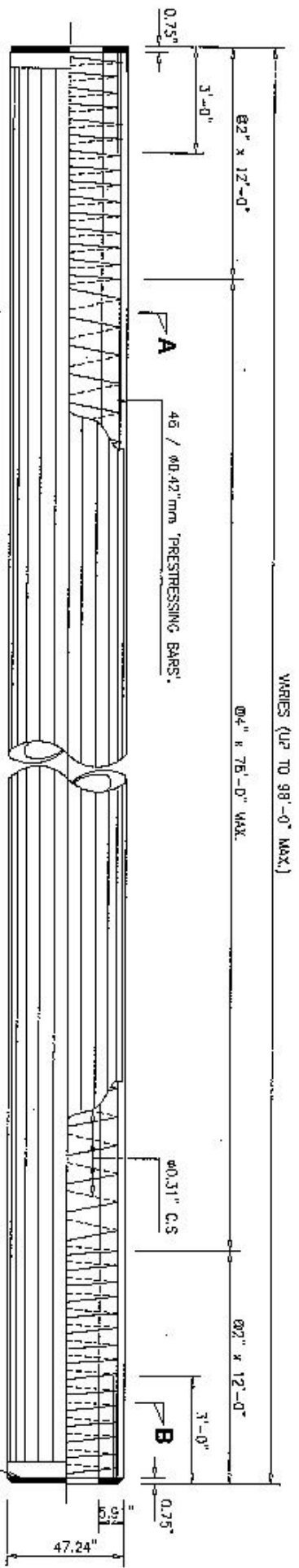


INDUSTRIAL CONCRETE PRODUCTS BERHAD

Pile Properties For Ø 47.24" x 5.91" Spun Pile - ACI Design

Nominal pile diameter	D	1,200 mm 47.24 in
Nominal pile wall thickness	t	150 mm 5.91 in
PCD		1050 mm 41.34 in
Area of concrete	A_g	766.94 in ²
Diameter of PC bars	d	10.7 mm 0.42 in
Number of PC bars	n	46
Total area of steel	A_{ps}	6.41 in ²
Section modulus	S_b	7,320.75 in ³
Concrete Properties		
Concrete cylinder strength	f'_c	10,152 psi
Unit weight of concrete	w_c	150 pcf
Modulus of elasticity of concrete	E_c	5,292,703 psi
Compressive stress in concrete due to effective prestress	f_{pc}	1,033 psi
Constant for stiffness	K	7.50
Constant for nominal concrete	λ	1.00
Modulus of rupture of concrete, $K \lambda (f'_c)^{0.5}$	f_r	756 psi
Concrete stress block factor	β_1	0.65
PC Bars Properties		
Modulus of elasticity of prestressing reinforcement	E_{ps}	27,567,170 psi
Tensile strength of prestressing reinforcement	f_{pu}	205,954 psi
Effective stress in prestressing reinforcement, $0.6 f_{pu}$	f_{se}	123,572 psi

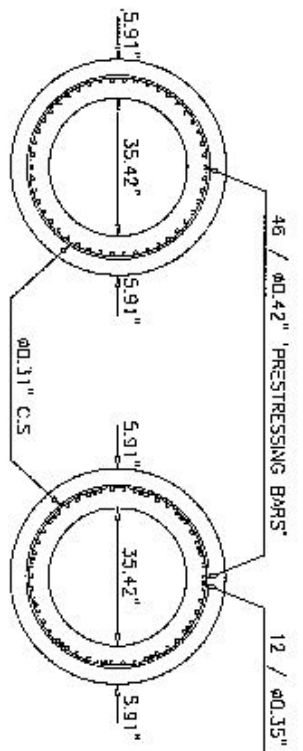
Service axial load, $(0.33f'_c - 0.27f_{pe}) A_g$	N	2,355 kips
Nominal axial load, $0.85 f'_c (A_g - A_{ps}) - A_{ps}(f_{se} - 0.003 E_{ps})$	P_n	6,301 kips
Factored nominal axial load, $0.85 \times 0.75 P_n$	ϕP_n	4,017 kips
Cracking moment capacity, $[(f_{se} A_{ps}/A_g) + f_r] S_b$	M_{cr}	1,091 kips-ft
Nominal moment capacity, $0.85 f'_c A' c (y_t - y') - \Sigma[A_{ps} f_{ps} (d - y')]$	M_n	2,128 kips-ft
Factored nominal moment capacity, $0.9 M_n$	ϕM_n	1,915 kips-ft
Unit weight of pile		1286.48 kg/m



VARIABLES (UP TO 98'-0" MAX.)

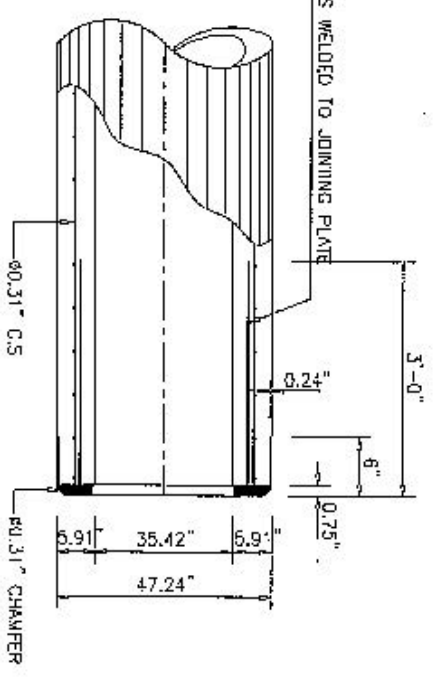
Ø4" x 76'-0" MAX.

Ø2" x 12'-0"



SECTION A-A

SECTION B-B



DETAILS OF JOINTING PLATE

SECTIONAL DETAILS

M.S. JOINTING PLATE

THE DRAWING SHALL NOT BE REPRODUCED, COPIED, LOANED, IN WHOLE OR IN PART, WITHOUT THE WRITTEN PERMISSION OF THE ENGINEER. ANY REVISIONS SHALL BE INDICATED BY A REVISION TABLE AND APPROVED BY THE ENGINEER. THE ENGINEER'S OFFICE SHALL BE NOTIFIED OF ANY SUCH REVISIONS.

PROJECT TITLE :

PILE SIZE Ø47.24" x 5.91"



INDUSTRIAL CONCRETE PRODUCTS BERHAD

2ND FLOOR, WISMA ICA, 48 TONG SUKHOE RD,
KUALA LUMPUR, MALAYSIA
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NOTES :-

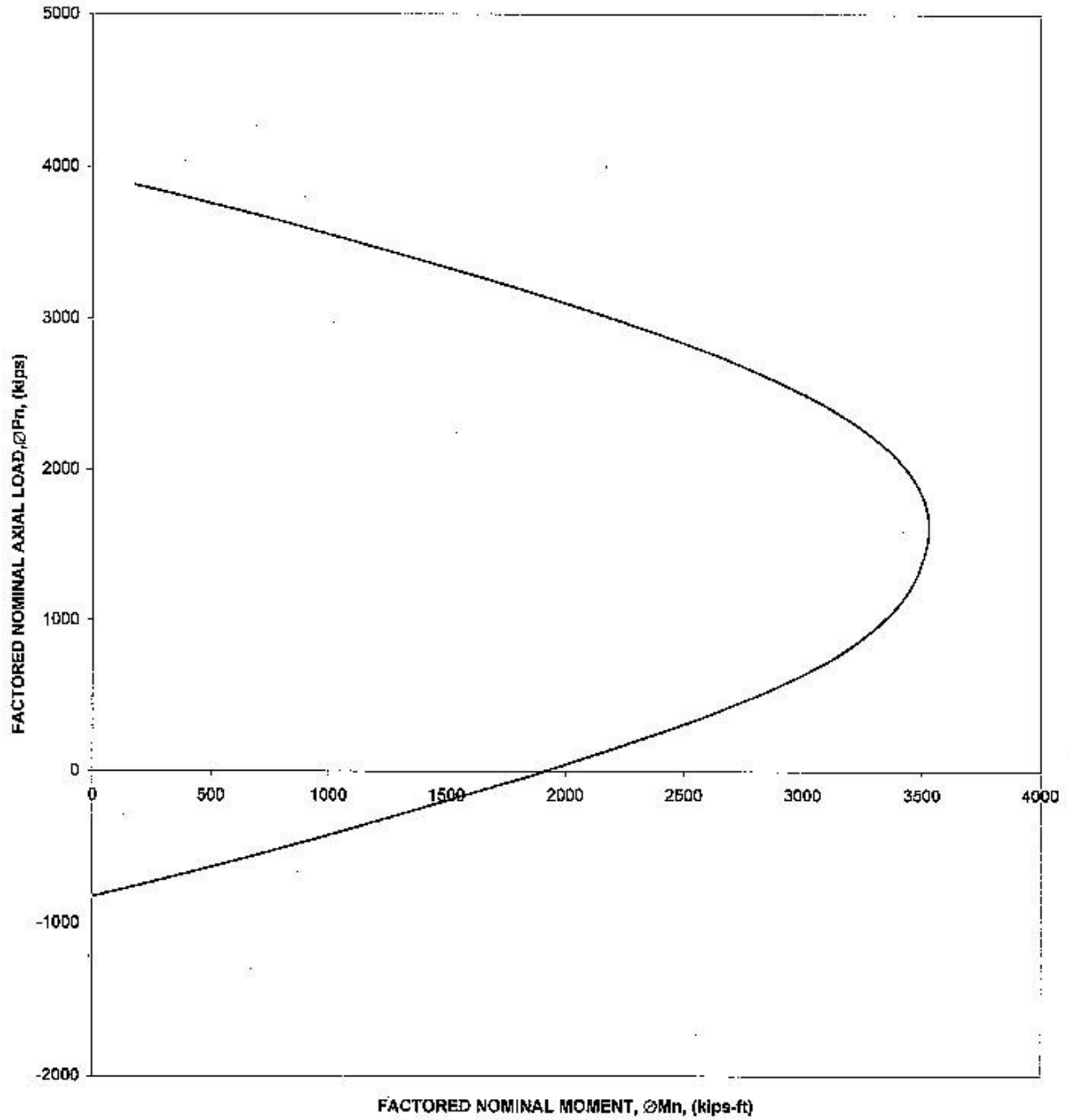
1. PRESTRESSING BAR CONFORM TO JIS C 3137:1994 OR EQUIVALENT.
2. CONFINEMENT STEEL (C.S) SHALL BE HARD DRAWN TO ASTM A62-97A.
3. OTHER REINFORCEMENTS TO BE M.S. OR H.T BARS TO ASTM A615 OR EQUIVALENT.
4. EQUIVALENT CYLINDER STRENGTH :-
a) AT TRANSFER 4,000 psi.
b) AT 28 DAYS 10,152 psi.
5. ALL PILES WILL BE SUPPLIED WITH MILD STEEL EXTENSION PLATES FOR SPLICING.
6. ALL WELDING SHALL BE IN ACCORDANCE TO AWS D1.4 OR EQUIVALENT.
7. ORDINARY PORTLAND CEMENT ASTM C150-72 OR EQUIVALENT SHALL BE USED.
8. ALL DIMENSIONS IN IMPERIAL UNIT.

DESIGNED BY:	DATE:	SCALE:	APPROVED BY:
<i>[Signature]</i>	16/04/2007	1:1	<i>[Signature]</i>
DRAWN BY:	DATE:	SCALE:	
PROJECT NO.:	PROJECT TITLE:	PROJECT LOCATION:	
ICP/47.24x5.91-07/001			



INDUSTRIAL CONCRETE PRODUCTS BERHAD .

INTERACTION CURVE FOR 47.24" x 5.91" ICP PILE





INDUSTRIAL CONCRETE PRODUCTS BERHAD

INTERACTION GRAPH FOR 47.24" x 5.91" ICP PILE

