



February 10, 2016

AGRICULTURAL WASTE MANAGEMENT FIELD HANDBOOK (NEH PART 651)
210 - ENGINEERING
NOTICE WI-48

SUBJECT: ENG – National Engineering Handbook (NEH), Part 651, Agricultural Waste Management Field Handbook (AWMFH).

Purpose. Updates to Expansive Waterstop Summary

Explanation of Changes. Updated the clearance for Hydrotite to 2-inches of concrete cover.

Filing Instructions (AWMFH):

Remove:

Directive Tabulation Sheet dated January 2016
Pages 10-WI-3 thru 10-WI-4

Insert:

Directive Tabulation Sheet dated February 2016
Pages 10-WI-3 thru 10-WI-4

Wisconsin supplements and transmittal notices for the AWMFH can be found on the Wisconsin NRCS website at <http://www.nrcs.usda.gov/wps/portal/nrcs/detail/wi/technical/engineering/>.

JIMMY BRAMBLETT
State Conservationist

Attachments

DIRECTIVE TABULATION SHEET

Title No. 210

**Directive Name/Type: Agricultural Waste Management Field Handbook
 Wisconsin**

Directive Number	Issue Date	Part, Subpart, Pages, etc., or Bulletin Subject
WI-1	9/8/1992	Issues interim instructions for filing previous AWMFM WI supplements.
WI-2	11/3/1992	Instructions for filing AWMFM supplements.
WI-3	3/18/1994	Superseded by WI-14.
WI-4	10/11/1994	Canceled by National Revision.
WI-5	2/1995	Superseded by WI-18.
WI-6	2/1995	Superseded by WI-35.
WI-7	2/1995	Superseded by WI-20.
WI-8	2/1995	Superseded by WI-20.
WI-9	2/1995	Canceled by WI-25.
WI-10	2/1995	Superseded by WI-20.
WI-11	2/1995	Superseded by WI-35.
WI-12	2/23/1995	Change Notices 5-11, correct Notice 3.
WI-13	4/20/1995	Chapter 1 DATCP-DFS Regional Offices map.
WI-14	2/12/1999	Chapter 13, Manure Storage Safety, ASAE Publication.
WI-15	3/1/1999	Superseded by WI-18.
WI-16	3/16/1999	Chapter 13 Documents Reissued due to copy problems.
WI-17	4/15/1999	Chapter 16 USGS Fact Sheet on Barnyards.
WI-18	10/06/1999	Superseded by WI-25.
WI-19	1/13/2000	Superseded by WI-35.
WI-20	12/11/2001	Superseded by WI-45.
WI-21	1/23/2002	Superseded by WI-45.
WI-22	2/14/2002	Superseded by WI-25.
WI-23	5/12/2003	Superseded by WI-25.
WI-24	4/14/2004	Superseded by WI-25.
WI-25	1/26/2005	Superseded by WI-43.
WI-26	10/3/2005	Superseded by WI-29.
WI-27	12/1/2005	Superseded by WI-43.
WI-28	11/20/2007	Superseded by WI-29.
WI-29	8/1/2008	Chapter 10, Revised Companion Documents 635-1 through 4 (Companion Documents 635-1 through 3 Superseded by WI-30). Companion Document 629-1. (Superseded by WI-34).
WI-30	11/26/2008	Chapter 10, Revised Companion Documents 635-1 through 3.
WI-31	4/16/2009	Superseded by WI-43.
WI-32	5/14/2009	Chapter 10, Remove Companion Document 635-4.

DIRECTIVE TABULATION SHEET

Title No. 210

**Directive Name/Type: Agricultural Waste Management Field Handbook
 Wisconsin**

Directive Number	Issue Date	Part, Subpart, Pages, etc., or Bulletin Subject
WI-33	11/2/2012	Chapter 10, Companion Document 634.
WI-34	11/6/2012	Chapter 10, Companion Document 629-1.
WI-35	1/14/2014	Superseded by WI-44.
WI-36	2/6/2014	Superseded by WI-47.
WI-37	2/10/2014	Superseded by WI-40.
WI-38	2/21/2014	Superseded by WI-47.
WI-39	2/26/2014	Superseded by WI-41.
WI-40	3/24/2014	Superseded by WI-47.
WI-41	10/3/2014	Superseded by WI-47.
WI-42	2/13/2015	Superseded by WI-47.
WI-43	2/25/2015	Chapter 10, All Standard 313 Companion Documents revised.
WI-44	9/21/2015	Chapter 10, Corrected animal lot space guidelines.
WI-45	1/4/2016	Chapter 9, Removed pages WI-9-1 thru WI-9-9.
WI-46	1/5/2016	Chapter 10, Insert pages 10-WI-i and 10-WI-3.
WI-47	1/28/2016	Chapter 10, Updates to the Pre-Engineered Waste Storage Facility Information.
WI-48	2/10/2016	Chapter 10, Updates to 10-WI-3, Expansive Waterstop Summary.

Expansive Waterstop Material Summary 2/4/2016
 Refer to Wisconsin Construction Spec 4 - Concrete and Wisconsin Standard Drawing WI-501

Product	Company	Type	Size	Required Conc. Cover (1)	Expansion (by volume, in water)	Cure Time	Delayed expansion (Y/N)	Adhesive req'd (Y/N)	Adhesive Type	Material Description/Notes	Materials	Product Links
SwellSeal 2010	de neef Conchem	Preformed strip	3/8"x3/4"	≥ 3.5"	100% (10 days)	immediate (unless SwellSeal WA mastic is used)	Y	Y	Nails or adhesive	roll fixed by nails or by use of SwellSeal WA mastic or Denepox Gel 125. Locate between inner and outer rebar. If becomes wet, allow to dry and shrink back to original size prior to concrete placement.	hydrophilic expanding rubber strip	SwellSeal 2010
SwellSeal Joint	de neef Conchem	Preformed strip	1"x5/16"	≥ 3-7/4"	500% (4 days)	immediate (unless SwellSeal WA mastic is used)	N	Y	Nails or adhesive	roll fixed by nails or by use of SwellSeal WA mastic or Denepox Gel 125. Locate between inner and outer rebar. If becomes wet, allow to dry and shrink back to original size prior to concrete placement.	hydrophilic expanding rubber and chloroprene rubber (pressure compensating tube). Exerts least amount of expansion pressure of the SwellSeal line.	SwellSeal Joint
SwellSeal WA	de neef Conchem	caulk	3/8" bead	≥ 3"	200%	24 to 36 hrs unless cool temps, then up to 15 days	N	N	NA	cartridge or sausage. Standard caulk gun. If becomes wet, concrete must be placed within 2 hrs.	single component hydrophilic mastic	SwellSeal WA
Hydrotite CI-0725-3K	Sika/Greenstreak	Preformed strip	9/32" x 1"	≥ 2"	100% (10 days)	immediate	Y	Y	peel strip or Hydrotite adhesive	roll fixed by peel strip adhesive or contact adhesive. Can use nails also.	hydrophilic expanding modified chloroprene rubber	Hydrotite CI Install Hydrotite CI Brochure
Leakmaster LV-1	Sika/Greenstreak	caulk	1/8" bead 1/4" bead	≥ 2" ≥ 4"	100% (5 days)	24 hrs	Y	N	NA	Caulk tube with capacity of 30 LF for 1/4" bead	caulk type product. Must cure before placing fresh concrete to limit displacement	Leakmaster Info-Install
SikaSwell S-2	Sika	Caulk	5/8" triangular bead size	≥ 4"	100% (7 days)	2-hrs @ 50° to 90°	unknown	N	NA	20-inch limit on drop height, unless 2-day cure. 6" cover required for unreinforced concrete. (1)	one-component polyurethane-based swelling rubber.	SikaSwell S-2 Brochure

Continue on next page

Product	Company	Type	Size	Required Conc. Cover (1)	Expansion (by volume, in water)	Cure Time	Delayed expansion (Y/N)	Adhesive req'd (Y/N)	Adhesive Type	Material Description/Notes	Materials	Product Links
Ultra Seal MC-2005T	Adeka	Preformed strip	3/4" X 3/16"	≥ 4"	100%	unknown	unknown	Y	Adhesive	Apply 3M-2141 adhesive or butyl tape. Use P-201 at splices. MUST be placed between 2 rows of rebar	hydrophilic agent chemically bound to rubber.	Ultra Seal MC-2005T Install MC-2005T Pipe Penetration
ConSeal CS-231	ConSeal	Preformed strip	?	≥ 2"	15 to 35% (24 hours)	Immediate after adhered to primer	unknown	Y	CS-50 or CS-75 Primer and Nails	In addition to primer, nails may be required on vertical surfaces.	rubber-based product with hydrophilic compounds	CS-231 Information CS-231 Install

NOTES:

1. Refer to specific manufacturer's instructions regarding cover. Generally, a layer of rebar between the waterstop and the concrete surface is required to be considered reinforced. Greater cover is generally required for unreinforced concrete.

Materials other than those included on this list are acceptable provided they consist of preformed strips or mastic (caulk) made of hydrophilic materials that expand when subjected to moisture and do not contain bentonite and are installed in accordance with the manufacturer's printed instructions. The products listed on this table are for informational purposes for the designer and their listing does not imply endorsement by the USDA Natural Resources Conservation Service. It is the responsibility of the designer to specify an appropriate expansive waterstop product and to verify that it is installed in accordance with the manufacturer's printed instructions.