



MacDermid Enthone Inc.
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Cage Code 02258
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**ANNUAL CERTIFICATE OF COMPLIANCE
to
MACDERMID ENTHONE's SPECIFICATION
for
50-SERIES LEGEND INKS**

January 5, 2021

To:

This Certificate of Compliance applies to all shipments made by MacDermid Enthone for the calendar year 2021.

The undersigned certifies that MacDermid Enthone's 50-Series Legend Inks, all available colors and all available catalysts have been inspected and tested in accordance with and meet the requirements of MacDermid Enthone's manufacturing and quality control specifications.

Shelf life is warranted for 1080 days from the date of manufacture on all inks and for 720 days from date of manufacture on all catalysts.

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Quality Assurance



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**2021 ANNUAL LETTER OF QUALIFICATION
to
MIL-I-43553, REVISION A
for
50-SERIES Cat-L-Ink LEGEND INKS**

To:

This Letter of Qualification applies to all 50-Series products manufactured by MacDermid Enthone.

The undersigned certifies that MacDermid Enthone's 50-Series inks are qualified to the requirements of MIL-I-43553, Revision A as follows:

Type I: All available colors with all available catalysts.

Type II: All available colors with all available catalysts EXCEPT:

- 50-700R and 50-710R
- All inks cured at room temperature with Catalyst 20/A

Certification test reports are available upon request for a nominal fee.

When ordering inks to this specification the "type" ink must be specified.

Product shelf life is warranted from the date of manufacture.

Wendy Koschwitz
Quality Assurance, January 5, 2021

**2021 ANNUAL LETTER OF QUALIFICATION
to
COMMERCIAL ITEM DESCRIPTION (CID)
A-A-56032, REVISION D
for
50-SERIES Cat-L-Ink LEGEND INKS**

This Letter of Qualification applies to all 50-Series inks manufactured by MacDermid Enthone.

MacDermid Enthone 50-Series inks are not color matched to FED-STD-595 and will not match the color numbers called out in Table II of this specification. The 50-Series inks are approximate matches only to the Federal standard colors.

The undersigned certifies that MacDermid Enthone's 50-Series inks are qualified to the requirements of CID A-A-56032, Revision D as follows:

Type I: All ink and catalyst combinations tested at the specified cure schedules.

Type II: All ink and catalyst combinations tested at the specified cure schedules
EXCEPT:

- 50-700R, 50-710R
- Inks cured at room temperature with Catalyst 20/A

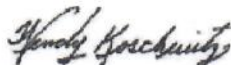
Type III: All ink and catalyst combinations tested at the specified cure schedules

The following ink/catalyst/cure schedule combinations were selected for testing. They are representative of the other colors in the series and comparable results can be expected.

INKS	50-100R, 50-700R, 50-771R
CATALYSTS	
Accelerated Air Cure	Catalyst B-13/28
Basic Air Cure	Catalyst 20/A, Catalyst 77
Heat Cure	Catalyst 20/A, Catalyst B-3, Catalyst 5, Catalyst 9, Catalyst B-13/28, Catalyst 45 and Catalyst 77
CURE SCHEDULES	
Accelerated Air Cure	3 days at room temperature (25°C/77°F)
Basic Air Cure	5-7 days at room temperature (25°C/77°F)
Heat Cure	15 minutes at 150°C/300°F

Air cure conditions can vary considerably (temperature, humidity, air flow, etc.). Also ink coating thickness has a greater impact on final properties when using air cures. When possible a low temperature heat cycle, followed by a full air cure, will ensure product performance. Please contact a MacDermid Enthone Technical Service Representative for additional information.

Product shelf life is warranted from the date of manufacture.



Wendy Koschwitz
Quality Assurance, January 5, 2021

January 5, 2021

INKS/CATALYSTS MANUFACTURED AT MACDERMID ENTHONE

QUALIFIED TO

A-A-56032 Revision D ONLY

TYPE III (Outside Exposure) (AA-56032 Revision D ONLY)

50-Series Legend Inks:

50-100R	White
50-110RX	White, Matte
50-120R	Hi-Hide White
50-201AR	Lemon Yellow
50-202BR	Medium Yellow
50-206R	Orange
50-300R	Emerald Green
50-301R	Deep Green
50-400R	Ultramarine Blue
50-403R	Light Blue
50-506BR	Deep Red
50-507R	Medium Red
50-508R	Medium Red
50-600R	Chocolate Brown
50-700R	Black
50-710R	Black, Matte
50-770R	Black, Matte (Nonconductive)
50-771R	Black, Gloss (Nonconductive)
50-800R	Clear, Gloss
50-810R	Clear, Matte

M-Series Marking Inks:

M-2-N	Red
M-4-N	Yellow
M-5-N	Green
M-6-N	Blue
M-9-N	White
M-0-N	Black
M-0-NC	Inorganic Black

BiPaks (10cc foil packs):

M-0-N	w/20/A
M-0-N	w/B-3
M-0-NC	w/B-13/28
M-0-NC	w/B-3
M-9-N	w20/A
M-9-N	w/B-3

Catalysts:

Catalyst 20/A	Basic air cure or heat cure
Catalyst B-13/28	Accelerated air cure or heat cure
Catalyst 45	Heat cure only
Catalyst 77	Basic air or heat cure
Catalyst B-3	Heat cure only
Catalyst 9	Heat cure only
Catalyst 5	Heat cure only



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INKS/CATALYSTS MANUFACTURED AT MACDERMID ENTHONE
 QUALIFIED TO

MIL-I-43553 Revision A & A-A-56032 Revision D

TYPE I (General Usage)

50-Series Legend Inks:

50-100R	White
50-110RX	White, Matte
50-120R	Hi-Hide White
50-201AR	Lemon Yellow
50-202BR	Medium Yellow
50-206R	Orange
50-300R	Emerald Green
50-301R	Deep Green
50-400R	Ultramarine Blue
50-403R	Light Blue
50-506BR	Deep Red
50-507R	Medium Red
50-508R	Medium Red
50-600R	Chocolate Brown
50-700R	Black
50-710R	Black, Matte
50-770R	Black, Matte (Nonconductive)
50-771R	Black, Gloss (Nonconductive)
50-800R	Clear, Gloss
50-810R	Clear, Matte

M-Series Marking Inks:

M-2-N	Red
M-4-N	Yellow
M-5-N	Green
M-6-N	Blue
M-9-N	White
M-0-N	Black
M-0-NC	Inorganic Black

BiPaks (10cc foil packs):

M-0-N	w20/A
M-0-N	w/B-3
M-0-NCw/B-13/28	
M-0-NCw/B-3	
M-9-N	w20/A
M-9-N	w/B-3

Catalysts:

Catalyst 20/A	Basic air or heat cure
Catalyst B-13/28	Accelerated air or heat cure
Catalyst 45	Heat cure only
Catalyst 77	Basic air or heat cure
Catalyst B-3	Heat cure only
Catalyst 9	Heat cure only
Catalyst 5	Heat cure only





January 5, 2021

INKS/CATALYSTS MANUFACTURED AT MACDERMID ENTHONE

QUALIFIED TO

MIL-I-43553 Revision A & A-A-56032 Revision D

TYPE II (Nonconductive Inks)

50-Series Legend Inks: (NOT 50-700R or 50-710R)

- 50-100R White
- 50-110RX White, Matte
- 50-120R Hi-Hide White
- 50-201AR Lemon Yellow
- 50-202BR Medium Yellow
- 50-206R Orange
- 50-300R Emerald Green
- 50-301R Deep Green
- 50-400R Ultramarine Blue
- 50-403R Light Blue
- 50-506BR Deep Red
- 50-507R Medium Red
- 50-508R Medium Red
- 50-600R Chocolate Brown
- 50-770R Black, Matte (Nonconductive)
- 50-771R Black, Gloss (Nonconductive)
- 50-800R Clear, Gloss
- 50-810R Clear, Matte

M-Series Marking Inks: (NOT M-0-N)

- M-2-N Red
- M-4-N Yellow
- M-5-N Green
- M-6-N Blue
- M-9-N White
- M-0-NC Inorganic Black

BiPaks (10cc foil packs):

- M-0-NC w/B-13/28
- M-0-NC w/B-3
- M-9-N w/20/A **Heat Cure ONLY**
- M-9-N w/B-3

Catalysts:

- Catalyst 20/A **Heat Cure ONLY**
- Catalyst B-13/28 Accelerated air cure or heat cure
- Catalyst 45 Heat cure only
- Catalyst 77 Basic air or heat cure
- Catalyst B-3 Heat cure only
- Catalyst 9 Heat cure only
- Catalyst 5 Heat cure only

