



FLEXCEL II

TECHNICAL DATA

FLEXIBLE POLYURETHANE COATING SYSTEM

THE PRODUCT AND ITS USES

Flexcel II is a high build, solvent free, 100% solids elastomeric polyurethane coating. Flexcel II offers outstanding resistance to impact, abrasion and corrosion. Flexcel II features many key attributes including cold temperature cure, non flammability, zero VOCs, worker safety and environmental protection. This product cures to a moderately hard, exceptionally tough rubber-like membrane that adheres tenaciously to the surface of the structure. Flexcel II is a perfect choice for immersion and/or atmospheric exposure on structures where crack bridging and longevity are critical performance concerns.

Flexcel II is supplied in a two component, 1:1 ratio format with balanced viscosities. A choice of setting times is available. With the **Fast Set** version, virtually unlimited film build can be achieved. Typical applications for Flexcel II include chutes and tank interiors in the mining industry, water and wastewater treatment facilities, pulp and paper mills and the food industry.

Flexcel II (AM) This modification contains an EPA-registered Anti-Microbial agent which helps prevent microbiological attack of the coating and the substrate being protected.

APPROVALS AND LISTINGS

US Food & Drug Administration CFR177.1680 dry food contact
NSF International: NSF/ANSI Standard 61 (for Off-white and Gray)



TECHNICAL INFORMATION

PROPERTY	TEST DESCRIPTION	RESULTS
Application Temperatures	N/A	0°C(32°F) to 65°C(150°F)
Initial Setting Time	@ 20°C/70°F	10 minutes (fast set) 30 minutes (delayed set)
Curing Time Before Handling	@ 20°C/70°F	3 times initial set time
Ultimate Cure	@ 20°C/70°F	10 days
Recoat Time*	@ 20°C/70°F	Up to 8 hours
Solids Content	ASTM D-1259	100% (Off-white & Gray) 96 +/- 2% (Black & Brown)
Volatile Organic Compounds (VOCs)	ASTM D-2369	0 grams/litre (Off-white & Gray) <12 grams/litre (Black & Brown)
Theoretical coverage	N/A	1000 m ² /litre/micron (1604 ft ² /us gallon/mil) Off-white & Gray 950 m ² /litre/micron (1540 ft ² /us gallon/mil) Black & Brown
Adhesion to steel	ASTM D-4541 (SSPC-SP5)	1200 p.s.i.
Adhesion to concrete	ASTM D-4541	Greater than cohesive strength of concrete
Hardness	ASTM D-2240 Shore D	40
Flexibility/Elongation	ASTM D-412	160%
Abrasion Resistance	ASTM D-4060 (Taber CS-17)	Less than 15 mg
Chemical Resistance	ASTM D-543	Excellent. See Chemical Resistance Chart
Impact Resistance	ASTM D-2794 (30 mils)	Greater than 200 in. lbs.
Ultraviolet Resistance	ASTM G-154	Will chalk and darken
Temperature Resistance	ASTM D-870, ASTM D-2485	-40°C(-40°F) to 50°C(120°F)
Colors		Off-White, Medium Gray Black & Brown

*However, recoat window varies depending on the spray equipment temperature setting, the ambient conditions, product temperature/thickness, and the temperature of the substrate being coated.

NOTE: All statements, technical information and recommendations contained herein are typical of results obtained under laboratory conditions and are not intended to be used as contract specifications. For specification guidelines please contact Madison Chemical.

APPLICATION INSTRUCTIONS

CONTACT MADISON FOR DETAILED APPLICATION INSTRUCTIONS.

A. SURFACE PREPARATION

- 1) Ensure that surface is clean, dry and uncontaminated. Proceed only if the substrate temperature is more than 3°C(5°F) above the dew point temperature during surface preparation and coating application.
- 2) Abrasive blast clean with sand or grit (G40 or coarser). DO NOT USE steel shot or non-angular media. For **steel** surfaces, blast to a Near White Blast (SSPC-SP10; NACE 2; SA 2.5):
 - minimum 3.0 mil (75 microns) profile for immersion;
 - minimum 2.5 mil (65 microns) profile for buried;
 - minimum 2.0 mil (50 microns) profile for atmospheric service.For **concrete** surfaces, abrasive blast to remove any laitance.
- 3) See Madison Application Instructions for details.

B. APPLICATION OF COATING

- 1) Roll or agitate individual components thoroughly before use to disperse pigments and assure homogeneity. Do not thin. Do not mix "A" and "B" together.
- 2) Spray apply using a plural component, 1:1 mix ratio, heated airless spray unit.
- 3) Unlimited film thickness can be obtained in one continuous coating operation, using one of several techniques (fast set version). Typical applied thickness on **steel** is 30 to 40 mils (750 to 1000 microns) and on **concrete** is 60 mils (1500 microns). Contact Madison for detailed instructions.
- 4) A second coat may be applied over the first, so long as it is applied within the recoat window. Otherwise, it may be necessary to roughen the surface to ensure good intercoat adhesion.
- 5) Allow coating to cure completely before putting tank into service. Follow decontamination procedure to remove any dirt and debris.

C. CLEAN-UP AND STORAGE

- 1) This material will react with humidity and moisture. Keep containers tightly sealed and store upside down. For clean-up, use Madison VR-1 Viscosity Reducer, M.E.K. or a 50:50 blend of M.E.K. and Xylol. Other solvents may react with product.
- 2) Store between 10°C(50°F) and 27°C(80°F). DO NOT FREEZE. Use product within 6 months of receiving.

HEALTH AND SAFETY

Flexcel II is intended for industrial use only. It contains no monomeric isocyanates but may nevertheless cause respiratory distress in some people. Provide ample ventilation. Wear a fresh air respirator when using in confined areas or when spraying. Wear rubber gloves, safety goggles and protective clothing. If swallowed, DO NOT induce vomiting as this will cause additional throat irritation; contact physician. If splashed on skin, remove immediately with rubbing alcohol and then wash with soap and water. If splashed in eyes, wash liberally with clean water and contact physician; temporary irritation of eyes may last several days. Contains trace amounts of ingredients which may cause skin cancer following prolonged direct skin contact. Therefore commonly used skin protection is recommended. See MSDS for more information. The finished product is completely inert.

LIMITED TWO YEAR WARRANTY

Madison will replace any product which, in service for which it is suitable, fails to meet specifications within two years of sale and which is proven to be defective when applied according to instructions by a Madison Approved Applicator or Certified OEM Applicator. Madison accepts no responsibility or liability for any other loss, claim, damage, injury or expense, direct or consequential, in contract or negligence. This product replacement warranty is in lieu of any other right, warranty, guarantee or condition, statutory or otherwise, expressed or implied, whether as to fitness for a particular purpose or as to merchantable quality or otherwise. The information contained herein is believed to be accurate as of the date of publication. Madison reserves the right to change product specifications without notice.

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