54" HOLLOW ROUND PILES

Low prestress level

21 strands - $f_{pc} = 724$

$f_c = 6$ ksi  
687 ton axial load

$f_c = 7$ ksi  
814 ton axial load

$f_c = 8$ ksi  
941 ton axial load

High prestress level

38 strands - $f_{pc} = 1242$

$f_c = 6$ ksi  
633 ton axial load

$f_c = 7$ ksi  
760 ton axial load

$f_c = 8$ ksi  
887 ton axial load
54" HOLLOW ROUND PILE
21 strands, $f'_c = 6$ ksi

SECTION PROPERTIES

$I = 233409$ in$^4$
$r = 17.4$ in
$A = 770$ in$^2$
w = 845 plf
Perimeter = 169.6 in

$l/r$ = effective unsupported length of the pile / radius of gyration

AXIAL LOAD $P_n$ (kip)

BENDING MOMENT $\phi M_n$ (ft.k.)

54' 4 4" Hollow Pile
21 strands
fc = 6 ksi
54" HOLLOW ROUND PILE
21 strands, $f'_c = 7$ ksi

SECTION PROPERTIES
$I = 233409$ in$^4$
$r = 17.4$ in
$A = 770$ in$^2$
$w = 845$ plf
Perimeter = 169.6 in

$\frac{l}{r}$ = effective unsupported length of the pile / radius of gyration

54' 4" Hollow Pile
21 strands
$fc = 7$ ksi

AXIAL LOAD $\phi P_n$ (kips)

BENDING MOMENT $\phi Mn$ (ft.k.)
54" HOLLOW ROUND PILE
21 strands, $f'_c = 8$ ksi

SECTION PROPERTIES
\[ l = 233409 \text{ in}^4 \]
\[ r = 17.4 \text{ in} \]
\[ A = 770 \text{ in}^2 \]
\[ w = 845 \text{ plf} \]
Perimeter = 169.6 in

\( l/r \) = effective unsupported length of the pile / radius of gyration

54' 4 4'' Hollow Pile
21 strands
\( f_c = 8 \) ksi
54" HOLLOW ROUND PILE
38 strands, $f'_c = 6$ ksi

SECTION PROPERTIES

\[ l = 233409 \text{ in}^4 \]
\[ r = 17.4 \text{ in} \]
\[ A = 770 \text{ in}^2 \]
\[ w = 845 \text{ plf} \]
\[ \text{Perimeter} = 169.6 \text{ in} \]

\[ l/r = \text{effective unsupported length of the pile} / \text{radius of gyration} \]

54' 4 4" Hollow Pile
38 strands
$fc = 6$ ksi

AXIAL LOAD vs. BENDING MOMENT graph

- $\phi P_n$ (kips)
- $\phi M_n$ (ft.k.)

Graph shows the relationship between axial load and bending moment for different values of $l/r$. The graph includes curves for various values of $l/r$.
54" HOLLOW ROUND PILE
38 strands, $f'_{c} = 7$ ksi

SECTION PROPERTIES

\[ l = 233409 \text{ in}^4 \]
\[ r = 17.4 \text{ in} \]
\[ A = 770 \text{ in}^2 \]
\[ w = 845 \text{ plf} \]

Perimeter = 169.6 in

\[ l/r = \text{effective unsupported length of the pile / radius of gyration} \]

54' 4 4" Hollow Pile
38 strands
$fc = 7$ ksi

AXIAL LOAD $\phi P_n \text{ (kips)}$

BENDING MOMENT $\phi M_n \text{ (ft.k.)}$
54" HOLLOW ROUND PILE
38 strands, $f'_c = 8$ ksi

SECTION PROPERTIES
- $I = 233409$ in$^4$
- $r = 17.4$ in
- $A = 770$ in$^2$
- $w = 845$ psf
- Perimeter = 169.6 in

$1/r = \text{effective unsupported length of the pile} / \text{radius of gyration}$

54' 4" Hollow Pile
38 strands
$f_c = 8$ ksi

Graph showing the relationship between axial load and bending moment for a 54" hollow round pile with 38 strands.