



INVITATION TO BID:

BID NUMBER: 18-19-18

**Price Agreement for the Purchase of
Traffic Marking Paint**

NIGP Commodity/Services Code: 630-66
Paint, Traffic

Public Works

Jaime Jones
Contract Analyst
Phone: 505-334-4548
Fax: 505-334-4561
E-mail: jjones@sjcounty.net

**Bid Opening Date: May 23, 2019
Time: 3:00 PM (Local Time)**

PAYMENT TERMS:

Discounts will not be considered in computing
lowest/best bid.

REQUIRED DELIVERY: As Specified

FOB POINT: As Specified

RETURNED SEALED BIDS TO:

SAN JUAN COUNTY
Purchasing Department
213 S. Oliver Drive
Aztec, NM 87410

-
- **Only Bidders that complete and return the enclosed Acknowledgement of Receipt Form will receive addendums, if issued.**
 - This bid is subject to the Terms and Conditions shown on the following pages and any/all additional instructions.
 - Do not return Invitation to Bid Form in case of "No Bid".
 - Bid must be received in the County Purchasing Department Office by the Bid Opening Date and Local Time as indicated above. **Bids that are received after that date and time will not be accepted and will be returned to the sender unopened.**
 - Bid Offers shall be made on unaltered Bid Offer Forms furnished by San Juan County. **Faxed Bids are not acceptable.** Bids shall be submitted sealed. The outside package should clearly identify the project name and bid number, bid opening date, and name of bidder. Submit Bid Offer in accordance with the Invitation to Bid. Bidders may submit a Primary Bid and Alternate Bid(s). Each Bid must be sealed separately, and the outside package should be clearly marked indicating if the Bid is Primary or Alternate.

Failure of bidders to complete bidding documents in accordance with all instructions provided is cause for this office to reject bids.

Brand names and numbers are for reference only, equivalents will be considered. If bidding equivalent, bidders must be prepared to furnish complete data to prove product meets or exceeds specifications of the bid item.

THE PROCUREMENT CODE SECTIONS 13-1-28 THROUGH 13-1-99 NMSA 1978, IMPOSES CIVIL AND CRIMINAL PENALTIES FOR ITS VIOLATION. IN ADDITION, THE NEW MEXICO CRIMINAL STATUTES IMPOSE FELONY PENALTIES FOR BRIBES, GRATUITIES AND KICKBACKS.

ACKNOWLEDGEMENT OF RECEIPT FORM

BID NO.: 18-19-18

TITLE: Price Agreement for the Purchase of Traffic Marking Paint

16 PAGES (INCLUDING ACKNOWLEDGEMENT FORM AND EXHIBIT A)

NOTE: ONLY POTENTIAL BIDDERS WHO COMPLETE AND RETURN THIS FORM WILL RECEIVE COPIES OF ADDENDUMS, IF ISSUED.

BIDDER INFORMATION:

In acknowledgement of receipt of the above referenced Bid Packet, the undersigned agrees that he/she has received a complete copy.

BIDDER NAME

SIGNATURE OF AUTHORIZED REPRESENTATIVE

PRINTED NAME OF AUTHORIZED REPRESENTATIVE

ADDRESS: _____

CITY: _____ STATE: _____ ZIP CODE: _____

PHONE NO.: _____ FAX NO.: _____

E-MAIL: _____

RETURN TO:
Jaime Jones
Contract Analyst
SAN JUAN COUNTY
(505) 334-4548
FAX (505) 334-4561
jjones@sjcounty.net

**Faxed copies of the Acknowledgement of Receipt form will be accepted.
Faxed Bid responses will not be accepted.**

TERMS AND CONDITIONS

(Unless otherwise specified)

1. **GENERAL.** When the County Chief Procurement Officer issues a purchase document in response to the Vendors bid, a binding contract is created.
2. **FORM OF SUBMISSION.** Bid Offers shall be made on unaltered Bid Offer Forms furnished by San Juan County. **Bidders are requested to provide one (1) original Bid. The outside package should identify the project name, bid number, bid opening date and name of bidder. Bidders may submit a Primary Bid and Alternate Bid(s). Each Bid must be sealed separately, and the outside package should be clearly marked indicating if the Bid is Primary or Alternate.**
3. **DEBARRED OR SUSPENDED CONTRACTORS.** A business (contractor, subcontractor or supplier) that has either been debarred or suspended pursuant to the requirements of \square 13-1-177 through \square 13-1-180, and 13-4-11 through \square 13-4-17 NMSA 1978 as amended, shall not be permitted to do business with San Juan County and shall not be considered for award of the contract during the period for which it is debarred or suspended.
4. **VARIATION IN QUANTITY.** No variation in quantity of any item called for in this order will be accepted unless such variation has been caused by conditions of loading, shipping, packing or allowances in manufacturing process, and then only to the extent, if any, specified elsewhere in this order.
5. **ASSIGNMENT.**
 - A: Neither the order, nor any interest therein, nor claim thereunder, shall be assigned or transferred by the Vendor, except as expressly authorized in writing by the County Chief Procurement Officer. No such assignment or transfer shall relieve the Vendor from the obligations and liabilities under this order.
 - B: Vendor agrees that any and all claims for overcharge resulting from antitrust violations which are borne by the County as to goods, services, and materials purchased in connection with this bid are hereby assigned to the County.
6. **DISCOUNTS.** Prompt payment discounts will not be considered in computing the low bid. Discounts for payment will be considered after the award of the contract. Discounted time will be computed from the date of receipt of the merchandise or invoice, whichever is later.
7. **INSPECTION.** Final inspection and acceptance will be made at the destination. Supplies rejected at the destination for nonconformance with specifications shall be removed, at the Vendor's risk and expense, promptly after notice of rejection.
8. **INSPECTION OF PLANT.** The County Chief Procurement Officer may inspect, at any reasonable time, the part of the contractor's, or any subcontractor's plant or place of business, which is related to the performance of this contract.
9. **LIABILITY.** The Vendor agrees that San Juan County shall not be held liable for any costs incurred in preparation of this bid.
10. **COMMERCIAL WARRANTY.** The Vendor agrees that the supplies or services furnished under this order shall be covered by the most favorable commercial warranties the Vendor gives to any customer for such supplies or services, and that the rights and remedies provided herein shall extend to the County and are in addition to, and do not limit any rights afforded to the County by any other clause of this order. Vendor agrees not to disclaim warranties fitness for a particular purpose of merchantability.
11. **TAXES.** The unit price shall exclude all County/State taxes. Wherever requested in bid response, Vendor shall submit taxes on total bid as a separate unit. Bids shall be awarded on unit price without regard of tax.
12. **PACKING, SHIPPING and INVOICING.**
 - A: The County's purchase document number and the Vendor's name, user's name and location shall be shown on each packing and delivery ticket, package, bill of lading and other correspondence in connection with the shipment. The user's count will be accepted by the Vendor as final and conclusive on all shipments not accompanied by a packing ticket.
 - B: Upon delivery, the Vendor's invoice shall be submitted to Accounts Payable, 100 S. Oliver Drive, Aztec, NM 87410, duly certified and shall contain the following information: Purchase order number,

description of supplies or services, quantities, unit prices and extended totals. Separate invoices shall be rendered for each and every complete shipment.

C: In accordance with NMSA 1978, Section 13-1-158 (1997) of the New Mexico Procurement Code, the Vendor may assess late payment charges on past due accounts (thirty days past receipt and acceptance of the complete order of goods or services by the County) at the rate of one and one-half percent (1½ %) per month of the unpaid balance. Paragraph C of this section also states that if payment is made by mail, the payment shall be deemed tendered on the date it is postmarked.

13. **DEFAULT.** The County reserves the right to cancel all or any part of this order without cost to the County, if the Vendor fails to meet the provisions of this order and, except as otherwise provided herein, to hold the Vendor liable for any excess costs if failure to perform the order arises out of causes beyond the control and without the fault or negligence of the Vendor, such causes include but are not restricted to acts of God or the public enemy, acts of the State or Federal government, fires, floods, epidemics, quarantine restrictions, strikes, freight embargoes, unusually severe weather, and defaults of subcontractors due to any of the above, unless the County shall determine that the supplies or services to be furnished by the subcontractor were obtainable from other sources in sufficient time to permit the Vendor to meet the required delivery schedule. The rights and remedies of the County provided in this paragraph shall not be exclusive and are in addition to any other rights now being provided by law or under this order.

14. **NON-COLLUSION.** In, signing this bid, the Vendor certifies that he/she has not, either directly or indirectly, entered into any action in constraint of free competitive bidding in connection with this proposal submitted to the County Procurement Administrator.

15. **NON-DISCRIMINATION.** Vendors doing business with San Juan County must be in compliance with the Federal Civil Rights Act of 1964 and Title VII of the Act, (*Rev., 1979*), and the Americans Disabilities Act of 1990. (Public Law 101-336).

16. **ITEM/EQUIPMENT CONDITION.** All bid items are to be new and of most current production, unless otherwise specified.

17. **BEST PRICING CONDITION.** The bid award does not preclude price changes if deemed beneficial to the County. In recognition of market price fluctuation, Vendor agrees to provide bid items at best possible price to SJC including any available discounts or special pricing that applies. Bid prices reflect the upper limit that applies. Bid prices reflect the upper limit that may be charged for any particular item.

18. **SAMPLES.** Unless otherwise indicated in the bid specifications, samples of the items-when required-shall be furnished free of expense to the County prior to the time set for the opening of bids. Samples not destroyed or mutilated in testing will be returned upon request by mail-express or freight-COLLECT. Each sample must be labeled to clearly show the bid number, item number and bidders name-regardless of any attempt by bidder to condition the bid. Unsolicited bid samples or descriptive literature which are submitted at the bidder's risk, will not be examined or tested, and will not vary from any of the provisions of the Invitation to Bid.

19. **BID AWARD.** San Juan County is not obligated to award to lowest bidder but reserves the right to accept and/or reject any and all bids, in whole or in part, to waive technical irregularities, and to award to the bidder whose bid is deemed to be in the best interest of the County. The County reserves the right to waive minor irregularities and also reserves the right to waive mandatory requirement(s) so long as all responding vendors fail to meet the mandatory requirement(s) and the failure to do so does not otherwise materially affect the procurement.

Determination of lowest bidder:

Following determination of product acceptability, if any is required, bids will be evaluated to determine which bidder offers the lowest cost to the County in accordance with specifications, terms, & conditions set forth. The County reserves the right to award this Invitation to Bid in total; by groups of items; on the basis of individual items; or any combination of these; or as otherwise specified in bid terms. Alternate Bids may be considered so long as the Primary Bid submitted is the lowest bid meeting the specifications and requirements. Bidders may submit a Primary Bid and Alternate Bid(s). Each Bid must be sealed separately, and the outside package should be clearly marked indicating if the Bid is Primary or Alternate.

20. **RIGHT TO DISCONTINUE PROCUREMENT.** The County reserves the right to cancel this INVITATION TO BID at any time, and to reject any or all bids, or otherwise to proceed in the best interests of the County. This in no manner obligates the County or any of its agencies to the eventual purchase of any product or service, whether explicitly described or implied herein, until confirmed by a written contract and/or Purchase Order.

21. **FOB DESTINATION.** Destination: Means goods are to be delivered to the destination identified in the Purchase Order by the user, which is the point at which the user accepts ownership or title to goods. Laws of New Mexico specifically prohibit acceptance of ownership of goods in transit. ANY exception to FOB Destination may cause a bid to be declared non-responsive.

22. **INSURANCE REQUIREMENTS.** Contractor shall carry and maintain insurance from an insurance company or companies with a Best Rating of A, or better, authorized to do business in the State of New Mexico in the following amounts:

***(Construction, Services, or Installation Only)**

General Liability - \$1,000,000 CSL
(Combined Single Limits)

Auto Liability - \$1,000,000 CSL
(Combined Single Limits)

Workers Compensation – Statutory limits pursuant to the New Mexico Workers Compensation Act.

The certificate shall specifically provide that the coverage afforded under the policy or policies will not be cancelled or be materially changed until prior written notice has been given to the County. The County shall be named as additional insured on the General Liability Insurance policy. **The Contractor shall supply a copy of the appropriate certificates of insurance to the County for each year in which the contract is in effect.**

23. **LATE BIDS.** Any bid received after the specified time and date will be declared a "Late Bid" and will NOT be considered.

24. **SPECIAL INSTRUCTIONS.**

A. To preclude possible errors and/or misinterpretations, bid prices must be affixed LEGIBLY in ink, or typewritten. Corrections or changes must be signed or initialed by bidder prior to scheduled bid opening. Failure to do so will be just cause for rejection of bid. The Bid shall be stated in both numerals and written words. In case of discrepancies, the amount in written words shall govern.

B. Clarifications and questions must be addressed to the County Chief Procurement Officer in sufficient time to provide a written response to all prospective bidders.

C. Bids may be withdrawn upon receipt of written request, prior to scheduled bid opening for the purpose of making any corrections and or changes. Such corrections must be properly identified and signed or initialed by bidder. Re-submittal must also be prior to scheduled bid opening for consideration.

D. After bid opening, no modifications on bid prices or other provisions shall be permitted. A low bidder alleging a material mistake of fact-after bids have been opened-may be permitted to withdraw the bid upon written request prior to award at the discretion of the County Chief Procurement Officer. Bidders shall hold their bid pricing for sixty (60) days after bid opening.

E. Specifications on the bid are not meant to exclude any bidder or manufacturer. Where a brand name or equal is indicated, it is for the purpose of describing the standard of quality, performance, and characteristics desired and are NOT intended to restrict competition. "No Substitute" specifications may be authorized ONLY if required to match existing equipment.

SPECIFICATIONS AND REQUIREMENTS

SCOPE OF SERVICES.

The purpose of this solicitation is to establish a single source price agreement for the purchase of Traffic Marking Paint. The paint shall be white and yellow for reflectivity, suitable for use as traffic marking on concrete and asphalt pavements. The paint shall be 100% acrylic type, lead free, Volatile Organic Compound (VOC) compliant, and fast drying waterborne traffic paint. The paint shall meet or exceed TT-P-1952E as well as conform to applicable federal, state and local regulations. See Exhibit A for specifications.

METHOD OF AWARD.

This bid will be awarded to the overall low bidder meeting the specifications and requirements. San Juan County reserves the right to waive irregularities, reject offers, in whole or in part, and award this Bid in the best interest of the County. Alternate Bids may be considered for award so long as the Primary Bid submitted is the lowest bid meeting the specifications and requirements.

PRICE AGREEMENT QUANTITIES.

Quantities listed in each category are based on best estimate of usage. San Juan County reserves the right to order more or less than the "Estimated" quantity at bid price. **All orders for items will be placed on an as needed, when needed basis, as authorized by the Public Works Department.**

PRICING / DELIVERY.

Prices which are bid and accepted pursuant to this solicitation shall be firm and fixed during the *initial* term of the agreement. Pricing shall include the preparation and delivery costs **F.O.B:**

**SAN JUAN COUNTY PUBLIC WORKS
305 SOUTH OLIVER DR.
AZTEC, NM 87410**

Vendor must contact the County before making delivery. The County will not accept or pay for damaged goods.

PRICE AGREEMENT TERM.

The primary term of the agreement shall be one year from the date of award. There are to be renewal options for up to three (3) additional one-year terms, upon mutual agreement of both parties. The primary term and all one-year renewal options shall not exceed four years (Section 13-1-150 NMSA). The agreement may also be renewed for a period less than one full year.

Any price agreement awarded as a result of this solicitation shall be non-exclusive. During the term of the agreement, the County reserves the right to solicit additional bids or quotations, and purchase supplies from other sources, when deemed in the best interest of the County.

PRICE ADJUSTMENTS.

By mutual agreement of the parties, the contract's bid pricing may be renegotiated for the subsequent renewal period, at each one-year term. The price adjustment, if required, shall not be more than the annual average percentage increase in the **Producer Price Index – Series Id: WPU062103, Group: Chemicals and allied products.**

TERMINATION OF AGREEMENT.

In the event of a breach on any provision of the agreement, the County shall notify the vendor of the fault within a reasonable time. The Contractor(s) shall have ten (10) days to respond. If the Contractor(s) fails to respond within ten (10) days or make other arrangements satisfactory to the County, the County may immediately terminate the agreement or take other steps, as it deems necessary.

The County may terminate this Agreement at any time, without penalty of any kind, by giving at least thirty (30)

days notice in writing to the Contractor. The Agreement is also subject to termination for non-funding pursuant to the Bateman Act, N.M.S.A. 1978, Section 6-6-11.

PURCHASE / USE OF CONTRACT.

During the term of the agreement, other New Mexico Agencies, Commissions, Institutions, Public Sub-divisions and local bodies allowed by law, may order items and/or services described within this Bid under the same pricing terms and conditions, in accordance with Section 13-1-129, NMSA 1978.

The County assumes no authority, liability or obligation on behalf of any other public entity that may use any contract resulting from this Bid. All purchases and payment transactions will be made directly between the contractor and the requesting entity. Any exceptions to this requirement must be specifically noted in the Bid response.

WARRANTY.

The vendor agrees that the product furnished under this bid shall be covered by the most favorable industry standard warranty available, and that the rights and remedies provided herein shall extend to the County. The vendor agrees not to disclaim warranties of fitness for a particular purpose of merchantability.

RESIDENT PREFERENCE.

IN-STATE RESIDENT CONTRACTOR PREFERENCE. To be eligible for the 5% resident contractor's preference, the contractor shall include a copy of their certificate with their quote and in-state resident preference number on the Quote Form, pursuant to Section 13-4-2 NMSA 1978. Each Contractor may obtain a New Mexico In-State Resident Contractor Preference Certificate Number through the State of New Mexico, Department of Taxation and Revenue, 505-827-0951.

RESIDENT VETERAN CONTRACTOR PREFERENCE. To be considered for the 10% resident veteran contractor preference, the contractor include a copy of their certificate with their quote and include their resident veteran preference number on the Quote Form, pursuant to Section 13-4-2 NMSA 1978.

INDEMNITY.

The Contractor agrees, as material consideration for this Agreement, to defend, indemnify, and hold harmless the County, its Elected Officials, Agents, and employees from and against any and all claims arising out of any asserted negligent act, error or omission of the Contractor, its officers, directors, employees or agents or arising in any way from this agreement or the Contractor's activities hereunder. The indemnity agreed to in this paragraph shall not extend to liabilities, claims, damages, losses or expenses, including attorney fees arising out of the preparation or approval of maps, drawings, opinions, reports, surveys, change orders, designs or specifications by the County, or the agents or employees of the County, or the giving of or the failure to give directions or instructions by the County, or the agents or employees of the County, where such giving or failure to give directions or instructions is the primary cause of bodily injury to persons or damage to property.

GOVERNING LAW.

Any agreement awarded to a Contractor, as a result of this solicitation, shall be governed in accordance with the laws of the State of New Mexico.

QUESTIONS / SUGGESTIONS.

Questions and/or suggestions concerning this Invitation to Bid shall be submitted in writing no later than seven (7) days prior to the Bid Opening Date and shall be directed to:

Jaime Jones, Contract Analyst
Phone: 505-334-4548 Fax: 505-334-4561 E-mail: jjones@sjcounty.net

Bidders are specifically notified that any attempt to contact any person other than the party listed above concerning this procurement, may be cause to reject said respondent(s) from further consideration.

Note: Information provided in this Invitation to Bid shall only be used for the purpose of submitting a Bid Offer to the County and shall not be used, released, or disclosed for any other purpose or use.

TECHNICAL SPECIFICATIONS

The specifications listed are minimum. These specifications are not meant to exclude any bidder or manufacturer and have only been used for the purpose of describing the standard of quality, performance, and characteristics desired and are not meant to restrict competition.

Traffic Marking Paint shall:

Be 100% acrylic waterborne type, lead free, VOC compliant, and fast drying that can be used on concrete and asphalt pavements.

Be prepared at the factory ready for application.

Have a shelf life with a minimum 12 months based on unopened container and shall not show or develop storage skinning, hard settling, any stringiness, or lumping. The date of manufacture shall be clearly marked on each container. The vendor shall be responsible for all costs and transportation charges incurred in replacing paint that is unfit for use.

Paint shall be free from dried paint skins and foreign materials such as; dirt, sand, fibers, or other materials capable of clogging screens, valves, pumps or other equipment used in paint striping apparatus. The paint shall not cake or thicken in the container and shall not become granular or curdled.

If the paint is found to be clogging paint striping apparatus, unopened paint totes will be returned to the awarded vendor for full credit.

Be stored in 250 gallon totes which shall meet all U.S. Department of Transportation Hazardous Material Shipping Regulations.

Have Material Safety Data Sheet (M.S.D.S.) provided with each delivery.

See Exhibit A for specifications.

Paint requested at this time:

White Paint, Ennis Paint Part #983151 - OR EQUAL

Yellow Paint, Ennis Paint Part #983152 - OR EQUAL

BID OFFER PAGE
BID NO. 18-19-18

BID TITLE: PRICE AGREEMENT FOR THE PURCHASE OF TRAFFIC PAINT

DEPARTMENT: SJC Public Works

SPECIFICATION LITERATURE ENCLOSED (if bidding equivalent) _____ YES _____ NO

WARRANTY LITERATURE ENCLOSED (if bidding equivalent) _____ YES _____ NO

<u>Item</u>	<u>Est.</u> <u>Quantity</u>	<u>Description</u>	<u>Unit Price</u>	<u>Extended Price</u>
1.	40 Each	White Traffic Paint Ennis Paint Part #983151 <i>OR EQUAL</i> (250 Gallon Totes)	\$ _____	\$ _____
2.	40 Each	Yellow Traffic Paint Ennis Paint Part #983152 <i>OR EQUAL</i> (250 Gallon Totes)	\$ _____	\$ _____

Brand Name/Part No. – Item 1: _____

Brand Name/Part No. – Item 2: _____

Warranty: _____

Availability/Delivery ARO: _____

TOTAL BID AMOUNT (NUMERALS): _____

TOTAL BID AMOUNT (WRITTEN): _____

EXCEPTIONS _____

BUSINESS _____

ADDRESS _____

DATE _____ PHONE # _____ FAX # _____

EMAIL: _____

NM RESIDENT BUSINESS VETERANS PREFERENCE NUMBER _____

BIDDER ACKNOWLEDGES RECEIPT OF ADDENDA (IF ANY) _____, _____, _____, _____.

By signing, I affirm I am authorized to represent my firm and to provide the services required according to this bid response.

AUTHORIZED REPRESENTATIVE (SIGNATURE) _____

AUTHORIZED REPRESENTATIVE (PRINT) _____

San Juan County Public Works/Traffic Division

Traffic Paint Specification

January 2010

1. DESCRIPTION

1.1. This specification describes the paint which consists of an acrylic, high-build, fast-drying/track-free time, white and yellow waterborne traffic marking paint that can be used over existing on bituminous and Portland cement concrete pavements.

2. REQUIREMENTS

2.1. General

The markings shall be comprised of a durable, low VOC, fast-drying/track-free time, and white and yellow waterborne traffic paint.

2.1.1. The successful bidder will deliver the paint in 250 gallon totes (FOB Aztec, NM on flatbed trailer).

2.1.2. The successful bidder will accept empty totes for disposal or refill on the returning flatbed trailer.

2.1.3. San Juan County will not accept previously frozen paint or damaged containers (totes).

2.2. Composition

2.2.1. Waterborne Traffic Marking Paint

The finished paint shall be formulated and manufactured from first-grade materials and shall be fast-drying/track-free time, water-based, acrylic resin-type paint capable of withstanding air and roadway temperatures without bleeding, staining, discoloring, or deforming.

2.2.1.1. Condition in the Container

The paint, as received, shall show no evidence of biological growth, corrosion of the container, livering, or hard-setting. The paint shall be returned to a smooth and homogeneous consistency, which is free from gel structures, persistent foam, or air bubbles - using only hand-mixing.

2.2.1.2. Shelf life

When stored in a three-quarters filled can for a period of thirty days, the paint shall be in a homogeneous state with no skinning, curdling, hard-settling, or caking that cannot be readily remixed.

2.2.1.3. Heat Aged Stability	<u>White</u>	<u>Yellow</u>
Degree of Setting, minimum, ASTM D869	7	7

A 500 ml (1 pint) paint can is filled with a well-mixed sample. The can is capped and allowed to set undisturbed at standard conditions for 14 days. The settling is then determined as specified in ASTM D869. The 1-quart laboratory samples of each batch, as received, shall also pass this test.

2.2.1.4. Nonvolatile Content, Weight %, ASTM D2369	<u>White</u>	<u>Yellow</u>
	77	76
	+2.0	+2.0

2.2.1.5. Pigment Content, Weight %, ASTM D3723	<u>White</u>	<u>Yellow</u>
	60	58
	+2.0	+2.0

2.2.1.6. % Nonvolatile in Vehicle (%NVV), Weight %, minimum	<u>White</u>	<u>Yellow</u>
	41	41

Calculated as: $\%NVV = \frac{\%Nonvolatile\ Content - \%Pigment \times 100}{100 - \%Pigment}$

2.2.1.7. Density, g/ml at 25 C, ATSM D1475	<u>White</u>	<u>Yellow</u>
	1.68+/- 0.04	1.60+/-0.07
	(14.0 lbs/gallon)	(13.35 lbs/gallon)

2.2.1.8. Consistency, K.U. at 25 ±1 C, ASTM D562A	<u>White</u>	<u>Yellow</u>
	80-95	80-95

2.2.1.9. Fineness of Dispersion, Hegman, Minimum, ASTM D1210	<u>White</u>	<u>Yellow</u>
	3.0	3.0

2.2.1.10. Dry to No Pick-Up time, without beads, Minutes, maximum, ASTM D711	<u>White</u>	<u>Yellow</u>
	10	10

2.2.1.11. Dry Through, at 90% Relative Humidity, Minutes, maximum ASTM D1640	<u>White</u>	<u>Yellow</u>
	120	120

A 15 mil wet film of the candidate paint placed immediately in a humidity chamber maintained at 72.5 degrees F \pm 2.5 degrees F and 90% \pm 3 relative humidity shall have a "dry-through" time less than, equal to, or up to 15 minutes longer than the specifier's laboratory reference paint when run at or close to the same time. Alternatively, 120 minutes maximum dry through can be used. The dry through time must be tested in accordance with ASTM D1640, except that the pressure exerted will be the minimum needed to maintain contact between the thumb and film.

	<u>White</u>	<u>Yellow</u>
2.2.1.12. Volatile Organic Compounds (VOC), grams per liter of paint, excluding water, maximum.	150	150

Use ASTM D3960 or other approved method in effect at the time of paint manufacture to determine the VOC level and water content of the paint.

	<u>White</u>	<u>Yellow</u>
2.2.1.13. Flashpoint, C, minimum, ASTM D93 Method A	60	60
	<u>White</u>	<u>Yellow</u>
2.2.1.14. Flexibility, ASTM D522 Method B	Pass	Pass

Use 100x150 mm tin-plated steel panels 250um thick. Prepare the panel by lightly buffing one side with Grade 0 (medium-fine) steel wool, followed by cleaning with toluene and drying. Draw down the paint on the buffed side of the panel to a wet thickness of 130um. Air dry the panels for 24 hours at the standard conditions, then bake for 5 hours at 105 \pm 2 C and finally condition the panel for 30 minutes at standard conditions. Bend the panel 180 degrees over a 13 mm mandrel in 1 second, then examine under a magnification of 10 diameters. The paint film shall not: crack, chip, or flake when the panel is bent around the mandrel.

	<u>White</u>	<u>Yellow</u>
2.2.1.15. Appearance	Pass	Pass

Draw down a 330um thick wet film of the paint on a glass plate and allow to dry for 24 hours at standard conditions. The paint shall produce a film which is smooth, uniform, and free from: grit, undispersed particles, craters, pinholes, and cracking.

	<u>White</u>	<u>Yellow</u>
2.2.1.16. Dry Opacity, minimum	0.95	0.92

On a black-white Leneta chart, Form 2C-Opacity, drawn down a uniform 250um ($\pm 10\text{um}$) thick wet film of paint covering both the black and white portions of the chart. Measure the wet film thickness with an appropriate gauge. Dry for 24 hours at standard conditions. Use a BYK-Gardner "Color Guide" Spectrophotometer to measure the opacity according to the manufacturer's instructions. Calibrate the spectrophotometer according to the manufacturer's instructions using 2 degree Observer/illuminant "C" measurement conditions, and the (Y, x, y) color system.

	<u>White</u>	<u>Yellow</u>
2.2.1.17. Yellowness Index, maximum	8	-

Draw down a 333um thick wet film of the white paint on two 75x150 mm chromate treated aluminum panels (i.e.: Q Panel Co., type AL). Dry for 24 hours at standard conditions. Save one panel for the Accelerated Weathering test (section 2.2.1.19). using a BYK-Gardner "Color Guide" Spectrophotometer, follow the manufacturer's instructions, and measure the Yellowness Index of the white paint film using the ASTM E313 mode.

	<u>White</u>	<u>Yellow</u>
2.2.1.18. Daylight Luminous Reflectance	≥ 87	47-60

Using the draw down panels prepared in sections 2.2.1.15, measure the reflectance of the white and yellow paint films using the BYK-Gardner "Color Guide" Spectrophotometer. Follow the manufacturer's instructions to obtain the Reflectance or "Y" value.

2.2.1.19. Yellow Color

Draw down the yellow paint on two chromate treated aluminum panels as described in section 2.2.1.16. One panel should be used for the Accelerated Weathering test (section 2.2.1.19). Retain the other yellow panel as a control and for the Reflectance test. The yellow color shall be within 4% for x and y from the Central Color of the PR-1 Chart for Federal Color 33538. The paint shall meet the color specified in ASTM D6628-03.

2.2.1.20. Accelerated Weathering Test

Ultraviolet Light and Condensate Exposure, 300 hours total,
ASTM G154 and G151.

Prepare samples of the white and yellow paints as described in sections 2.2.1.16 and 2.2.1.18. Alternately expose the samples to eight hours of UV exposure at 60 degrees C, followed by four hours condensate exposure at 50 degrees C - in a QUV Accelerated Weathering Tester. Type UVA-340 bulbs are used at an

irradiance level of 0.77 watts per square meter per nm. At 340 nm., as measured at the sample surface during the UV cycle. After 300 hours total exposure the paint samples shall meet the requirements below.

White - Yellowness Index after weathering, maximum, 12

Yellow - Must pass Yellow Color test after weathering

	<u>White</u>	<u>Yellow</u>
2.2.1.21. Scrub Resistance, cycles, minimum	800	800

Follow the procedure in ASTM D2486. Prepare a panel using an appropriate bird doctor blade that will produce a uniform dry film thickness of paint between 80 and 100um. Dry the panel for 7 days at standard conditions. The panel shall require more than 800 cycles to remove the paint film in one continuous line across the width of the shimmed area.

	<u>White</u>	<u>Yellow</u>
2.2.1.22. Lead, mg/kg in dried paint, Maximum, ASTM D3335	20	20

The white and yellow paints shall be free of lead, mercury, cadmium, hexavalent chromium and other toxic heavy metals as defined by the United States Environmental Protection Agency.

	<u>White</u>	<u>Yellow</u>
2.2.1.23. Chromium, mg/kg in dried paint, Maximum, ASTM D3718	5	5

	<u>White</u>	<u>Yellow</u>
2.2.1.24. Thick Application Cracking Resistance	Pass	Pass

On a black-white Leneta chart, Form 2C-Opacity, draw down a stripe of the paint 75 mm wide and at least 150 mm long and having a 1530±130um wet film thickness. Allow the paint to dry for 48 hours at standard conditions on a horizontal surface. After 48 hours the paint shall not contain any cracks.

	<u>White</u>	<u>Yellow</u>
2.2.1.25 pH minimum, ASTM E70	9.9	9.9

2.2.2. Acrylic Polymer Emulsion

The paint shall contain a commercial high-build acrylic polymer emulsion, allowing wet paint thicknesses greater than 0.015 inches while maintaining relative quick drying/track-free time.