Designation: C 722 – 904

Standard Specification for Chemical-Resistant ~~Resin~~ Monolithic Floor Surfacings[1]

This standard is issued under the fixed designation C 722; the number immediately following the designation indicates the year of original adoption or, in the case of revision, the year of last revision. A number in parentheses indicates the year of last reapproval. A superscript epsilon (ε) indicates an editorial change since the last revision or reapproval.

1. Scope

1.1 This specification covers the requirements for ~~filled resin-based systems suitable for use as trowel- or spray-applied~~ aggregate-filled, resin-based, monolithic surfacings for use over concrete floors in areas where chemical resistance ~~is required. Two types are covered:~~

~~1.1.1 *Type A*—Surfacings where chemical resistance~~ and ~~resistance to moderate to heavy traffic~~ the protection of concrete are required.

~~1.1.2 *Type B*—Surfacings where mild chemical resistance~~

1.2 The application methods for these floor surfacings include troweled, broadcast, slurry broadcast, self-leveling, sprayed, and ~~severe thermal shock stability (or resistance) are required.~~

~~1.2 Seamless decorative flooring materials~~ reinforced. The resin chemistries include epoxy, urethane, polyester, and ~~monolithic~~ vinyl ester.

1.3 Floor surfacings ~~utilized~~ used as vessel linings are excluded from this specification.

~~1.3 The following precautionary caveat pertains only~~

1.4 The values stated in SI units are to be regarded as the ~~test methods portion, Section 7, of this~~ standard. ~~*This*~~ *The values in parenthesis are provided for information only.*

1.5 *This standard does not purport to address all of the safety concerns, if any, associated with its use. It is the responsibility of the user of this standard to establish appropriate safety and health practices and determine the applicability of regulatory ~~limitations~~ requirements prior to use.*

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[1] This specification is under the jurisdiction of ASTM Committee ~~C-3~~ C03 on Chemical-Resistant Nonmetallic Materials and is the direct responsibility of Subcommittee C03.02 on Mortar and Monolithics.

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2. Referenced Documents

2.1 *ASTM Standards:* [2]

C 267 Test Method for Chemical Resistance of Mortars, Grouts, and Monolithic Surfacings and Polymer Concretes

C 307 Test Method for Tensile Strength of Chemical-Resistant Mortars, Grouts, and Monolithic Surfacings

C 41308 Test Methods for Working, Setting, and Service Strength Setting Times Absorption of Chemical-Resistant Resin Mortars[2] Mortars, Grouts, and Monolithic Surfacings

C 413 Test 579 Test Method for Absorption Compressive Strength of Chemical-Resistant, Mortars, Grouts, and Monolithic Surfacings, and Polymer Concretes

C 53180 Test Method for Linear Shrinkage Flexural Strength and Coefficient Modulus of Thermal Expansion Elasticity of Chemical-Resistant Mortars, Grouts, Monolithic Surfacings, and Polymer Concretes

C 579 Test Methods 811 Practice for Compressive Strength Surface Preparation of Concrete for Application of Chemical-Resistant Mortars, Grouts, Resin Monolithic Surfacings, and Polymer Concretes[2] Surfacings

C 58904 Terminology Relating to Chemical Resistant Non-Metallic Materials

C 1028 Test Method for Flexural Strength and Modulus Determining the Static Coefficient of Elasticity Friction of Ceramic Tile and Other Like Surfaces by the Horizontal Dynamometer Pull-Meter Method

C 1486 Practice for Testing Chemical-Resistant Mortars, Grouts, Broadcast and Slurry-Broadcast Resin Monolithic Floor Surfacings,

D 638 Test Method for Tensile Properties of Plastics

D 790 Test Method for Flexural Properties of Unreinforced and Reinforced Plastics and Electrical Insulating Materials

D 1308 Test Method for Effect of Household Chemicals on Clear and Pigmented Organic Finishes

D 2047 Test Method for Static Coefficient of Friction of Polish-Coated Floor Surfaces as Measured by the James Machine

D 6132 Test Method for Nondestructive Measurement of Dry Film Thickness of Organic Coatings Over Concrete Using an Ultrasonic Gauge

2.2 *ESD Association Standard:*

ESD-S7.1 ESD Association Standard for Protection of Electrostatic Discharge Susceptible Items—Floor Materials—Resistive Characterization of Materials

3. Terminology

3.1 *Definitions:*

3.1.1 *chemical-resistant resin monolithic surfacing*—an intimate mixture*Definitions*—For definitions of a liquid resin-based material, setting agent, and filler system composed of properly selected and graded materials. These components are normally mixed at temperatures of 70 to 85°F (21 to 29°C) to form a trowelable or, terms used in some cases, a sprayable mixture that hardens after placement of a minimum thickness of 60 mils (1.5 mm).

3.1.2 *monolithic*—as applied to surfacing in this usage, a continuous surfacing 60 mils (1.5 mm) in thickness or greater, which cures in place and is applied over an existing or newly placed substrate and continuously bonded to the surface. standard, see Terminology C 904.

4. Type of ResinsSignificance and Fillers

4.1 The liquid resin base may be (*1*) epoxy resin, (*2*) polyester or vinyl ester resin, or (*3*) any other resinous material capable of forming chemical-resistant Use

4.1 This standard specification covers the requirements for floor surfacing material when mixed with a suitable setting agent and filler.

4.2 The fillers are usually of a siliceous or carbonaceous nature. The filler materials shall be selected products. When specifying surfacing over concrete according to have adequate resistance to this standard, the particular chemicals to which they will floor surfacing shall be exposed when properly combined with classified by the application method, resin system.

4.3 The setting agent may be of the reactive or catalyst type. It is usually supplied separately to be added to the resin prior to use chemistry, aggregate type, and applied thickness.

4.2 The specifier must consider service conditions such as chemical exposure, traffic, and temperature conditions in accordance with selecting the manufacturer's recommendation. However, flooring system.

4.3 Other items that are not specified in some cases it may be incorporated in this standard but are important to the powder in such a manner that it becomes effective when mixed with performance of the resin. The service limitations floor surfacing include condition of the concrete, concrete surface preparation, surfacing installation, and finisyhed floor slope and surface texture.

4.4 Additional items thallt may be required for specific applications but are not specified by in the mis standard include floor surfacing electrical conductivity, spark generation properties, and flatness and levelness.

[2] For referenced ASTM standards, visit the ASTM website, www.astm.org, or contact ASTM Customer Service at service@astm.org. For *Annual Book of ASTM Standards*, Vol 04.05. volume information, refer to the standard's Document Summary page on the ASTM website.

5. Physical Requirements

5.1 Resin-based monolithic surfacings prepared from these materials shall conform to the respective physical requirements prescribed in Table 1.

5.2 In systems where a separate sealing coat is specified over the monolithic surfacing, the tests shall cover the properties of the resin, fillerClassification

5.1 Classification by application method includes: troweled (TR), broadcast (BC), slurry broadcast (SBC), self-leveling (SL), spray (SP), and setting agent only. reinforced (RF).

5.2 Classification by resin chemistry includes epoxy (EP), urethane (UR), polyester (PE), and vinyl ester (VE).

6. GMaterials

6.1 Most of these systems include three components: al R resinous liquid, a liquid setting agent, and an aggregate components.

6.1 2 The resinous liquid shall be epoxy, urethane (polyol), polyester or vinyl ester.

6.3 The setting agents for these materials are usually amines (for epoxies), isocyanates (for urethanes), and peroxides (for polyesters and vinyl esters).

6.4 The aggregates or fillers are usually siliceous or carbonaceous materials. These materials are selected to have a viscosity adequate resistance to the chemicals that will permit it are in the area where they are installed and are properly sized to provide ease of application.

6.4.1 Other aggregates and/or filler components are frequently used to obtain specific properties. Aluminum oxide and silicon carbide are used to provide increased abrasion and/or slip resistance properties in the flooring system.

TABLE 1 Physical and ChemicalRequirements for Troweled (TR) Systems

Epoxy	PolyTest Descr or Vinyl Espterion		ASTM MeUnithod	
	Type A	Type B	Type A	Type B
s	Temperature	Test Method	Epoxy	Urethane
Working life, minimum, 73 F (22.8 C), minutes	30	30	30	30
Working life, minimum, 73 F (22.8 C), minutes	Thickness[A]	mm (in.)		30
Initial use time, 73 F (22.8 C) minimum, h				
Chemical exposure	[A]	[A]	[A]	[A]
Working Time, min.	min	Traffic, foot	24	24
Working Time, min.	min	23 ± 2°C (73 ± 4°F)		30
16	h	Traffic, moderate	48	48
Time until Foot Traffic, max.	h	23 ± 2°C (73 ± 4°F)		24
36	h	Service strength setting time, max days	7	7
Time until All Traffic, max.	h	23 ± 2°C (73 ± 4°F)		72
3	days	Tensile strength, min, 7 days, psi (MPa)		7
Time until Chemical Exposure, max.	days	23 ± 2°C (73 ± 4°F)		7
1500 (10^B)	600 (4)	1500 (10)	400 (4)	C 307
Compressive Strength at 7 days, min.[B]	MPa (psi)	23 ± 2°C (73 ± 4°F)	C 579	407
(6000)	Compressive strength, min, 7 days, psi (MPa)			
(6000)	40 (6000)	40 (6000)		
6000 (41)	4000 (26)	10 000 (69)	8000 (55)	C 579
Tensile Strength at 7 days, min.[B]	MPa (psi)	23 ± 2°C (73 ± 4°F)	C 307	C 579
Flexural modulus of elasticity, min, 7 days, psi (MPa)	0.5 × 106(3400)			
Flexural modulus of elasticity, min, 7 days, psi10 (1500)	7 (1000)	14 (2000)		
0.25×10^6 *(1700)*	1.0×10^6 (6900)	0.5×10^6 (3 400)	C 580	Shrinkage, max perc
Flexural Strength at 7 days, min.[B]	MPa (psi)	23 ± 2°C (73 ± 4°F)	C 580	17 (2500)
Shrinkage, max.	%		C 531	0.5
Shrinkage, max.	%		C 531	0.5
Water Absorption, max.	%		C 413	1.0
Water Absorption, max.	%		C 413	1.0
Coefficient of thermal expansion, /F deg (/C deg), max		23 ± 2°C (73 ± 4°F)	D 2047	0.5
			C 1028	
Coefficient of Friction, min.		23 ± 2°C (73 ± 4°F)	D 2047	0.5
			C 1028	
40×10^{-6} *(72 × 10*	$^{-6}$)		40×10267	$^{-6}$ *(72 × 10*
Chemical Resistance, Immersion[C]	[C]		C 267	[C]
40×10^{-6} *(72 × 10^{-6})*	C 531			
Chemical Resistance, Spot[C]	C 531			
Absorption, max, percent	1.0	2.0	1.0	2.0
Absorption, max, percent	[C]	D 1308	[C]	2.0
Chemical resistance[D]				
Chemical resistance[C]				

[A] Generally a minimum of 72 h is required. Consult manufacturer for specific chemicals and cure conditions.

[B] 1000 psi (6.9 MPa) for carbon-filled surfacings.

[C] Values shown are for shrinkage after gellation.

[D] It should be noted that Method C 267 is an immersion test and will in many cases show more severe corrosion than will actually be attained by a monolithic system exposed only intermittently to corrosive environment on one exposed surface face. The manufacturer of the surfacings should be consulted as to chemical resistance.

6.5 Reinforcing materials used with these flooring systems must themselves be chemixcal resistant. Such materials include synthetic, carbon or fiberglass materials in mats, strands or rovings.

6.6 The surfacing materials for TR, SL and SP systems are usually installed by mixing the resin with the setting agent, blending in the aggregate component until uniform and homogenous, and then placing and finishing the mixture onto a properly prepared concrete substrate as per Practice C 811.

6.7 The surfacing materials for BC systems are usually installed by mixing the resin with the setting agent ~~or filler components, or both,~~ (called liquids here), and then spreading onto a properly prepared concrete substrate. This is followed by ~~manual or mechanical methods.~~ broadcasting the aggregate to excess into the wet film. The ~~filler materials shall have properly graded particles that will permit~~ application is allowed to harden. The excess aggregate is removed. The surface is then topcoated with the same liquids or the application process is repeated until the desired thickness is reached, and then the surface is topcoated.

6.8 In a SBC system, the resin, setting agent and aggregate are blended and applied on a properly prepared concrete substrate. More aggregate is then broadcast into this slurry and allowed to harden. The excess aggregate is removed and the system is then topcoated.

6.9 RF systems are usually applied as the TR, SL or SP systems. The reinforcement is usually embedded in this layer and then the reinforcement is saturated with liquids. A second TR, SL, or SP layer is then applied.

6.10 The components of the ~~mixture~~ floor surfacing systems are usually formulated to ~~an acceptable surface~~ perform optimally at ~~the minimum thickness prescribed~~ specified mixing ratios. They are usually either packaged by the manufacturer in the required proportions (weight or volume) or mixing instructions include guidelines for mixing proportions.

6.11 Any of these systems may be topcoated. At the recommendation of the manufacturer of the system, this topcoat may be mandatory for optimal appearance and performance.

6.12 Many floor surfacings include some type of finish texture or profile incorporated into the design of the surface that can range from relatively smooth to extremely aggressive. TR systems without a sealing topcoat, BC and SBC systems inherently produce surfaces with a texture. SL systems usually produce a smooth surface. Other common methods for incorporating texture include: broadcasting an aggregate into a topcoat (and optionally, resealing); or mixing an aggregate directly into the topcoat before application.

6.13 Occasionally, floor surfacings are required to have specific conductive or static dissipative electrical properties for personnel or product protection. Specific requirements for electrical resistance are not covered in this standard. Refer to ESD-S7.1 for test methods to determine this property.

6.14 In areas where flammable materials are present, it may be required that floor surfacings be non-sparking when impacted with metallic or other hard materials. Specific requirements for non-sparking properties are not covered in this standard.

7. ~~Test Methods~~

~~7.1 Determine the properties enumerated~~Physical Properties, Chemical Resistance and Performance Requirements

7.1 Requirements for Troweled (TR) systems are listed in ~~this specification in accordance with the following test methods:~~

~~7.1.1 *Working Life*~~ *Table 1.*

7.2 Requirements for Broadcast (BC) and ~~Setting Time— Test Methods C 308.~~

~~7.1.2 *Tensile Strength*—Test Method C 307.~~

~~7.1.3 *Compressive Strength*—Test Method C 579.~~

~~7.1.4 *Flexural Strength and Modulus of Elasticity*—Test Method C 580.~~

~~7.1.5 *Shrinkage and Coefficient of Thermal Expansion*—Test Method C 531.~~

~~7.1.6 *Absorption*—Test Method C 413.~~

~~7.1.7 *Chemical Resistance*—Test Method C 267.~~ Slurry Broadcast (SBC) systems are listed in Table 2.

7.3 Requirements for Self-Leveling (SL) systems are listed in Table 3.

7.4 Requirements for Sprayed (SP) systems are listed in Table 4.

7.5 Requirements for Reinforced (RF) systems are listed in Table 5.

8. ~~Rejection~~ Test Methods

8.1 The ~~resins, setting agents, fillers, or~~ referenced test methods are performed on laboratory constructed specimens of the ~~surfacing mixture,~~ flooring material and/or simulated flooring panel sections. The tests and property requirements may ~~b~~ not reprejsent the actual properties of the installed flooring, but are intended for basic qualification of properties as they ~~fail~~ may relate to desired floor performance.

8.2 Refer to the t~~a~~ble for the specific system to be tested to ensure that the test is applicable.

C 267 Test Method for Chemical Resistance of Mortars, Grouts, and Monolithic Surfacings

C 307 Test Method for Tensile Strength of Chemical-Resistant Mortars, Grouts, and Monolithic Surfacings

C 413 Test Method for Absorption of Chemical-Resistant Mortars, Grouts, and Monolithic Surfacings

C 579 Test Method for Compressive Strength of Chemical-Resistant Mortars, Grouts, Monolithic Surfacings, and Polymer Concretes

C 580 Test Method for Flexural Strength and Modulus of Elasticity of Chemical-Resistant Mortars, Grouts, Monolithic Surfacings, and Polymer Concretes

TABLE 2 Requirements for Broadcast (BC) Systems and Slurry Broadcast (SBC) Systems

Test Description	Units	Temperature	Test Method	Epoxy	Urethane	Polyester or Vinyl Ester
Thickness[A]	mm (in)		[A]	[A]	[A]	[A]
Working Time, min.	min	23 ± 2°C (73 ± 4°F)		30	30	30
Time until Foot Traffic, max.	h	23 ± 2°C (73 ± 4°F)		24	24	24
Time until All Traffic, max.	h	23 ± 2°C (73 ± 4°F)		72	72	48
Time until Chemical Exposure, max.	days	23 ± 2°C (73 ± 4°F)		7	7	4
Tensile Strength at 7 days, min.	MPa (psi)	23 ± 2°C (73 ± 4°F)	D 638 C 1486	10 (1500)	7 (1000)	14 (2000)
Flexural Strength at 7 days, min.	MPa (psi)	23 ± 2°C (73 ± 4°F)	D 790 C 1486	14 (2000)	10 (1500)	17 (2500)
Water Absorption, max.	%		C 413	1.0	1.0	1.0
Coefficient of Friction, min		23 ± 2°C (73 ± 4°F)	D 2047 C 1028	0.5	0.5	0.5
Chemical Resistance, Spot[B]		[B]	D 1308 C 1486	[B]	[B]	[B]

[A] Typical thickness for BC Floor Surfacings is 2 to 3 mm (0.08 to 0.13 in.) and for SBC Floor Surfacings is 3 to 6 mm (0.13 to 0.25 in.). Thickness is measured by direct measurement during application or after final cure (destructive) or calculated as an average thickness by coverage rates. Alternately, Test Method D 6132 may be used to measure thickness of the hardened floor surfacing.

[B] Specific chemicals, temperatures and times used for testing and pass/fail criteria to be specified for each application.

TABLE 3 Requirements for Self-Leveling (SL) Systems

Test Description	Units	Temperature	Test Method	Epoxy	Urethane
Thickness[A]	mm (in)		[A]	[A]	[A]
Working Time, min.	min	23 ± 2°C (73 ± 4°F)		30	30
Time until Foot Traffic, max.	h	23 ± 2°C (73 ± 4°F)		24	24
Time until All Traffic, max.	h	23 ± 2°C (73 ± 4°F)		72	72
Time until Chemical Exposure, max.	days	23 ± 2°C (73 ± 4°F)		7	7
Tensile Strength at 7 days, min.	MPa (psi)	23 ± 2°C (73 ± 4°F)	D 638	10 (1500)	7 (1000)
Flexural Strength at 7 days, min.	MPa (psi)	23 ± 2°C (73 ± 4°F)	D 790	14 (2000)	10 (1500)
Shrinkage, max.	%		C 531	0.5	0.5
Water Absorption, max.	%		C 413	1.0	1.0
Coefficient of Friction, min		23 ± 2°C (73 ± 4°F)	D 2047 C 1028	0.5	0.5
Chemical Resistance, Spot[B]		[B]	D 1308	[B]	[B]

[A] Typical thickness for SL Floor Surfacings is 2 to 3 mm (0.08 to 0.13 in.). Thickness is measured by direct measurement during application or after final cure (destructive) or calculated as an average thickness by coverage rates. Alternately, Test Method D 6132 may be used to measure thickness of the hardened floor surfacing.

[B] Specific chemicals, temperatures and times used for testing and pass/fail criteria to be specified for each application.

TABLE 4 Requirements for Sprayed (SP) Systems

Test Description	Units	Temperature	Test Method	Epoxy	Urethane	Polyester or Vinyl Ester
Thickness[A]	mm (in)		[A]	[A]	[A]	[A]
Working Time, min.	min	23 ± 2°C (73 ± 4°F)		30	30	30
Time until Foot Traffic, max.	h	23 ± 2°C (73 ± 4°F)		24	24	24
Time until All Traffic, max.	h	23 ± 2°C (73 ± 4°F)		72	72	48
Time until Chemical Exposure, max.	days	23 ± 2°C (73 ± 4°F)		7	7	4
Tensile Strength at 7 days, min.	MPa (psi)	23 ± 2°C (73 ± 4°F)	D 638	10 (1500)	7 (1000)	14 (2000)
Flexural Strength at 7 days, min.	MPa (psi)	23 ± 2°C (73 ± 4°F)	D 790	14 (2000)	10 (1500)	17 (2500)
Shrinkage, max.	%		C 531	0.5	0.5	1.0
Water Absorption, max.	%		C 413	1.0	1.0	1.0
Coefficient of Friction, min.		23 ± 2°C (73 ± 4°F)	D 2047 C 1028	0.5	0.5	0.5
Chemical Resistance, Spot[B]		[B]	D 1308	[B]	[B]	[B]

[A] Typical thickness for SP Floor Surfacings is 3 mm (0.13 in.). Thickness is measured by direct measurement during application or after final cure (destructive) or calculated as an average thickness by coverage rates. Alternately, Test Method D 6132 may be used to measure thickness of the hardened floor surfacing.

[B] Specific chemicals, temperatures and times used for testing and pass/fail criteria to be specified for each application.

C 1028 Test Method for Determining the ~~requirements~~ Static Coefficient of Friction of Ceramic Tile and Other Like Surfaces by the Horizontal Dynamometer Pull-Meter Method*

C 1486 Practice for Testing Chemical-Resistant Broadcast and Slurry-Broadcast Resin Monolithic Floor Surfacings

D 638 Test Method for Tensile Properties of Plastics

D 790 Test Method for Flexural Properties of Unreinforced and Reinforced Plastics and Electrical Insulating Materials

D 1308 Test Method for Effect of Household Chemicals on Clear and Pigmented Organic Finishes*

D 2047 Test Method for Static Coefficient of Friction of Polish-Coated Floor Surfaces as Measured by the James Machine*

NOTE 1—Where a topcoat and/or surface texture is recommended by the manufacturer for use with the system, of the tests listed in 8.2, the tests marked by an asterisk (*) shall be performed on specimens that include the topcoat and/or surface texture.

TABLE 5 Requirements for Reinforced (RF) Systems

Test Description	Units	Temperature	Test Method	Epoxy	Polyester or Vinyl Ester
Thickness,[A] typical	mm (in)		[A]	[A]	[A]
Working Time, min.	min	23 ± 2°C (73 ± 4°F)		30	30
Time until Foot Traffic, max.	h	23 ± 2°C (73 ± 4°F)		24	24
Time until All Traffic, max.	h	23 ± 2°C (73 ± 4°F)		72	48
Time until Chemical Exposure, max.	days	23 ± 2°C (73 ± 4°F)		7	4
Tensile Strength at 7 days, min.	MPa (psi)	23 ± 2°C (73 ± 4°F)	D 638	28 (4000)	28 (4000)
Flexural Strength at 7 days, min.	MPa (psi)	23 ± 2°C (73 ± 4°F)	D 790	28 (4000)	28 (4000)
Shrinkage, max.	%		C 531	0.5	1.0
Water Absorption, max.	%		C 413	1.0	1.0
Coefficient of Friction, min.		23 ± 2°C (73 ± 4°F)	D 2047 C 1028	0.5	0.5
Chemical Resistance, Immersion[B]		[B]	C 267	[B]	[B]
Chemical Resistance, Spot[B]		[B]	D 1308	[B]	[B]

[A] Typical thickness for RF Floor Surfacings is 3 to 6 mm (0.13 to 0.25 in.). Thickness is measured by direct measurement during application or after final cure (destructive) or calculated as an average thickness by coverage rates. Alternately, Test Method D 6132 may be used to measure thickness of the hardened floor surfacing.
[B] Specific chemicals, temperatures and times used for testing and pass/fail criteria to be specified for each application.

9. Packaging and Package Marking

9.1 ~~T~~Eac~~h~~e components ~~shall~~ shall be ~~properly packaged to prevent deterioration in storage~~ clearly labeled and shall be ~~marked~~ packaged to conform to all applicable shipping regulations and to prevent deteri~~c~~oration during storage.

9.2 At the ~~required storage conditions.~~

~~9.2 In addition,~~ discretion of the manufacturer, the packages may be marked that the ~~discretion of~~ product, when installed according to the ~~supplier and on his responsibility indicating that~~ manufacturer's instructions, conforms to the ~~product satisfies~~ requirements of this specification.

10. Keywords

10.1 broadcast; chemical-resistant; chemical-resistant flooring; chemical-resistant surfacing; monolithic flooring; reinforced; self-leveling; slurry broadcast; surfacing; topping; troweled

APPENDIX

(Nonmandatory Information)

X1. OTHER (OPTIONAL) METHODS FOR SPECIFIC APPLICATIONS

X1.1 Where required for specific applications additional tests may be specified as requirements for the Floor Surfacing System. The test methods are shown in X1.2 and X1.3.

X1.2 *Optional Tests (ASTM Methods)*:

C 531 Test Method for Linear Shrinkage and Coefficient of Thermal Expansion of Chemical-Resistant Mortars, Grouts, and Monolithic Surfacings

C 884 Test Method for Thermal Compatibility between Concrete and an Epoxy Resin Overlay

C 905 Test Method for Apparent Density of Chemical Resistant Mortars, Grouts, and Monolithic Surfacings

D 635 Test for the Rate of Burning and/ or Extent and Time of Burning of Self-Supporting Plastics in a horizontal Position*

D 2794 Test Method for Resistance of Organic Coatings to the Effects of Rapid Deformation (Impact)*

D 4060 Test Method for Abrasion Resistance of Organic Coatings by the Tabor Abraser*

E 648 Test Method for Critical Radiant Flux of Floor-Covering Systems Using a Radiant Heat Energy Source*

X1.3 *Optional Tests (Other Methods)*:

MIL D 3134 Deck Covering Materials

ESD-S7.1 ESD Association Standard for Protection of Electrostatic Discharge Susceptible Items—Floor Materials—Resistive Characterization of Materials*

ESD-STM 97.1 ESD Association Standard Test Method for the Protection of Electrostatic Discharge Susceptible Items—Floor Material and Footwear—Resistance Measurement in Combination with a Person*

ESD-STM 97.2 ESD Association Standard Test Method for the Protection of Electrostatic Discharge Susceptible Items—Floor Material and Footwear—Voltage Measurement in Combination with a Person*

NFGS-09965C Naval Facilities Guide Specification—Metallic Type Conductive/Spark Resistant Concrete Floor Finish (section 3.5.2.2 only)*

NOTE X1.1—Where a topcoat and/or surface texture is recommended by the manufacturer for use with the system, the tests marked by an asterisk (*) should be performed on specimens that include the topcoat and/or surface texture.