DAFTAR PUSTAKA

Annur, Dini Fitria. 2013. *Perencanaan Precast Concrete I Girder pada Jembatan Prestressed Post-tension denganBantuan Program Microsoft Office Excel.* Tugas Akhir Departemen Teknik Sipil Universitas Sumatera Utara,Medan.

Anonim1. 1992. Bridge Management System (BMS). *Peraturan Perencanaan Teknik Jembatan.* Departemen Pekerjaan Umum, Direktorat Jendral Bina Marga, Direktorat Bina Program Jalan.

Anonim2. 2005. Standar Nasional Indonesia. *Perencanaan Struktur Beton untuk Jembatan*. Departemen Pekerjaan Umum.

Anonim3. 2004. Standar nasional Indonesia. *Perencanaan Struktur Beton untuk Jembatan*. Departemen Pekerjaan Umum.

Anonim4. ACI-ASCE Joint Committee 423. 1957.

Hadipratomo, Winarni. 1994. *Struktur Beton Prategang Teori dan Prinsip Desain*. Bandung : Nova.

Lin, T. Y dan Burns, Ned. H. 2000. *Desain Struktur Beton Prategang Edisi Ketiga Jilid I*. Jakarta : Binarupa Aksara.

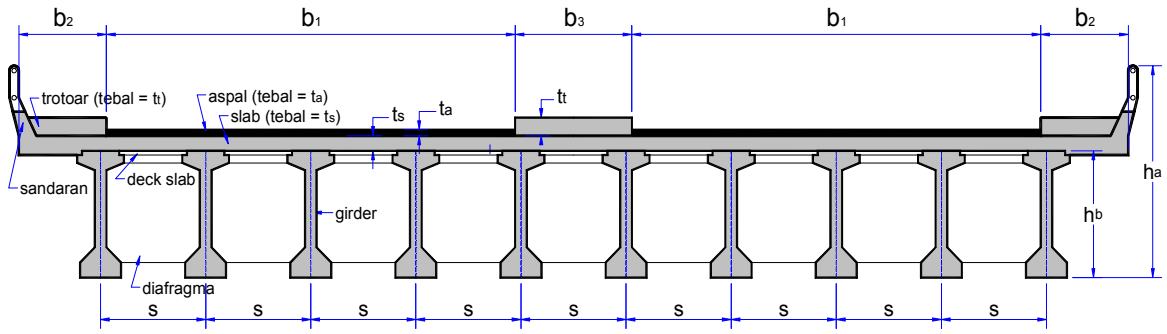
Nawy, Edward. G. 2001. *Beton Prategang Suatu Pendekatan Mendasar. Jilid I Edisi III*. Terjemahan Bambang Suryoatmono. Jakarta : Erlangga.

Supriyadi, Bambang dan Seto Muntohar, Agus. 2007. *Jembatan.* Diktat Kuliah Institut Teknologi Sepuluh November, Surabaya.

PERHITUNGAN SLAB LANTAI JEMBATAN

JEMBATAN SRANDAKAN KULON PROGO D.I. YOGYAKARTA

A. DATA SLAB LANTAI JEMBATAN



Tebal slab lantai jembatan	t_s =	0.20	m
Tebal lapisan aspal + overlay	t_a =	0.10	m
Tebal genangan air hujan	t_h =	0.05	m
Jarak antara balok prategang	s =	1.80	m
Lebar jalur lalu-lintas	b_1 =	7.00	m
Lebar trotoar	b_2 =	1.50	m
Lebar median (pemisah jalur)	b_3 =	2.00	m
Lebar total jembatan	b =	19.00	m
Panjang bentang jembatan	L =	40.00	m

B. BAHAN STRUKTUR

Mutu beton :	**K -** 300		
Kuat tekan beton	$f_c' = 0.83 * K / 10$ =	24.90	MPa
Modulus elastik	$E_c = 4700 * \sqrt{f_c'}$ =	23453	MPa
Angka poisson	υ =	0.2	
Modulus geser	$G = E_c / [2*(1 + u)]$ =	9772	MPa
Koefisien muai panjang untuk beton,	α =	1.0E-05	/ ºC

TABLE R18.3.3 — SERVICEABILITY DESIGN REQUIREMENTS

	Prestressed			Nonprestressed
	Class U	**Class T**	**Class C**	
Assumed behavior	Uncracked	Transition between uncracked and cracked	Cracked	Cracked
Section properties for stress calculation at service loads	Gross section 18.3.4	Gross section 18.3.4	Cracked section 18.3.4	No requirement
Allowable stress at transfer	18.4.1	18.4.1	18.4.1	No requirement
Allowable compressive stress based on uncracked section properties	18.4.2	18.4.2	No requirement	No requirement
Tensile stress at service loads 18.3.3	$\leq 0.62\sqrt{f_c'}$	$0.62\sqrt{f_c'} < f_t \leq \sqrt{f_c'}$	No requirement	No requirement
Deflection calculation basis	9.5.4.1 Gross section	9.5.4.2 Cracked section, bilinear	9.5.4.2 Cracked section, bilinear	9.5.2, 9.5.3 Effective moment of inertia
Crack control	No requirement	No requirement	10.6.4 Modified by 18.4.4.1	10.6.4
Computation of f_{ps} or f_s for crack control	—	—	Cracked section analysis	$M/(A_s \times \text{lever arm})$, or $0.6f_y$
Side skin reinforcement	No requirement	No requirement	10.6.7	10.6.7

18.3.3 — Prestressed flexural members shall be classified as Class U, Class T, or Class C based on f_t, the computed extreme fiber stress in tension in the precompressed tensile zone calculated at service loads, as follows:

(a) Class U: $f_t \leq 0.62\sqrt{f_c'}$
(b) Class T: $0.62\sqrt{f_c'} < f_t \leq 1.0\sqrt{f_c'}$
(c) Class C: $f_t > 1.0\sqrt{f_c'}$

Prestressed two-way slab systems shall be designed as Class U with $f_t \leq 0.50\sqrt{f_c'}$.

18.3.4 — For Class U and Class T flexural members, stresses at service loads shall be permitted to be calculated using the uncracked section. For Class C flexural members, stresses at service loads shall be calculated using the cracked transformed section.

18.4.1 — Stresses in concrete immediately after prestress transfer (before time-dependent prestress losses):

(a) Extreme fiber stress in compression except as permitted in (b) shall not exceed..... $0.60f_{ci}'$

(b) Extreme fiber stress in compression at ends of simply supported members shall not exceed .. $0.70f_{ci}'$

(c) Where computed concrete tensile strength, f_t, exceeds $0.50\sqrt{f_{ci}'}$ at ends of simply supported members, or $0.25\sqrt{f_{ci}'}$ at other locations, additional bonded reinforcement shall be provided in the tensile zone to resist the total tensile force in concrete computed with the assumption of an uncracked section.

UNIVERSITAS
MERCU BUANA

KARTU ASISTENSI

NAMA : Fella Supazaein
NIM : 41110010052
FAK/JUR : FTSP/ T. Sipil

MATA KULIAH : TA
SMT/THN.AKAD : 8/2014
DOSEN : Dr. Ir. Resmi Bestari Muin.

NO.	TGL	KETERANGAN	PARAF	NO.	TGL	KETERANGAN	PARAF
1		Perbaiki Bab I				- Konsep ≡ lebih dilengkapi - Perbaiki perhitungan	
2	19/3/14	Perbaiki Bab II				As dengan tegangan izin yg sudah dihitung	
3	30/3/14	Ok seminar				- ACI pasal berapa u/ tegangan izin	
4	25/4/14	- Bab III sudah direvisi data≡ balok post tension sudah dimasukan.		5	3/7/14	- perbaiki P.C - Pelajari konsep prategang dari literatur ≡ (T. Y. Lin)	
		- Persamaan momen dan gaya geser diperlihatkan ilustrasinya.				- perbaiki penulisan konsep prategang bab II. - Kehilangan prategang dari code yg sa	
		- Standar? ~~Kombinasi~~ - Diagram dibedakan					
		~~A~~ - Font tabel diperbesar		6	8/7/14	- Daftar isi - Daftar pustaka - ~~Abstrak~~	
		- Buat diagram alir analisa balok pre-tensionnya.				- ~~Keterangan simbol≡~~ - Kesimpulan dino-2 hasil (angka & rumus)	
		- ~~fs' pakai~~ berapa - lebih dirinci mengapa ~~mengapa~~ memakai tegangan efektif di Bab 2.				- ~~Kutipan~~ Pelajari rumus≡ dan diagramnya. - Notasi rumus≡ - OK daftar sidang sambil diperbaiki	