirrup End Dist.	Bottom Reinf. Steel	Stirrup End Dist.	Bottom Reinf. Steel	Stirrup End Dist.	Bottom Reinf. Steel	Stirrup End Dist.	Bottom Reinf. Steel	Stirrup End Dist.	Bottom Reinf. Steel	Stirrup End Dist.	Bottom Reinf. Steel	Stirrup End Dist.	Bottom Reinf. Steel	Stirrup End Dist.
900mm (3'-0")	1-10M	0	1-10M	0	1-10M	0	1-10M	0	1-10M	0	1-10M	0	1-10M	0	1-10M	0	1-10M	0
1200mm (4'-0")	1-10M	0	1-10M	0	1-10M	0	1-10M	0	1-10M	0	1-10M	0	1-10M	0	1-10M	0	1-10M	0
1500mm (5'-0")	1-10M	0	1-10M	0	1-10M	0	1-10M	0	1-10M	0	1-10M	0	1-10M	0	1-15M	0	1-15M	0
1800mm (6'-0")	1-10M	0	1-10M	0	1-10M	0	1-10M	0	1-15M	0	1-15M	0	1-15M	760 (30")	1-15M	760 (30")	1-15M	760 (30")
2400mm (8'-0")	1-10M	0	1-15M	0	1-15M	0	1-15M	760 (30")	1-15M	760 (30")	1-15M	760 (30")	1-15M	760 (30")	1-20M	1140 (45")	1-20M	1140 (45")
3000mm (10'-0")	1-15M	0	1-15M	760 (30")	1-15M	760 (30")	1-15M	1140 (45")	1-20M	1140 (45")	1-20M	1140 (45")	1-20M	1140 (45")	2-15M	1140 (45")	2-15M	1140 (45")
3600mm (12'-0")	1-15M	0	1-15M	760 (30")	1-20M	1140 (45")	1-20M	1140 (45")	2-15M	1520 (60")	2-15M	1520 (60")	1-15M 1-20M	1520 (60")	1-15M 1-20M	1520 (60")	2-20M	1520 (60")
4200mm (14'-0")	1-15M	760 (30")	1-20M	1140 (45")	2-15M	1520 (60")	2-15M	1520 (60")	1-15M 1-20M	1520 (60")	2-20M	1900 (75")	1-10M 2-20M	1900 (75")	1-15M 2-20M	1900 (75")	1-15M 2-20M	1900 (75")
4800mm (16'-0")	1-20M	1140 (45")	2-15M	1520 (60")	1-15M 1-20M	1900 (75")	2-20M	1900 (75")	1-10M 2-20M	1900 (75")	1-15M 2-20M	1900 (75")	3-20M	2280 (90")				
5400mm (18'-0")	2-15M	1520 (60")	1-15M 1-20M	1900 (75")	2-20M	1900 (75")	1-15M 2-20M	2280 (90")	3-20M	2280 (90")								
6000mm (20'-0")	1-15M 1-20M	1900 (75")	2-20M	2280 (90")	1-15M 2-20M	2280 (90")	1-10M 3-20M	2660 (105")										

NOTES:

1. **This table to be used in conjunction with the general notes and details located at the beginning of this section.**
2. Stirrup Spacing = **380mm (15")**

All Stirrup End Distance measurements above are listed in mm (in)

The following substitutions are permitted:
1-10M + 1-15M may be substituted for 2-10M
2-10M may be substituted for 1-15M

LICENSED PROFESSIONAL ENGINEER
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PROVINCE OF ONTARIO

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Table Prepared by:
TACOMA ENGINEERS

150mm (6") Thick
600mm (24") Deep
Table No.
L 6-24M

225mm (9") Lintel Depth

Uniformly Distributed Load

Opening Width	7.0 KN/m (480 lb/ft)		10.5 KN/m (715 lb/ft)		14.0 KN/m (955 lb/ft)		17.5 KN/m (1195 lb/ft)		21.0 KN/m (1435 lb/ft)		24.5 KN/m (1675 lb/ft)		28.0 KN/m (1915 lb/ft)		31.5 KN/m (2155 lb/ft)		35.0 KN/m (2395 lb/ft)	
	Bottom Reinf. Steel	Stirrup End Dist.	Bottom Reinf. Steel	Stirrup End Dist.	Bottom Reinf. Steel	Stirrup End Dist.	Bottom Reinf. Steel	Stirrup End Dist.	Bottom Reinf. Steel	Stirrup End Dist.	Bottom Reinf. Steel	Stirrup End Dist.	Bottom Reinf. Steel	Stirrup End Dist.	Bottom Reinf. Steel	Stirrup End Dist.	Bottom Reinf. Steel	Stirrup End Dist.
900mm (3'-0")	1-10M	0	1-10M	0	1-10M	0	1-10M	0	1-10M	0	1-10M	0	1-15M	0	1-15M	0	1-15M	0
1200mm (4'-0")	1-10M	0	1-10M	0	1-10M	0	1-15M	0	1-15M	0	1-15M	204 (8")	1-15M	204 (8")	1-15M	306 (12")	1-15M	306 (12")
1500mm (5'-0")	1-10M	0	1-15M	0	1-15M	0	1-15M	0	1-15M	204 (8")	1-20M	306 (12")	1-20M	408 (16")	1-20M	408 (16")	2-15M	408 (16")
1800mm (6'-0")	1-15M	0	1-15M	0	1-15M	204 (8")	1-20M	306 (12")	1-20M	408 (16")	2-15M	510 (20")	2-15M	510 (20")	1-15M 1-20M	612 (24")	1-15M 1-20M	612 (24")
2400mm (8'-0")	1-15M	0	1-20M	306 (12")	2-15M	510 (20")	1-15M 1-20M	612 (24")	2-20M	714 (28")								
3000mm (10'-0")	2-15M	204 (8")	1-15M 1-20M	612 (24")														
3600mm (12'-0")	2-15M	510 (20")																
4200mm (14'-0")																		
4800mm (16'-0")																		
5400mm (18'-0")																		
6000mm (20'-0")																		

NOTES:
1. **This table to be used in conjunction with the general notes and details located at the beginning of this section.**
2. Stirrup Spacing = **102mm (4")**

All Stirrup End Distance measurements above are listed in mm (in)

The following substitutions are permitted:
1-10M + 1-15M may be substituted for 1-20M
2-10M may be substituted for 1-15M

NUDURA® INTEGRATED BUILDING TECHNOLOGY™ *Building Value.*

Table Prepared by:
TACOMA ENGINEERS

200mm (8") Thick
225mm (9") Deep
Table No.
L 8-9M

300mm (12") Lintel Depth

Uniformly Distributed Load

Opening Width	7.0 KN/m (480 lb/ft)		10.5 KN/m (715 lb/ft)		14.0 KN/m (955 lb/ft)		17.5 KN/m (1195 lb/ft)		21.0 KN/m (1435 lb/ft)		24.5 KN/m (1675 lb/ft)		28.0 KN/m (1915 lb/ft)		31.5 KN/m (2155 lb/ft)		35.0 KN/m (2395 lb/ft)	
	Bottom Reinf. Steel	Stirrup End Dist.	Bottom Reinf. Steel	Stirrup End Dist.	Bottom Reinf. Steel	Stirrup End Dist.	Bottom Reinf. Steel	Stirrup End Dist.	Bottom Reinf. Steel	Stirrup End Dist.	Bottom Reinf. Steel	Stirrup End Dist.	Bottom Reinf. Steel	Stirrup End Dist.	Bottom Reinf. Steel	Stirrup End Dist.	Bottom Reinf. Steel	Stirrup End Dist.
900mm (3'-0")	1-10M	0	1-10M	0	1-10M	0	1-10M	0	1-10M	0	1-10M	0	1-10M	0	1-10M	304 (12")	1-10M	304 (12")
1200mm (4'-0")	1-10M	0	1-10M	0	1-10M	0	1-10M	0	1-15M	304 (12")	1-15M	304 (12")	1-15M	304 (12")	1-15M	456 (18")	1-15M	456 (18")
1500mm (5'-0")	1-10M	0	1-10M	0	1-15M	304 (12")	1-15M	304 (12")	1-15M	456 (18")	1-15M	456 (18")	1-15M	456 (18")	1-15M	608 (24")	1-15M	608 (24")
1800mm (6'-0")	1-10M	0	1-15M	304 (12")	1-15M	456 (18")	1-15M	456 (18")	1-15M	608 (24")	1-20M	608 (24")	1-20M	608 (24")	1-20M	760 (30")	1-20M	760 (30")
2400mm (8'-0")	1-15M	304 (12")	1-15M	608 (24")	1-20M	760 (30")	1-20M	760 (30")	2-15M	912 (36")	2-15M	912 (36")	1-15M 1-20M	912 (36")	2-20M	1064 (42")	2-20M	1064 (42")
3000mm (10'-0")	1-20M	608 (24")	1-20M	912 (36")	2-15M	1064 (42")	1-15M 1-20M	1064 (42")	2-20M	1216 (48")	1-10M 2-20M	1216 (48")						
3600mm (12'-0")	2-15M	912 (36")	1-15M 1-20M	1216 (48")	2-20M	1368 (54")	1-15M 2-20M	1368 (54")										
4200mm (14'-0")	1-15M 1-20M	1216 (48")	1-10M 2-20M	1520 (60")														
4800mm (16'-0")	1-10M 2-20M	1520 (60")																
5400mm (18'-0")																		
6000mm (20'-0")																		

NOTES:

1. **This table to be used in conjunction with the general notes and details located at the beginning of this section.**
2. Stirrup Spacing = **152mm (6")**

All Stirrup End Distance measurements above are listed in mm (in)

The following substitutions are permitted:
1-10M + 1-15M may be substituted for 1-20M
2-10M may be substituted for 1-15M

NUDURA® INTEGRATED BUILDING TECHNOLOGY™ *Building Value.*

Table Prepared by: TACOMA ENGINEERS

200mm (8") Thick
300mm (12") Deep

Table No.
L 8-12M

375mm (15") Lintel Depth

Uniformly Distributed Load

Opening Width	7.0 KN/m (480 lb/ft)		10.5 KN/m (715 lb/ft)		14.0 KN/m (955 lb/ft)		17.5 KN/m (1195 lb/ft)		21.0 KN/m (1435 lb/ft)		24.5 KN/m (1675 lb/ft)		28.0 KN/m (1915 lb/ft)		31.5 KN/m (2155 lb/ft)		35.0 KN/m (2395 lb/ft)	
	Bottom Reinf. Steel	Stirrup End Dist.	Bottom Reinf. Steel	Stirrup End Dist.	Bottom Reinf. Steel	Stirrup End Dist.	Bottom Reinf. Steel	Stirrup End Dist.	Bottom Reinf. Steel	Stirrup End Dist.	Bottom Reinf. Steel	Stirrup End Dist.	Bottom Reinf. Steel	Stirrup End Dist.	Bottom Reinf. Steel	Stirrup End Dist.	Bottom Reinf. Steel	Stirrup End Dist.
900mm (3'-0")	1-10M	0	1-10M	0	1-10M	0	1-10M	0	1-10M	0	1-10M	0	1-10M	0	1-10M	0	1-10M	0
1200mm (4'-0")	1-10M	0	1-10M	0	1-10M	0	1-10M	0	1-10M	0	1-10M	0	1-15M	406 (16")	1-15M	406 (16")	1-15M	406 (16")
1500mm (5'-0")	1-10M	0	1-10M	0	1-10M	0	1-15M	0	1-15M	406 (16")	1-15M	406 (16")	1-15M	406 (16")	1-15M	406 (16")	1-15M	609 (24")
1800mm (6'-0")	1-10M	0	1-15M	0	1-15M	0	1-15M	406 (16")	1-15M	406 (16")	1-15M	609 (24")	1-15M	609 (24")	1-15M	609 (24")	1-20M	609 (24")
2400mm (8'-0")	1-15M	0	1-15M	406 (16")	1-15M	609 (24")	1-20M	812 (32")	1-20M	812 (32")	1-20M	812 (32")	2-15M	1015 (40")	2-15M	1015 (40")	1-15M 1-20M	1015 (40")
3000mm (10'-0")	1-15M	406 (16")	1-20M	609 (24")	1-20M	812 (32")	2-15M	1015 (40")	1-15M 1-20M	1015 (40")	1-15M 1-20M	1218 (48")	2-20M	1218 (48")	1-10M 2-20M	1218 (48")	1-10M 2-20M	1218 (48")
3600mm (12'-0")	1-20M	812 (32")	2-15M	1015 (40")	1-15M 1-20M	1218 (48")	2-20M	1421 (56")	1-10M 2-20M	1421 (56")	1-15M 2-20M	1421 (56")	3-20M	1624 (64")				
4200mm (14'-0")	2-15M	1015 (40")	1-15M 1-20M	1421 (56")	1-10M 2-20M	1421 (56")	1-15M 2-20M	1624 (64")	1-10M 3-20M	1624 (64")								
4800mm (16'-0")	1-15M 1-20M	1421 (56")	1-10M 2-20M	1624 (64")	3-20M	1827 (72")												
5400mm (18'-0")	1-10M 2-20M	1624 (64")	3-20M	2030 (80")														
6000mm (20'-0")																		

NOTES:

1. **This table to be used in conjunction with the general notes and details located at the beginning of this section.**
2. Stirrup Spacing = **203mm (8")**

All Stirrup End Distance measurements above are listed in mm (in)

The following substitutions are permitted:
1-10M + 1-15M may be substituted for 1-20M
2-10M may be substituted for 1-15M

LICENSED PROFESSIONAL ENGINEER
S. J. ADEMA
OCTOBER 30, 2015
PROVINCE OF ONTARIO

NUDURA® INTEGRATED BUILDING TECHNOLOGY™ *Building Value.*

Table Prepared by:
TACOMA ENGINEERS

200mm (8") Thick
375mm (15") Deep
Table No.
L 8-15M

450mm (18") Lintel Depth

Uniformly Distributed Load

Opening Width	7.0 KN/m (480 lb/ft)		10.5 KN/m (715 lb/ft)		14.0 KN/m (955 lb/ft)		17.5 KN/m (1195 lb/ft)		21.0 KN/m (1435 lb/ft)		24.5 KN/m (1675 lb/ft)		28.0 KN/m (1915 lb/ft)		31.5 KN/m (2155 lb/ft)		35.0 KN/m (2395 lb/ft)	
	Bottom Reinf. Steel	Stirrup End Dist.	Bottom Reinf. Steel	Stirrup End Dist.	Bottom Reinf. Steel	Stirrup End Dist.	Bottom Reinf. Steel	Stirrup End Dist.	Bottom Reinf. Steel	Stirrup End Dist.	Bottom Reinf. Steel	Stirrup End Dist.	Bottom Reinf. Steel	Stirrup End Dist.	Bottom Reinf. Steel	Stirrup End Dist.	Bottom Reinf. Steel	Stirrup End Dist.
900mm (3'-0")	1-10M	0	1-10M	0	1-10M	0	1-10M	0	1-10M	0	1-10M	0	1-10M	0	1-10M	0	1-10M	0
1200mm (4'-0")	1-10M	0	1-10M	0	1-10M	0	1-10M	0	1-10M	0	1-10M	0	1-10M	0	1-10M	0	1-15M	0
1500mm (5'-0")	1-10M	0	1-10M	0	1-10M	0	1-10M	0	1-15M	0	1-15M	0	1-15M	508 (20")	1-15M	508 (20")	1-15M	508 (20")
1800mm (6'-0")	1-10M	0	1-10M	0	1-15M	0	1-15M	0	1-15M	508 (20")	1-15M	508 (20")	1-15M	508 (20")	1-15M	508 (20")	1-15M	508 (20")
2400mm (8'-0")	1-15M	0	1-15M	0	1-15M	508 (20")	1-15M	508 (20")	1-15M	762 (30")	1-20M	762 (30")	1-20M	762 (30")	1-20M	1016 (40")	2-15M	1016 (40")
3000mm (10'-0")	1-15M	0	1-15M	508 (20")	1-20M	762 (30")	1-20M	1016 (40")	2-15M	1016 (40")	2-15M	1016 (40")	1-15M 1-20M	1270 (50")	1-15M 1-20M	1270 (50")	2-20M	1270 (50")
3600mm (12'-0")	1-15M	508 (20")	1-20M	762 (30")	2-15M	1016 (40")	1-15M 1-20M	1270 (50")	1-15M 1-20M	1270 (50")	2-20M	1524 (60")	1-10M 2-20M	1524 (60")	1-15M 2-20M	1524 (60")	3-20M	1524 (60")
4200mm (14'-0")	1-20M	762 (30")	2-15M	1270 (50")	1-15M 1-20M	1270 (50")	2-20M	1524 (60")	1-10M 2-20M	1524 (60")	3-20M	1778 (70")	1-10M 3-20M	1778 (70")				
4800mm (16'-0")	2-15M	1270 (50")	1-15M 1-20M	1524 (60")	1-10M 2-20M	1778 (70")	1-15M 2-20M	1778 (70")	1-10M 3-20M	2032 (80")								
5400mm (18'-0")	1-15M 1-20M	1524 (60")	1-10M 2-20M	1778 (70")	3-20M	2032 (80")												
6000mm (20'-0")	1-10M 2-20M	1778 (70")	3-20M	2032 (80")														

NOTES:

1. **This table to be used in conjunction with the general notes and details located at the beginning of this section.**
2. Stirrup Spacing = **254mm (10")**

All Stirrup End Distance measurements above are listed in mm (in)

The following substitutions are permitted:
1-10M + 1-15M may be substituted for 1-20M
2-10M may be substituted for 1-15M

LICENSED PROFESSIONAL ENGINEER
S. J. ADEMA
OCTOBER 30, 2015
PROVINCE OF ONTARIO

NUDURA® INTEGRATED BUILDING TECHNOLOGY™ *Building Value.*

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Table Prepared by:
TACOMA ENGINEERS

200mm (8") Thick
450mm (18") Deep
Table No.
L 8-18M

Opening Width	525mm (21") Lintel Depth – Uniformly Distributed Load																	
	7.0 KN/m (480 lb/ft)		10.5 KN/m (715 lb/ft)		14.0 KN/m (955 lb/ft)		17.5 KN/m (1195 lb/ft)		21.0 KN/m (1435 lb/ft)		24.5 KN/m (1675 lb/ft)		28.0 KN/m (1915 lb/ft)		31.5 KN/m (2155 lb/ft)		35.0 KN/m (2395 lb/ft)	
	Bottom Reinf. Steel	Stirrup End Dist.	Bottom Reinf. Steel	Stirrup End Dist.	Bottom Reinf. Steel	Stirrup End Dist.	Bottom Reinf. Steel	Stirrup End Dist.	Bottom Reinf. Steel	Stirrup End Dist.	Bottom Reinf. Steel	Stirrup End Dist.	Bottom Reinf. Steel	Stirrup End Dist.	Bottom Reinf. Steel	Stirrup End Dist.	Bottom Reinf. Steel	Stirrup End Dist.
900mm (3'-0")	1-10M	0	1-10M	0	1-10M	0	1-10M	0	1-10M	0	1-10M	0	1-10M	0	1-10M	0	1-10M	0
1200mm (4'-0")	1-10M	0	1-10M	0	1-10M	0	1-10M	0	1-10M	0	1-10M	0	1-10M	0	1-10M	0	1-10M	0
1500mm (5'-0")	1-10M	0	1-10M	0	1-10M	0	1-10M	0	1-10M	0	1-10M	0	1-15M	0	1-15M	0	1-15M	0
1800mm (6'-0")	1-10M	0	1-10M	0	1-10M	0	1-15M	0	1-15M	0	1-15M	0	1-15M	660 (26")	1-15M	660 (26")	1-15M	660 (26")
2400mm (8'-0")	1-10M	0	1-15M	0	1-15M	0	1-15M	660 (26")	1-20M	660 (26")	1-20M	660 (26")	1-20M	660 (26")	1-20M	990 (39")	1-20M	990 (39")
3000mm (10'-0")	1-15M	0	1-15M	0	1-20M	660 (26")	1-20M	990 (39")	1-20M	990 (39")	2-15M	990 (39")	2-15M	990 (39")	2-15M	1320 (52")	1-15M 1-20M	1320 (52")
3600mm (12'-0")	1-15M	0	1-20M	660 (26")	1-20M	990 (39")	2-15M	990 (39")	2-15M	1320 (52")	1-15M 1-20M	1320 (52")	2-20M	1320 (52")	2-20M	1320 (52")	1-10M 2-20M	1650 (65")
4200mm (14'-0")	1-20M	660 (26")	2-15M	990 (39")	2-15M	1320 (52")	1-15M 1-20M	1320 (52")	2-20M	1650 (65")	1-10M 2-20M	1650 (65")	1-15M 2-20M	1650 (65")	3-20M	1650 (65")	1-10M 3-20M	1980 (78")
4800mm (16'-0")	2-15M	990 (39")	1-15M 1-20M	1320 (52")	2-20M	1650 (65")	1-10M 2-20M	1650 (65")	1-15M 2-20M	1980 (78")	3-20M	1980 (78")						
5400mm (18'-0")	2-15M	1320 (52")	2-20M	1650 (65")	1-10M 2-20M	1980 (78")	3-20M	1980 (78")										
6000mm (20'-0")	1-15M 1-20M	1650 (65")	1-10M 2-20M	1980 (78")	3-20M	2310 (91")												

NOTES:
1. **This table to be used in conjunction with the general notes and details located at the beginning of this section.**
2. Stirrup Spacing = **330mm (13")**

All Stirrup End Distance measurements above are listed in mm (in)

LICENSED PROFESSIONAL ENGINEER
S. J. ADEMA
OCTOBER 30, 2015
PROVINCE OF ONTARIO

The following substitutions are permitted:
1-10M + 1-15M may be substituted for 1-20M
2-10M may be substituted for 1-15M

NUDURA® INTEGRATED BUILDING TECHNOLOGY™ *Building Value.*

Table Prepared by:
TACOMA ENGINEERS

200mm (8") Thick
525mm (21") Deep
Table No.
L 8-21M

600mm (24") Lintel Depth

Uniformly Distributed Load

Opening Width	7.0 KN/m (480 lb/ft)		10.5 KN/m (715 lb/ft)		14.0 KN/m (955 lb/ft)		17.5 KN/m (1195 lb/ft)		21.0 KN/m (1435 lb/ft)		24.5 KN/m (1675 lb/ft)		28.0 KN/m (1915 lb/ft)		31.5 KN/m (2155 lb/ft)		35.0 KN/m (2395 lb/ft)	
	Bottom Reinf. Steel	Stirrup End Dist.	Bottom Reinf. Steel	Stirrup End Dist.	Bottom Reinf. Steel	Stirrup End Dist.	Bottom Reinf. Steel	Stirrup End Dist.	Bottom Reinf. Steel	Stirrup End Dist.	Bottom Reinf. Steel	Stirrup End Dist.	Bottom Reinf. Steel	Stirrup End Dist.	Bottom Reinf. Steel	Stirrup End Dist.	Bottom Reinf. Steel	Stirrup End Dist.
900mm (3'-0")	1-10M	0	1-10M	0	1-10M	0	1-10M	0	1-10M	0	1-10M	0	1-10M	0	1-10M	0	1-10M	0
1200mm (4'-0")	1-10M	0	1-10M	0	1-10M	0	1-10M	0	1-10M	0	1-10M	0	1-10M	0	1-10M	0	1-10M	0
1500mm (5'-0")	1-10M	0	1-10M	0	1-10M	0	1-10M	0	1-10M	0	1-10M	0	1-10M	0	1-15M	0	1-15M	0
1800mm (6'-0")	1-10M	0	1-10M	0	1-10M	0	1-10M	0	1-15M	0	1-15M	0	1-15M	0	1-15M	0	1-15M	0
2400mm (8'-0")	1-10M	0	1-15M	0	1-15M	0	1-15M	0	1-15M	760 (30")	1-20M	760 (30")	1-20M	760 (30")	1-20M	760 (30")	1-20M	760 (30")
3000mm (10'-0")	1-15M	0	1-15M	0	1-20M	0	1-20M	760 (30")	1-20M	760 (30")	1-20M	1140 (45")	1-20M	1140 (45")	2-15M	1140 (45")	2-15M	1140 (45")
3600mm (12'-0")	1-20M	0	1-20M	760 (30")	1-20M	760 (30")	1-20M	1140 (45")	2-15M	1140 (45")	2-15M	1140 (45")	1-15M 1-20M	1520 (60")	1-15M 1-20M	1520 (60")	2-20M	1520 (60")
4200mm (14'-0")	1-20M	0	1-20M	1140 (45")	2-15M	1140 (45")	1-15M 1-20M	1520 (60")	1-15M 1-20M	1520 (60")	2-20M	1520 (60")	1-10M 2-20M	1520 (60")	1-10M 2-20M	1900 (75")	1-15M 2-20M	1900 (75")
4800mm (16'-0")	1-20M	760 (30")	2-15M	1520 (60")	1-15M 1-20M	1520 (60")	2-20M	1520 (60")	1-10M 2-20M	1900 (75")	1-15M 2-20M	1900 (75")	3-20M	1900 (75")	1-10M 3-20M	1900 (75")		
5400mm (18'-0")	2-15M	1140 (45")	1-15M 1-20M	1520 (60")	2-20M	1900 (75")	1-10M 2-20M	1900 (75")	3-20M	2280 (90")	1-10M 3-20M	2280 (90")						
6000mm (20'-0")	1-15M 1-20M	1520 (60")	2-20M	1900 (75")	1-15M 2-20M	1900 (75")	3-20M	2280 (90")										

NOTES:

1. **This table to be used in conjunction with the general notes and details located at the beginning of this section.**
2. Stirrup Spacing = **380mm (15")**

All Stirrup End Distance measurements above are listed in mm (in)

The following substitutions may be made: (Original table)
1-10M + 1-15M may be substituted for 1-20M
2-10M may be substituted for 1-15M

NUDURA® INTEGRATED BUILDING TECHNOLOGY™ *Building Value.*

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Table Prepared by: TACOMA ENGINEERS

200mm (8") Thick
600mm (24") Deep

Table No. L 8-24M

LICENSED PROFESSIONAL ENGINEER S. J. ADEMA PROVINCE OF ONTARIO

225mm (9") Lintel Depth

Uniformly Distributed Load

Opening Width	7.0 KN/m (480 lb/ft)		10.5 KN/m (715 lb/ft)		14.0 KN/m (955 lb/ft)		17.5 KN/m (1195 lb/ft)		21.0 KN/m (1435 lb/ft)		24.5 KN/m (1675 lb/ft)		28.0 KN/m (1915 lb/ft)		31.5 KN/m (2155 lb/ft)		35.0 KN/m (2395 lb/ft)	
	Bottom Reinf. Steel	Stirrup End Dist.	Bottom Reinf. Steel	Stirrup End Dist.	Bottom Reinf. Steel	Stirrup End Dist.	Bottom Reinf. Steel	Stirrup End Dist.	Bottom Reinf. Steel	Stirrup End Dist.	Bottom Reinf. Steel	Stirrup End Dist.	Bottom Reinf. Steel	Stirrup End Dist.	Bottom Reinf. Steel	Stirrup End Dist.	Bottom Reinf. Steel	Stirrup End Dist.
900mm (3'-0")	1-10M	0	1-10M	0	1-10M	0	1-10M	0	1-10M	0	1-10M	0	1-15M	0	1-15M	0	1-15M	0
1200mm (4'-0")	1-10M	0	1-10M	0	1-15M	0	1-15M	0	1-15M	0	1-15M	0	1-15M	0	1-15M	204 (8")	1-15M	204 (8")
1500mm (5'-0")	1-10M	0	1-15M	0	1-15M	0	1-15M	0	1-15M	0	1-20M	204 (8")	1-20M	306 (12")	1-20M	306 (12")	1-20M	408 (16")
1800mm (6'-0")	1-15M	0	1-15M	0	1-15M	0	1-20M	0	1-20M	306 (12")	2-15M	306 (12")	2-15M	408 (16")	1-15M 1-20M	510 (20")	1-15M 1-20M	510 (20")
2400mm (8'-0")	1-15M	0	1-20M	0	2-15M	306 (12")	1-15M 1-20M	408 (16")	2-20M	612 (24")	1-10M 2-20M	612 (24")						
3000mm (10'-0")	2-15M	0	1-15M 1-20M	306 (12")	1-10M 2-20M	612 (24")												
3600mm (12'-0")	1-15M 1-20M	204 (8")																
4200mm (14'-0")																		
4800mm (16'-0")																		
5400mm (18'-0")																		
6000mm (20'-0")																		

LICENSED PROFESSIONAL ENGINEER
S. J. ADEMA
OCTOBER 30, 2015
PROVINCE OF ONTARIO

NOTES:
1. **This table to be used in conjunction with the general notes and details located at the beginning of this section.**
2. Stirrup Spacing = **102mm (4")**

All Stirrup End Distance measurements above are listed in mm (in)

The following substitutions are permitted:
1-10M + 1-15M may be substituted for 1-20M
2-10M may be substituted for 1-15M

NUDURA® INTEGRATED BUILDING TECHNOLOGY™ *Building Value.*

Table Prepared by:
TACOMA ENGINEERS

250mm (10") Thick
225mm (9") Deep
Table No.
L 10-9M

300mm (12") Lintel Depth

Uniformly Distributed Load

Opening Width	7.0 KN/m (480 lb/ft)		10.5 KN/m (715 lb/ft)		14.0 KN/m (955 lb/ft)		17.5 KN/m (1195 lb/ft)		21.0 KN/m (1435 lb/ft)		24.5 KN/m (1675 lb/ft)		28.0 KN/m (1915 lb/ft)		31.5 KN/m (2155 lb/ft)		35.0 KN/m (2395 lb/ft)	
	Bottom Reinf. Steel	Stirrup End Dist.	Bottom Reinf. Steel	Stirrup End Dist.	Bottom Reinf. Steel	Stirrup End Dist.	Bottom Reinf. Steel	Stirrup End Dist.	Bottom Reinf. Steel	Stirrup End Dist.	Bottom Reinf. Steel	Stirrup End Dist.	Bottom Reinf. Steel	Stirrup End Dist.	Bottom Reinf. Steel	Stirrup End Dist.	Bottom Reinf. Steel	Stirrup End Dist.
900mm (3'-0")	1-10M	0	1-10M	0	1-10M	0	1-10M	0	1-10M	0	1-10M	0	1-10M	0	1-10M	0	1-10M	0
1200mm (4'-0")	1-10M	0	1-10M	0	1-10M	0	1-10M	0	1-15M	0	1-15M	304 (12")	1-15M	304 (12")	1-15M	304 (12")	1-15M	304 (12")
1500mm (5'-0")	1-10M	0	1-10M	0	1-15M	0	1-15M	304 (12")	1-15M	304 (12")	1-15M	456 (18")	1-15M	456 (18")	1-15M	456 (18")	1-15M	456 (18")
1800mm (6'-0")	1-15M	0	1-15M	0	1-15M	304 (12")	1-15M	456 (18")	1-15M	456 (18")	1-20M	608 (24")	1-20M	608 (24")	1-20M	608 (24")	1-20M	608 (24")
2400mm (8'-0")	1-15M	0	1-15M	456 (18")	1-20M	608 (24")	1-20M	760 (30")	2-15M	760 (30")	2-15M	912 (36")	1-15M 1-20M	912 (36")	1-15M 1-20M	912 (36")	2-20M	912 (36")
3000mm (10'-0")	1-20M	456 (18")	1-20M	760 (30")	2-15M	912 (36")	1-15M 1-20M	1064 (42")	2-20M	1064 (42")	1-10M 2-20M	1216 (48")	1-15M 2-20M	1216 (48")	3-20M	1216 (48")		
3600mm (12'-0")	2-15M	760 (30")	1-15M 1-20M	1064 (42")	2-20M	1216 (48")	1-15M 2-20M	1368 (54")	3-20M	1368 (54")								
4200mm (14'-0")	1-15M 1-20M	1064 (42")	1-10M 2-20M	1368 (54")	3-20M	1520 (60")												
4800mm (16'-0")	1-10M 2-20M	1368 (54")																
5400mm (18'-0")																		
6000mm (20'-0")																		

NOTES:

1. **This table to be used in conjunction with the general notes and details located at the beginning of this section.**
2. Stirrup Spacing = **152mm (6")**

All Stirrup End Distance measurements above are listed in mm (in)

The following substitutions are permitted:
1-10M + 1-15M may be substituted for 1-20M
2-10M may be substituted for 1-15M

LICENSED PROFESSIONAL ENGINEER
S. J. ADEMA
OCTOBER 30, 2015
PROVINCE OF ONTARIO

NUDURA® INTEGRATED BUILDING TECHNOLOGY™ *Building Value.*

Table Prepared by:
TACOMA ENGINEERS

250mm (10") Thick
300mm (12") Deep
Table No.
L 10-12M

375mm (15") Lintel Depth

Uniformly Distributed Load

Opening Width	7.0 KN/m (480 lb/ft)		10.5 KN/m (715 lb/ft)		14.0 KN/m (955 lb/ft)		17.5 KN/m (1195 lb/ft)		21.0 KN/m (1435 lb/ft)		24.5 KN/m (1675 lb/ft)		28.0 KN/m (1915 lb/ft)		31.5 KN/m (2155 lb/ft)		35.0 KN/m (2395 lb/ft)	
	Bottom Reinf. Steel	Stirrup End Dist.	Bottom Reinf. Steel	Stirrup End Dist.	Bottom Reinf. Steel	Stirrup End Dist.	Bottom Reinf. Steel	Stirrup End Dist.	Bottom Reinf. Steel	Stirrup End Dist.	Bottom Reinf. Steel	Stirrup End Dist.	Bottom Reinf. Steel	Stirrup End Dist.	Bottom Reinf. Steel	Stirrup End Dist.	Bottom Reinf. Steel	Stirrup End Dist.
900mm (3'-0")	1-10M	0	1-10M	0	1-10M	0	1-10M	0	1-10M	0	1-10M	0	1-10M	0	1-10M	0	1-10M	0
1200mm (4'-0")	1-10M	0	1-10M	0	1-10M	0	1-10M	0	1-10M	0	1-10M	0	1-15M	0	1-15M	0	1-15M	406 (16")
1500mm (5'-0")	1-10M	0	1-10M	0	1-10M	0	1-15M	0	1-15M	0	1-15M	406 (16")	1-15M	406 (16")	1-15M	406 (16")	1-15M	406 (16")
1800mm (6'-0")	1-10M	0	1-15M	0	1-15M	0	1-15M	0	1-15M	406 (16")	1-15M	406 (16")	1-15M	609 (24")	1-15M	609 (24")	1-20M	609 (24")
2400mm (8'-0")	1-15M	0	1-15M	0	1-15M	406 (16")	1-20M	609 (24")	1-20M	609 (24")	1-20M	812 (32")	2-15M	812 (32")	2-15M	812 (32")	1-15M 1-20M	1015 (40")
3000mm (10'-0")	1-15M	0	1-20M	609 (24")	1-20M	812 (32")	2-15M	812 (32")	1-15M 1-20M	1015 (40")	1-15M 1-20M	1015 (40")	2-20M	1218 (48")	2-20M	1218 (48")	1-10M 2-20M	1218 (48")
3600mm (12'-0")	1-20M	406 (16")	2-15M	812 (32")	1-15M 1-20M	1015 (40")	2-20M	1218 (48")	1-10M 2-20M	1218 (48")	1-15M 2-20M	1421 (56")	3-20M	1421 (56")	1-10M 3-20M	1421 (56")		
4200mm (14'-0")	2-15M	812 (32")	1-15M 1-20M	1218 (48")	2-20M	1421 (56")	1-15M 2-20M	1421 (56")	3-20M	1624 (64")								
4800mm (16'-0")	1-15M 1-20M	1015 (40")	1-10M 2-20M	1421 (56")	3-20M	1624 (64")												
5400mm (18'-0")	1-10M 2-20M	1421 (56")	3-20M	1827 (72")														
6000mm (20'-0")																		

NOTES:
1. **This table to be used in conjunction with the general notes and details located at the beginning of this section.**
2. Stirrup Spacing = **203mm (8")**

All Stirrup End Distance measurements above are listed in mm (in)

The following substitutions are permitted:
1-10M + 1-15M may be substituted for 1-20M
2-10M may be substituted for 1-15M

LICENSED PROFESSIONAL ENGINEER
S. J. ADEMA
OCTOBER 30, 2015
PROVINCE OF ONTARIO

NUDURA® INTEGRATED BUILDING TECHNOLOGY™ *Building Value.*

Table Prepared by:
TACOMA ENGINEERS

250mm (10") Thick
375mm (15") Deep
Table No.
L 10-15M

450mm (18") Lintel Depth

Uniformly Distributed Load

Opening Width	7.0 KN/m (480 lb/ft)		10.5 KN/m (715 lb/ft)		14.0 KN/m (955 lb/ft)		17.5 KN/m (1195 lb/ft)		21.0 KN/m (1435 lb/ft)		24.5 KN/m (1675 lb/ft)		28.0 KN/m (1915 lb/ft)		31.5 KN/m (2155 lb/ft)		35.0 KN/m (2395 lb/ft)	
	Bottom Reinf. Steel	Stirrup End Dist.	Bottom Reinf. Steel	Stirrup End Dist.	Bottom Reinf. Steel	Stirrup End Dist.	Bottom Reinf. Steel	Stirrup End Dist.	Bottom Reinf. Steel	Stirrup End Dist.	Bottom Reinf. Steel	Stirrup End Dist.	Bottom Reinf. Steel	Stirrup End Dist.	Bottom Reinf. Steel	Stirrup End Dist.	Bottom Reinf. Steel	Stirrup End Dist.
900mm (3'-0")	1-10M	0	1-10M	0	1-10M	0	1-10M	0	1-10M	0	1-10M	0	1-10M	0	1-10M	0	1-10M	0
1200mm (4'-0")	1-10M	0	1-10M	0	1-10M	0	1-10M	0	1-10M	0	1-10M	0	1-10M	0	1-10M	0	1-15M	0
1500mm (5'-0")	1-10M	0	1-10M	0	1-10M	0	1-10M	0	1-15M	0	1-15M	0	1-15M	0	1-15M	0	1-15M	508 (20")
1800mm (6'-0")	1-10M	0	1-10M	0	1-15M	0	1-15M	0	1-15M	0	1-15M	0	1-15M	508 (20")	1-20M	508 (20")	1-20M	508 (20")
2400mm (8'-0")	1-15M	0	1-15M	0	1-15M	0	1-15M	508 (20")	1-20M	508 (20")	1-20M	762 (30")	1-20M	762 (30")	1-20M	762 (30")	2-15M	762 (30")
3000mm (10'-0")	1-15M	0	1-20M	0	1-20M	508 (20")	1-20M	762 (30")	2-15M	762 (30")	2-15M	1016 (40")	1-15M 1-20M	1016 (40")	1-15M 1-20M	1016 (40")	2-20M	1270 (50")
3600mm (12'-0")	1-20M	0	1-20M	762 (30")	2-15M	1016 (40")	1-15M 1-20M	1016 (40")	1-15M 1-20M	1270 (50")	2-20M	1270 (50")	1-10M 2-20M	1270 (50")	1-15M 2-20M	1524 (60")	1-15M 2-20M	1524 (60")
4200mm (14'-0")	1-20M	508 (20")	2-15M	1016 (40")	1-15M 1-20M	1270 (50")	2-20M	1270 (50")	1-10M 2-20M	1524 (60")	1-15M 2-20M	1524 (60")	3-20M	1778 (70")				
4800mm (16'-0")	2-15M	762 (30")	1-15M 1-20M	1270 (50")	1-10M 2-20M	1524 (60")	1-15M 2-20M	1778 (70")	1-10M 3-20M	1778 (70")								
5400mm (18'-0")	1-15M 1-20M	1270 (50")	1-10M 2-20M	1524 (60")	3-20M	1778 (70")												
6000mm (20'-0")	1-10M 2-20M	1524 (60")	3-20M	1778 (70")														

NOTES:

1. **This table to be used in conjunction with the general notes and details located at the beginning of this section.**
2. Stirrup Spacing = **254mm (10")**

All Stirrup End Distance measurements above are listed in mm (in)

The following substitutions are permitted:
1-10M + 1-15M may be substituted for 1-20M
2-10M may be substituted for 1-15M

LICENSED PROFESSIONAL ENGINEER
S. J. ADEMA
OCTOBER 30, 2015
PROVINCE OF ONTARIO

NUDURA® INTEGRATED BUILDING TECHNOLOGY™ *Building Value.*

Table Prepared by:

TACOMA ENGINEERS

250mm (10") Thick
450mm (18") Deep

Table No.

L 10-18M

525mm (21") Lintel Depth

Uniformly Distributed Load

Opening Width	7.0 KN/m (480 lb/ft)		10.5 KN/m (715 lb/ft)		14.0 KN/m (955 lb/ft)		17.5 KN/m (1195 lb/ft)		21.0 KN/m (1435 lb/ft)		24.5 KN/m (1675 lb/ft)		28.0 KN/m (1915 lb/ft)		31.5 KN/m (2155 lb/ft)		35.0 KN/m (2395 lb/ft)	
	Bottom Reinf. Steel	Stirrup End Dist.	Bottom Reinf. Steel	Stirrup End Dist.	Bottom Reinf. Steel	Stirrup End Dist.	Bottom Reinf. Steel	Stirrup End Dist.	Bottom Reinf. Steel	Stirrup End Dist.	Bottom Reinf. Steel	Stirrup End Dist.	Bottom Reinf. Steel	Stirrup End Dist.	Bottom Reinf. Steel	Stirrup End Dist.	Bottom Reinf. Steel	Stirrup End Dist.
900mm (3'-0")	1-10M	0	1-10M	0	1-10M	0	1-10M	0	1-10M	0	1-10M	0	1-10M	0	1-10M	0	1-10M	0
1200mm (4'-0")	1-10M	0	1-10M	0	1-10M	0	1-10M	0	1-10M	0	1-10M	0	1-10M	0	1-10M	0	1-10M	0
1500mm (5'-0")	1-10M	0	1-10M	0	1-10M	0	1-10M	0	1-10M	0	1-15M	0	1-15M	0	1-15M	0	1-15M	0
1800mm (6'-0")	1-10M	0	1-10M	0	1-10M	0	1-15M	0	1-15M	0	1-15M	0	1-15M	0	1-15M	0	1-15M	660 (26")
2400mm (8'-0")	1-15M	0	1-15M	0	1-15M	0	1-15M	0	1-20M	0	1-20M	660 (26")	1-20M	660 (26")	1-20M	660 (26")	1-20M	660 (26")
3000mm (10'-0")	1-15M	0	1-20M	0	1-20M	0	1-20M	660 (26")	1-20M	660 (26")	2-15M	990 (39")	2-15M	990 (39")	2-15M	990 (39")	1-15M 1-20M	990 (39")
3600mm (12'-0")	1-20M	0	1-20M	0	1-20M	660 (26")	2-15M	990 (39")	2-15M	990 (39")	1-15M 1-20M	1320 (52")	2-20M	1320 (52")	2-20M	1320 (52")	1-10M 2-20M	1320 (52")
4200mm (14'-0")	1-20M	0	2-15M	660 (26")	2-15M	990 (39")	1-15M 1-20M	1320 (52")	2-20M	1320 (52")	1-10M 2-20M	1650 (65")	1-15M 2-20M	1650 (65")	3-20M	1650 (65")	1-10M 3-20M	1650 (65")
4800mm (16'-0")	2-15M	660 (26")	1-15M 1-20M	990 (39")	2-20M	1320 (52")	1-10M 2-20M	1650 (65")	1-15M 2-20M	1650 (65")	3-20M	1980 (78")	1-10M 3-20M	1980 (78")				
5400mm (18'-0")	1-15M 1-20M	990 (39")	2-20M	1320 (52")	1-10M 2-20M	1650 (65")	3-20M	1980 (78")	1-10M 3-20M	1980 (78")								
6000mm (20'-0")	2-20M	1320 (52")	1-10M 2-20M	1650 (65")	3-20M	1980 (78")												

NOTES:

1. **This table to be used in conjunction with the general notes and details located at the beginning of this section.**
2. Stirrup Spacing = **330mm (13")**

All Stirrup End Distance measurements above are listed in mm (in)

The following substitutions are permitted:
1-10M + 1-15M may be substituted for 1-20M
2-10M may be substituted for 1-15M

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Table Prepared by:
TACOMA ENGINEERS

250mm (10") Thick
525mm (21") Deep
Table No.
L 10-21M

600mm (24") Lintel Depth

Uniformly Distributed Load

Opening Width	7.0 KN/m (480 lb/ft)		10.5 KN/m (715 lb/ft)		14.0 KN/m (955 lb/ft)		17.5 KN/m (1195 lb/ft)		21.0 KN/m (1435 lb/ft)		24.5 KN/m (1675 lb/ft)		28.0 KN/m (1915 lb/ft)		31.5 KN/m (2155 lb/ft)		35.0 KN/m (2395 lb/ft)	
	Bottom Reinf. Steel	Stirrup End Dist.	Bottom Reinf. Steel	Stirrup End Dist.	Bottom Reinf. Steel	Stirrup End Dist.	Bottom Reinf. Steel	Stirrup End Dist.	Bottom Reinf. Steel	Stirrup End Dist.	Bottom Reinf. Steel	Stirrup End Dist.	Bottom Reinf. Steel	Stirrup End Dist.	Bottom Reinf. Steel	Stirrup End Dist.	Bottom Reinf. Steel	Stirrup End Dist.
900mm (3'-0")	1-10M	0	1-10M	0	1-10M	0	1-10M	0	1-10M	0	1-10M	0	1-10M	0	1-10M	0	1-10M	0
1200mm (4'-0")	1-10M	0	1-10M	0	1-10M	0	1-10M	0	1-10M	0	1-10M	0	1-10M	0	1-10M	0	1-10M	0
1500mm (5'-0")	1-10M	0	1-10M	0	1-10M	0	1-10M	0	1-10M	0	1-10M	0	1-10M	0	1-15M	0	1-15M	0
1800mm (6'-0")	1-10M	0	1-10M	0	1-10M	0	1-10M	0	1-15M	0	1-15M	0	1-15M	0	1-15M	0	1-15M	0
2400mm (8'-0")	1-10M	0	1-15M	0	1-15M	0	1-15M	0	1-15M	0	1-20M	0	1-20M	760 (30")	1-20M	760 (30")	1-20M	760 (30")
3000mm (10'-0")	1-15M	0	1-15M	0	1-20M	0	1-20M	0	1-20M	760 (30")	1-20M	760 (30")	2-15M	760 (30")	2-15M	1140 (45")	2-15M	1140 (45")
3600mm (12'-0")	1-20M	0	1-20M	0	1-20M	760 (30")	1-20M	760 (30")	2-15M	1140 (45")	2-15M	1140 (45")	1-15M 1-20M	1140 (45")	1-15M 1-20M	1140 (45")	2-20M	1520 (60")
4200mm (14'-0")	1-20M	0	1-20M	760 (30")	2-15M	760 (30")	1-15M 1-20M	1140 (45")	1-15M 1-20M	1140 (45")	2-20M	1520 (60")	1-10M 2-20M	1520 (60")	1-10M 2-20M	1520 (60")	1-15M 2-20M	1520 (60")
4800mm (16'-0")	1-20M	0	2-15M	760 (30")	1-15M 1-20M	1140 (45")	2-20M	1520 (60")	1-10M 2-20M	1520 (60")	1-15M 2-20M	1900 (75")	3-20M	1900 (75")	1-10M 3-20M	1900 (75")	4-20M	1900 (75")
5400mm (18'-0")	2-15M	760 (30")	1-15M 1-20M	1140 (45")	2-20M	1520 (60")	1-15M 2-20M	1900 (75")	3-20M	1900 (75")	1-10M 3-20M	1900 (75")	4-20M	2280 (90")				
6000mm (20'-0")	1-15M 1-20M	1140 (45")	2-20M	1520 (60")	1-15M 2-20M	1900 (75")	3-20M	1900 (75")	4-20M	2280 (90")								

NOTES:

1. **This table to be used in conjunction with the general notes and details located at the beginning of this section.**
2. Stirrup Spacing = **380mm (15")**

All Stirrup End Distance measurements above are listed in mm (in)

The following substitutions are permitted:
1-10M + 1-15M may be substituted for 1-20M
2-10M may be substituted for 1-15M

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Table Prepared by:

TACOMA ENGINEERS

250mm (10") Thick
600mm (24") Deep

Table No.

L 10-24M