

ACI/CRSI COMMITTEE CORRESPONDENCE

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October 17, 2010

Memorandum to: Members ACI/CRSI Committee 315 - Details of Concrete Reinforcement

Gregory P. Birley	Dennis L. Hunter	Christopher J. Perry
Mihaela Birley	David W. Johnston	Roy H. Reiterman
Richard H. Birley	Mahamoud E. Kamara	Scott Richardson
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Ronald D. Flach	James S. Lai	Thomas G. Schmaltz
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Jay A. Hetherington	Donald E. Milks	Richard D. Thomas
Bruce H. Hirsch	Paul Nims	

From: Anthony L. Felder
Secretary

Subject: Meeting Notice and Agenda
October 24, 2010
David L. Lawrence Convention Center
Pittsburgh, Pennsylvania

Our next meeting will be held on Sunday, October 24, 2010 from 2:00 p.m. to 5:00 p.m. in Room 318 of the David L. Lawrence Convention Center.

A proposed agenda is attached.

Copy to: David J. Bird, TAC Contact
Daniel W. Falconer, ACI Technical Director

AGENDA
ACI/CRSI COMMITTEE 315 - DETAILS OF CONCRETE REINFORCEMENT

October 24, 2010

- 1. 2:00 p.m. - call meeting to order**
- 2. Approval of minutes of last meeting, March 21, 2010, distributed September 29, 2010**
- 3. Committee membership changes since last meeting. See Exhibit 1, current roster.**
- 4. *ACI 315 Standard***
 - a. Ballot to re-approve ACI 315-99**
 - b. Conference call with ACI Staff concerning TAC's decision to not approve the 315 Standard**
 - c. Future plans for the 315 Standard, including report from Task Group (Hawkinson, Hall, Hunter and Hetherington) on stream-lining the Standard**
- 5. *ACI/CRSI 315 Guidelines***
 - a. Continued discussion of non-mandatory document**
 - b. Updated outline, including the addition of BIM, Seismic and Nuclear (Hall)**
 - c. Review of Jim Lai's draft chapters on two-way slabs and detailing for earthquake resistant structures. See Attachment 4 of 3/21/10 meeting minutes.**
- 6. ACI Subcommittee B – Toolbox Series. Progress report.**

Secretary's Note: Subcommittee B is scheduled to meet on Sunday, October 24, 2010 from 8:30 a.m. to 11:30 a.m. in Room 315 of the David L. Lawrence Convention Center.
- 7. Nuclear Verbatim Compliance. Continue discussion of new hook dimensions. See Exhibit 2.**
- 8. New Business**

ACI/CRSI COMMITTEE 315 ROSTER October 2010

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February 13, 2010

From: Dick Birley
Subject: Concrete International Article – Issues regarding Nuclear Verbatim Compliance
To: Tony Felder
Committee 315 – Detailing

At the meeting in New Orleans the committee gave me the task of preparing an article about the report of the Committee 315-B Task Group on "*Issues regarding Nuclear Verbatim Compliance*", to be published in Concrete International.

Since that time, another issue regarding nuclear quality assurance has arisen regarding how to measure finished 135° and 180° hooks. The ACI 315 bend schedules for these bends give the pre-fabrication dimensions, A and G. However, there is no information on the schedule to show the dimensions of the finished bends other than to indicate that the extension of the bends are to be 6 or 4 bar diameters respectively. The Quality Assurance personnel on at least one current nuclear project have taken exception to this omission.

To satisfy them, we have prepared bend schedules that include these dimensions. I have attached these schedules for the committee's review and approval for inclusion in the new detailing manual.

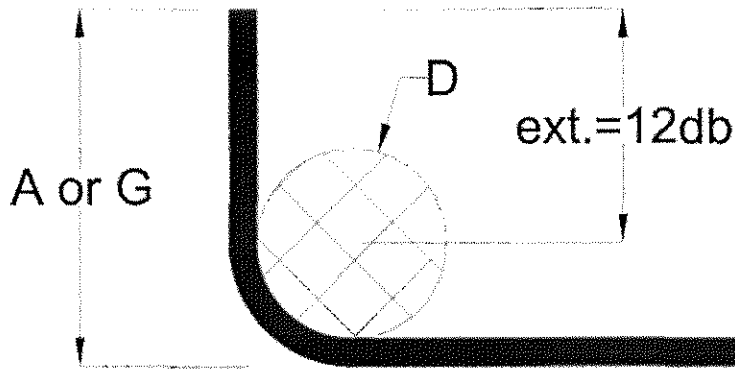
I will include these schedules in the article for Concrete International so both issues are published at once.

Regards,

Dick Birley,
315-B Constructibility

ACI 318
GRADE = ALL GRADES

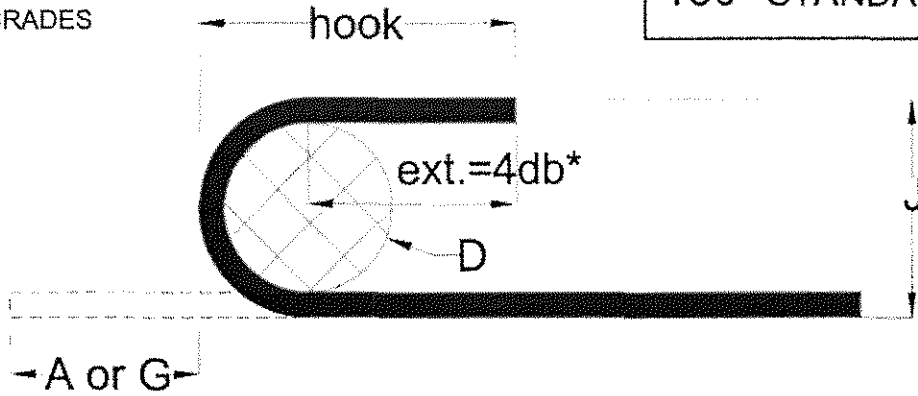
90° STANDARD HOOKS



BAR SIZE	NOMINAL DIAMETER (in.) db	FINISHED BEND DIAMETER (in.) D	(in.) A or G	(in.) ext.
#3	0.375	2.25	6.00	4.50
#4	0.500	3.00	8.00	6.00
#5	0.625	3.75	10.00	7.50
#6	0.750	4.50	12.00	9.00
#7	0.875	5.25	14.00	10.50
#8	1.000	6.00	16.00	12.00
#9	1.128	9.5	19.00	13.50
#10	1.270	10.75	22.00	15.25
#11	1.410	12.00	24.00	17.00
#14	1.693	18.25	31.00	20.25
#18	2.257	24.00	41.00	27.00

ACI 318
GRADE = ALL GRADES

180° STANDARD HOOKS

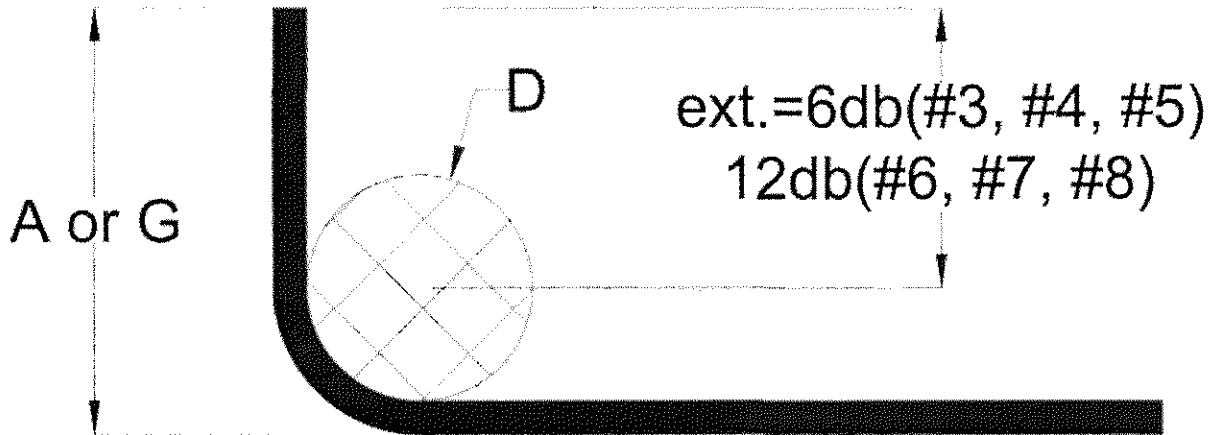


* minimum 2.5"

BAR SIZE	NOMINAL DIAMETER (in.) db	FINISHED BEND DIAMETER (in.) D	(in.) A or G	(in.) J	(in.) ext.	(in.) hook
#3	0.375	2.25	5.00	3.00	2.50	4.00
#4	0.500	3.00	6.00	4.00	2.50	4.50
#5	0.625	3.75	7.00	5.00	2.50	5.00
#6	0.750	4.50	8.00	6.00	3.00	6.00
#7	0.875	5.25	10.00	7.00	3.50	7.00
#8	1.000	6.00	11.00	8.00	4.00	8.00
#9	1.128	9.5	15.00	11.75	4.50	10.50
#10	1.270	10.75	17.00	13.25	5.00	11.75
#11	1.410	12.00	19.00	14.75	5.75	13.00
#14	1.693	18.25	27.00	17.75	6.75	17.50
#18	2.257	24.00	36.00	28.50	9.00	23.25

ACI 318
GRADE = ALL GRADES

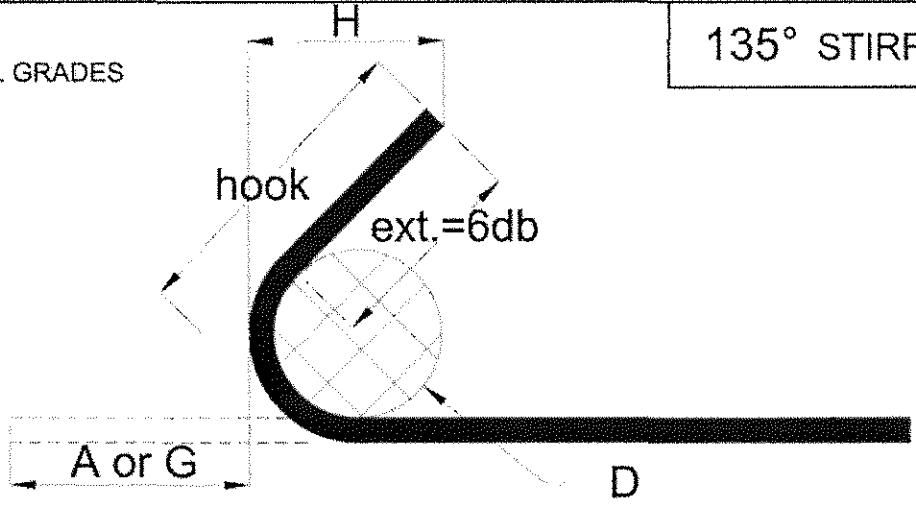
90° STIRRUP HOOKS



BAR SIZE	NOMINAL DIAMETER (in.) db	FINISHED BEND DIAMETER (in.) D	(in.) A or G	(in.) ext.
#3	0.375	1.50	4.00	2.25
#4	0.500	2.00	4.50	3.00
#5	0.625	2.50	6.00	3.75
#6	0.750	4.50	12.00	9.00
#7	0.875	5.25	14.00	10.50
#8	1.000	6.00	16.00	12.00

ACI 318
GRADE = ALL GRADES

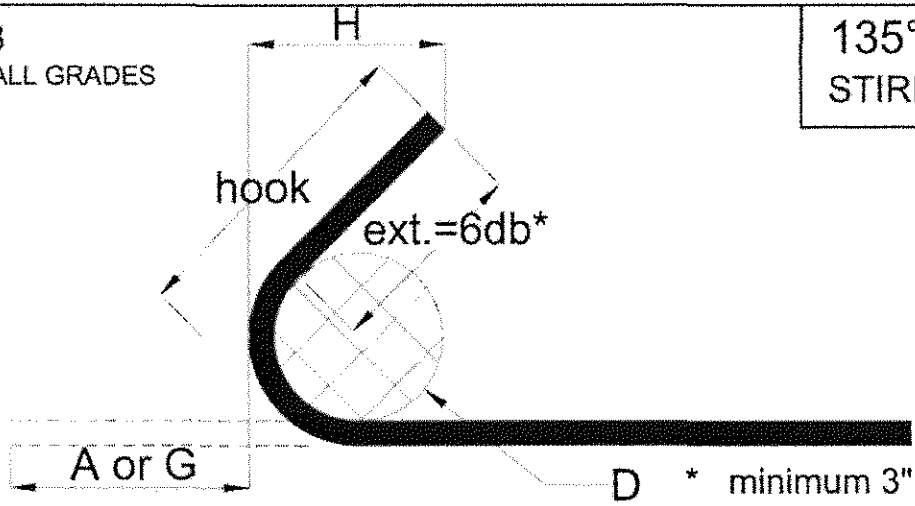
135° STIRRUP HOOKS



BAR SIZE	NOMINAL DIAMETER (in.) db	FINISHED BEND DIAMETER (in.) D	(in.) A or G	(in.) ext.=6db	(in.) H (Approx.)	(in.) hook
#3	0.375	1.50	4.00	2.25	2.50	3.50
#4	0.500	2.00	4.50	3.00	3.00	4.50
#5	0.625	2.50	5.50	3.75	3.75	5.75
#6	0.750	4.50	8.00	4.50	4.50	7.50
#7	0.875	5.25	9.00	5.25	5.25	8.75
#8	1.000	6.00	10.50	6.00	6.00	10.00

ACI 318
GRADE = ALL GRADES

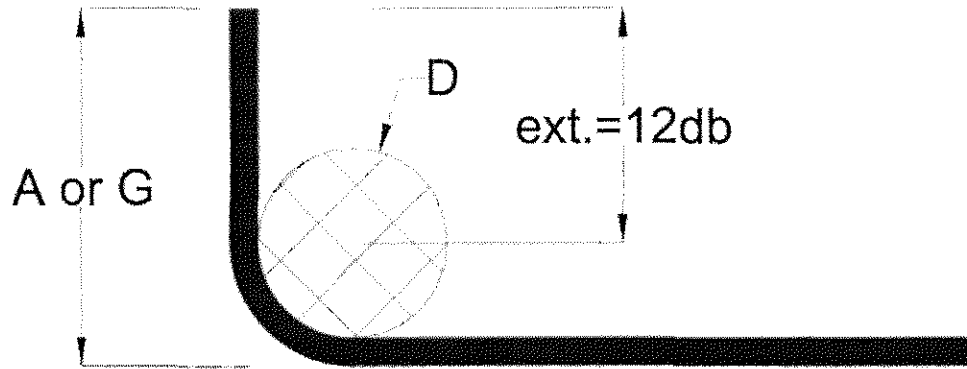
135° SEISMIC
STIRRUP HOOKS



BAR SIZE	NOMINAL DIAMETER (in.) db	FINISHED BEND DIAMETER (in.) D	(in.) A or G	(in.) ext.=6db*	(in.) H (Approx.)	(in.) hook
#3	0.375	1.50	4.25	3.00	3.00	4.25
#4	0.500	2.00	4.50	3.00	3.00	4.50
#5	0.625	2.50	5.50	3.75	3.75	5.75
#6	0.750	4.50	8.00	4.50	4.50	7.50
#7	0.875	5.25	9.00	5.25	5.25	8.75
#8	1.000	6.00	10.50	6.00	6.00	10.00

ACI 318M
GRADE = ALL GRADES

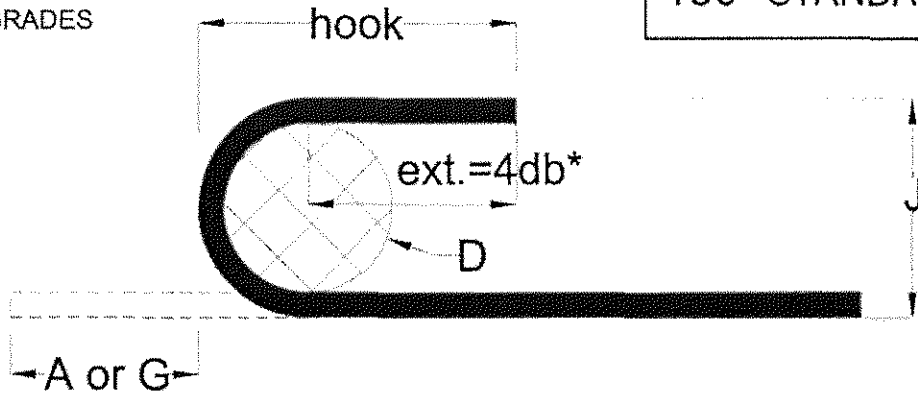
90° STANDARD HOOKS



BAR SIZE	NOMINAL DIAMETER (mm) db	FINISHED BEND DIAMETER (mm) D	(mm) A or G	(mm) ext.
#10	9.5	60	150	115
#13	12.7	80	200	155
#16	15.9	95	250	190
#19	19.1	115	300	230
#22	22.2	135	375	270
#25	25.4	155	425	305
#29	28.7	240	475	345
#32	32.3	275	550	390
#36	35.8	305	600	430
#43	43.0	465	775	520
#57	57.3	610	1050	690

ACI 318M
GRADE = ALL GRADES

180° STANDARD HOOKS

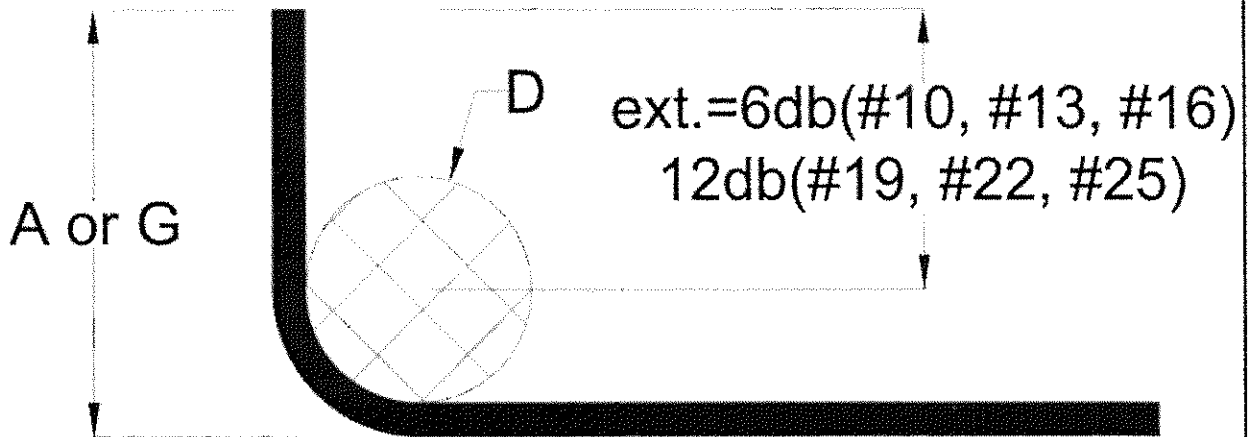


* minimum 60mm

BAR SIZE	NOMINAL DIAMETER (mm)	FINISHED BEND DIAMETER (D) (mm)	(mm) A or G	(mm) J	(mm) ext.	(mm) hook
#10	9.5	60	125	80	60	100
#13	12.7	80	150	105	60	115
#16	15.9	95	175	130	65	130
#19	19.1	115	200	155	80	155
#22	22.2	135	250	180	90	180
#25	25.4	155	275	205	105	205
#29	28.7	240	375	300	115	265
#32	32.3	275	425	335	130	300
#36	35.8	305	475	375	145	335
#43	43.0	465	675	550	175	450
#57	57.3	610	925	725	230	595

ACI 318M
 GRADE = ALL GRADES

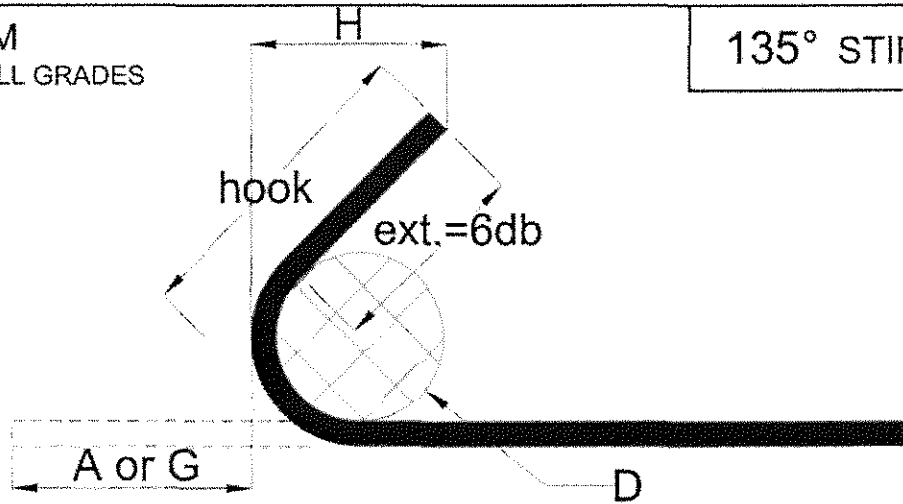
90° STIRRUP HOOKS



BAR SIZE	NOMINAL DIAMETER (mm)	FINISHED BEND DIAMETER (mm)	(mm)	(mm)
	db	D	A or G	ext.
#10	9.5	40	105	60
#13	12.7	50	115	80
#16	15.9	65	155	95
#19	19.1	115	305	230
#22	22.2	135	355	270
#25	25.4	155	410	305

ACI 318M
GRADE = ALL GRADES

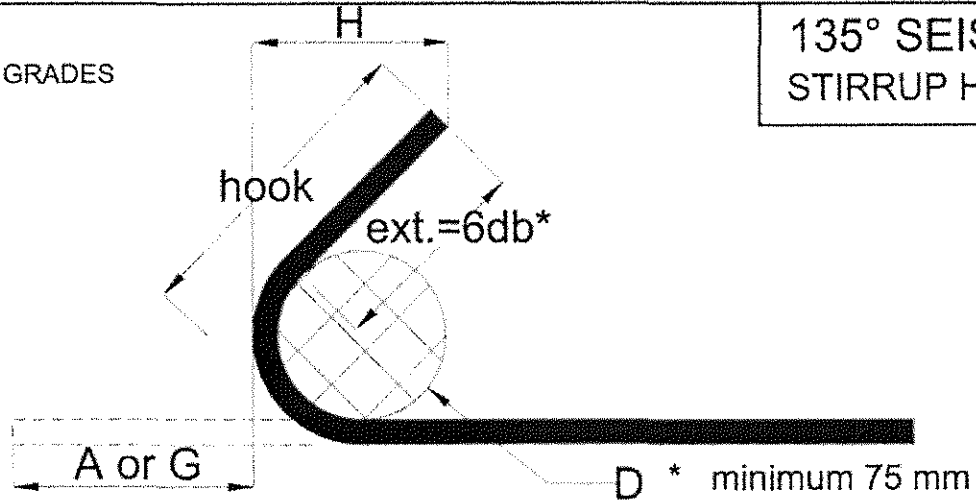
135° STIRRUP HOOKS



BAR SIZE	NOMINAL DIAMETER (mm)	FINISHED BEND DIAMETER (mm)	(mm)	(mm)	(mm)	(mm)
	db	D	A or G	ext.=6db	H (Approx.)	hook
#10	9.5	40	105	60	65	90
#13	12.7	50	115	80	80	115
#16	15.9	65	140	95	95	145
#19	19.1	115	205	115	115	195
#22	22.2	135	230	135	135	225
#25	25.4	155	270	155	155	255

ACI 318M
GRADE = ALL GRADES

135° SEISMIC
STIRRUP HOOKS



BAR SIZE	NOMINAL DIAMETER (mm) db	FINISHED BEND DIAMETER (mm) D	(mm) A or G	(mm) ext.=6db*	(mm) H (Approx.)	(mm) hook
#10	9.5	40	110	75	80	105
#13	12.7	50	115	80	80	115
#16	15.9	65	140	95	95	145
#19	19.1	115	205	115	115	195
#22	22.2	135	230	135	135	225
#25	25.4	155	270	155	155	255