



CENTRALBIDDING
FROM CENTRAL AUCTION HOUSE

**5000141449 - One Time Purchase of Reflective Signs for Jefferson Parish
Traffic Engineering**
Jefferson Parish Government

Project documents obtained from www.CentralBidding.com
07-Mar-2023 11:34:14 AM



Bid Number 5000141449

**One Time Purchase of Reflective Signs
for Jefferson Parish Traffic Engineering**

BID DUE: March 9, 2023 AT 11:00 AM

ATTENTION VENDORS!!!

Please review all pages and respond accordingly, complying with all provisions in the technical specifications and Jefferson Parish Instructions for Bidders and General Terms and Conditions. All bids must be received on the Purchasing Department's eProcurement site, www.jeffparishbids.net, by the bid due date and time. Late bids will not be accepted.

**Jefferson Parish Purchasing Department
200 Derbigny Street
General Government Building, Suite 4400
Gretna, LA 70053
Buyer Name: Brenda Bellow
Buyer Email: bbellow@jeffparish.net
Buyer Phone: 504-364-2683**

DATE: 3/03/2023

INVITATION TO BID
THIS IS NOT AN ORDER

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BID NO.: 50-00141449

JEFFERSON PARISH
PURCHASING DEPARTMENT
P.O. BOX 9
GRETNA, LA. 70054-0009
504-364-2678

VENDOR: **Blackstar Diversified Enterprises**

BUYER: BBELLOW@jeffparish.net

Bids will be received until 11:00 AM, 3/09/2023 via online at www.jeffparishbids.net.

LATE BIDS WILL NOT BE ACCEPTED

NOTE: ONLY BIDS WRITTEN IN INK OR TYPEWRITTEN, AND PROPERLY SIGNED BY A MEMBER OF THE FIRM OR AUTHORIZED REPRESENTATIVE, WILL BE ACCEPTED. PENCIL AND/OR PHOTOSTATIC FIGURES OR SIGNATURES SHALL RESULT IN BID REJECTION. HOWEVER, ELECTRONIC SIGNATURES AS DEFINED IN LSA - R.S. 9:2602(8) ARE ACCEPTABLE. SIGNATURE MUST BE A SECURED DIGITAL SIGNATURE.

All bids submitted are subject to these instructions and general conditions and any special conditions and specifications contained herein, all of which are made part of this bid proposal reference. By submitting a bid, vendor agrees to comply with all provisions of Louisiana Law, as well be in compliance with the Jefferson Parish Code of Ordinances, Louisiana Code of Ethics, applicable Jefferson Parish ethical standards and Jefferson Parish Resolution No. 113646 and/or Resolution No. 113647 as amended. A copy of these resolutions may be obtained from the Office of the Parish Clerk, Suite 6700, Jefferson Parish General Government Building, 200 Derbigny Street, Gretna, LA 70053. You may also obtain a copy by visiting the Purchasing Department webpage at purchasing.jeffparish.net and clicking on On-line forms.

All vendors submitting bids should register as a Jefferson Parish vendor if not already yet registered. Registration forms may be downloaded from <http://purchasing.jeffparish.net> and by clicking on Vendor Information. Current W-9 forms with respective Tax Identification numbers and vendor applications may be submitted at any time; however, if your company is not registered and/or a current W-9 form is not on file, vendor registration is mandatory. Vendors may experience a delay in payment if your company is not a registered vendor with Jefferson Parish.

Jefferson Parish is exempt from paying sales tax under LSA-R.S. 47:301 (8)(c). All prices for purchases by Jefferson Parish of supplies and materials shall be quoted in the unit of measure specified and unless otherwise specified, shall be exclusive of state and local taxes. The price quoted for work shall be stated in figures. In the event there is a difference in unit prices and totals, the unit price shall prevail. Quotations shall be based on F.O.B. Delivered, anywhere within the Parish as designated by the Purchasing Department. JEFFERSON PARISH WILL ACCEPT ONE BID ONLY FROM EACH VENDOR. Items bid must meet specifications. JEFFERSON PARISH will accept one price for each item unless otherwise indicated. Two or more prices for one item will result in bid rejection. Bidders are required to complete, sign and return the bid form and/or complete and return the associated line item pricing forms as indicated. The price quoted for work shall be stated in figures. In the event there is a difference in unit prices and totals, the unit prices shall prevail

JEFFERSON PARISH reserves the right to award contracts or place orders on a lump sum or individual item basis, or such combination, as shall in its judgment be in the best interest of JEFFERSON PARISH. Every contract or order shall be awarded to the LOWEST RESPONSIVE and RESPONSIBLE BIDDER, taking into consideration the CONFORMITY WITH THE SPECIFICATIONS and the DELIVERY AND/OR COMPLETION DATE

PROTESTS: Only those vendors that submit bids in response to this solicitation may protest any element of the procurement, in writing to the Director of the Purchasing Department. Written protest must be received within 48 hours of the release of the bid tabulation by the Purchasing Department. After consultation, the Parish Attorney's Office will then respond to protests in writing. (For more information, please see Chapter 2, Article VII, Division 2, Sec. 2-914.1 of the Jefferson Parish Code of Ordinances.)

JEFFERSON PARISH reserves the right to cancel all or any part of an order if not shipped promptly. No charges will be allowed for parking or cartage unless specified in the quotation. The order must not be filled at a higher price than quoted. JEFFERSON PARISH reserves the right to cancel at any time and for any reason by issuing a THIRTY (30) day written notice to the contractor.

JEFFERSON PARISH requires all products to be new (current) and all work must be performed according to standard practices for the project. Unless otherwise specified, no aftermarket parts will be accepted. Unless otherwise specified, all workmanship and materials must have at least one (1) year guaranty, in writing, from the date of delivery and/or acceptance of the project. Any deviations or alteration from the specifications must be indicated on the bid form for each item and upon request, product data for same must be submitted by the time specified by the Purchasing Department.

If this bid requires a pre-bid conference (see Additional Requirements section), bidders are advised that such conference will be held to allow bidders the opportunity to identify any discrepancies in the bid specifications and seek further clarification regarding instructions. The Purchasing Department will issue a written response to bidders' questions in the form of an Addendum.

All formal Addenda require written acknowledgment on the bid form by the bidder by the bidder placing the Addendum number in the appropriate section. Failure to acknowledge an Addendum on the bid form shall cause the bid to be rejected; JEFFERSON PARISH reserves the right to award bid to next lowest responsive and responsible bidder in this event.

USE OF BRAND NAMES AND STOCK NUMBERS: Where brand names and stock numbers are specified, it is for the purpose of establishing certain minimum standards of quality. Bids may be submitted for products of equal quality, provided brand names and stock numbers are specified. Complete product data may be required prior to award.

Quantities listed are for bidding purposes only. Actual requirements may be more or less than quantities listed.

INSTRUCTIONS FOR BIDDERS AND GENERAL CONDITIONS

Bidders are not to exclude from participation in, deny the benefits of, or subject to discrimination under any program or activity, any person in the United States on the grounds of race, color, national origin, or sex; nor discriminate on the basis of age under the Age Discrimination Act of 1975, or with respect to an otherwise qualified handicapped individual as provided in Section 504 of the Rehabilitation Act of 1973, or on the basis of religion, except that any exemption from such prohibition against discrimination on the basis of religion as provided in the Civil Rights Act of 1964, or Title VI and VII of the Act of April 11, 1968, shall also apply. This assurance includes compliance with the administrative requirements of the Revenue Sharing final handicapped discrimination provisions contained in Section 51.55 (c), (d), (e), and (k)(5) of the Regulations. New construction or renovation projects must comply with Section 504 of the 1973 Rehabilitation Act, as amended, in accordance with the American National Standard Institute's specifications (ANSI A1 17.1-1961).

Jefferson Parish and its partners as the recipients of federal funds are fully committed to awarding a contract(s) to firm(s) that will provide high quality services and that are dedicated to diversity and to containing costs. Thus, Jefferson Parish strongly encourages the involvement of minority and/or woman-owned business enterprises (DBE's, including MBE's, WBE's and SBE's) to stimulate participation in procurement and assistance programs.

IN ACCORDANCE WITH STATE REGULATIONS JEFFERSON PARISH OFFERS ELECTRONIC PROCUREMENT TO ALL VENDORS

This electronic procurement system allows vendors the convenience of reviewing and submitting bids online. This is a secure site and authorized personnel have limited read access only. Bidders are to submit electronically using this free service; while the website accepts various file types, one single PDF file containing all appropriate and required bid documents is preferred. Bidders submitting uploaded images of bid responses are solely responsible for clarity. If uploaded images/documents are not legible, then bidder's submission will be rejected. Please note all requirements contained in this bid package for electronic bid submission.

Please visit our E-Procurement Page at www.jeffparishbids.net to register and view Jefferson Parish solicitations. For more information, please visit the Purchasing Department page at <http://purchasing.jeffparish.net>.

ADDITIONAL REQUIREMENTS FOR THIS BID

PLEASE MATCH THE NUMBERS PRINTED IN THIS BOX WITH THE CORRESPONDING INSTRUCTIONS BELOW.

13

1. All bidders must attend the MANDATORY pre-bid conference and will be required to sign in and out as evidence of attendance. In accordance with LSA R.S. 38:2212(l), all prospective bidders shall be present at the beginning of the MANDATORY pre-bid conference and shall remain in attendance for the duration of the conference. Any prospective bidder who fails to attend the conference or remain for the duration shall be prohibited from submitting a bid for the project.
2. Attendance to this pre-bid conference is optional. However, failure to attend the pre-bid conference shall not relieve the bidder of responsibility for information discussed at the conference. Furthermore, failure to attend the pre-bid conference and inspection does not relieve the successful bidder from the necessity of furnishing materials or performing any work that may be required to complete the work in accordance with the specification with no additional cost to the owner.
3. Contractor must hold current applicable JEFFERSON PARISH licenses with the Department of Inspection and Code Enforcement. Contractor shall obtain any and all permits required by the JEFFERSON PARISH Department of Inspection and Code Enforcement. The contractor shall be responsible for the payment of these permits. All permits must be obtained prior to the start of the project. Contractor must also hold any and all applicable Federal and State licenses. Contractor shall be responsible for the payment of these permits and shall obtain them prior to the start of the project.
4. A LA State Contractor's License will be required in accordance with LSA R.S. 37-2150 et. seq. and such license number will be shown on the outside of the bid electronic envelope. Failure to comply will cause the bid to be rejected. When submitting the bid electronically, the license number must be entered in the appropriate field in the electronic procurement system. Failure to comply will cause the bid to be rejected.

INSTRUCTIONS FOR BIDDERS AND GENERAL CONDITIONS

5. It is the bidder's responsibility to visit the job site and evaluate the job before submitting a bid.
6. Job site must be clean and free of all litter and debris daily and upon completion of the contract. Passageways must be kept clean and free of material, equipment, and debris at all times. Flammable material must be removed from the job site daily because storage will not be permitted on the premises. Precaution must be exercised at all times to safeguard the welfare of JEFFERSON PARISH and the general public.
7. PUBLIC WORKS BIDS: All awards for public works in excess of \$5,000.00 will be reduced to a formal contract which shall be recorded at the contractor's expense with the Clerk of Court and Ex-Officio Recorder of Mortgages for the Parish of Jefferson. A price list of recordation costs may be obtained from the Clerk of Court and Ex-Officio Recorder of Mortgages for the Parish of Jefferson. All awards in excess of \$25,000.00 will require both a performance and a payment bond. Unless otherwise stated in the bid specifications, the performance bond requirements shall be 100% of the contract price. Unless otherwise state in the bid specifications, the payment bond requirements shall be 100% of the contract price. Both bonds shall be supplied at the signing of the contract.
8. NON-PUBLIC WORKS BIDS: A performance bond will be required for this bid. The amount of the bond will be 100% of the contract price unless otherwise indicated in the specifications. The performance bond shall be supplied at the signing of the contract.
9. NON-PUBLIC WORKS BIDS: A payment bond will be required for this bid. The amount of the bond will be 100% of the contract price unless otherwise indicated in the specifications. The payment bond shall be supplied at the signing of the contract.
10. All bidders must comply with the requirements stated in the attached "Standard Insurance Requirements" sheet attached to this bid solicitation. Failure to comply with this instruction will result in bid rejection.
11. A bid bond will be required with bid submission in the amount of 5% of the total bid, unless otherwise stated in the bid specifications. All sureties must be in original format (no copies). When submitting a bid online, vendors must submit an electronic bid bond through the respective online clearinghouse bond management system(s) as indicated in the electronic bid solicitation on Central Auction House. No scanned paper copies of any bid bond will be accepted as part of the electronic bid submission.
12. This is an as needed basis contract. JEFFERSON PARISH makes no representations on warranties with regard to minimum guaranteed quantities unless otherwise stated in the bid specifications.
13. Freight charges should be included in total cost when quoting. If not quoted FOB DELIVERED, freight must be quoted as a separate item. Bid may be rejected if not quoted FOB DELIVERED or if freight charges are not indicated on bid form.
14. PUBLIC WORKS BIDS - Completed, Signed and Properly Notarized Affidavits Required; This applies to all solicitations for construction, alteration or demolition of public buildings or projects, in conformity with the provisions contained in LSA-RS 38:2212.9, LSA-RS 38:2212.10, LSA-RS 38:2224, and Sec 2-923.1 of the Jefferson Parish Code of Ordinances. For bidding purposes, all bidders must submit with bid submission COMPLETED, SIGNED and PROPERLY NOTARIZED Affidavits, including: Non-Conviction Affidavit, Non-Collusion Affidavit, Campaign Contribution Affidavit, Debt Disclosures Affidavit and E-Verify Affidavit. For the convenience of vendors, all affidavits have been combined into one form entitled PUBLIC WORKS BID AFFIDAVIT. This affidavit must be submitted in its original format, and without material alteration, in order to be compliant and for the bid to be considered responsive. A scanned copy of the completed, signed and properly notarized affidavit may be submitted with the bid, however, the successful bidder must submit the original affidavit in its original format and without material alteration upon contract execution. Failure to comply will result in the bid submission being rejected as non-responsive. The Parish reserves the right to award bid to the next lowest responsive and responsible bidder in this event.
15. NON PUBLIC WORK BIDS - Completed, Signed and Properly Notarized Affidavits Required in conformity with the provisions contained in LSA – RS 38:2224 and Sec 2-923.1 of the Jefferson Parish Code of Ordinances. For bidding purposes, all bidders must submit with bid submission COMPLETED, SIGNED and PROPERLY NOTARIZED Affidavits, including: Non-Collusion Affidavit, Debt Disclosures Affidavit and Campaign Contribution Affidavit. For the convenience of vendors, all affidavits have been combined into one form entitled NON PUBLIC WORKS BID AFFIDAVIT. This affidavit must be submitted in its original format, and without material alteration, in order to be compliant and for the bid to be considered responsive. A scanned copy of the completed, signed and properly notarized affidavit may be submitted with the bid, however, the successful bidder must submit the original affidavit in its original format and without material alteration upon contract execution. Failure to comply will result in the bid submission being rejected as non-responsive. The Parish reserves the right to award bid to the next lowest responsive and responsible bidder in this event.

DATE: 3/03/2023

BID NO.: 50-00141449

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INSTRUCTIONS FOR BIDDERS AND GENERAL CONDITIONS

16. The ensuing contract for this bid solicitation may be eligible for FEMA reimbursement and/or Federal funding/reimbursement. As such, the referenced appendix will be applicable accordingly and shall be considered a part of the bid documents. All applicable certifications must be duly completed, signed and submitted with bid submission. Failure to submit applicable certifications with bid submission will result in bid rejection.

17. For this project, the Contractor shall not pay any state or local sales or use taxes on materials and equipment which are affixed and made part of the immovable property of the project or which is permanently incorporated in the project (hereinafter referred to as "applicable materials and equipment"). All purchases of applicable materials or equipment shall be made by the contractor on behalf of and as the agent of Jefferson Parish (Owner), a political subdivision of the State of Louisiana. No state and local sales and use taxes are owed on applicable materials and equipment under the provisions of Act 1029 of the 1991 Regular Session - Louisiana Revised Statute 47:301(8)(c). Owner will furnish to contractor a certificate form which certifies that Owner is not required to pay such state or local sales and use taxes, and contractor shall furnish a copy of such certificate to all vendors or suppliers of the applicable materials and equipment, and report to Owner the amount of taxes not incurred.

It shall be the duty of every parish officer, employee, department, agency, special district, board, and commission: and the duty of every contractor, subcontractor, and licensee of the parish, and the duty of every applicant for certification of eligibility for a parish contract or program, to cooperate with the Inspector General in any investigation, audit, inspection, performance review, or hearing pursuant to Jefferson Parish Code of Ordinances Section 2-155.10(19). By submitting a bid, vendor acknowledges this and will abide by all provisions of the referenced Jefferson Parish Code of Ordinances.



JEFFERSON PARISH

DEPARTMENT OF PURCHASING

CYNTHIA LEE SHENG
PARISH PRESIDENT

RENNY SIMNO
DIRECTOR

March 7, 2023

ADDENDUM # 1

Bid No.: 50-00141449

Bid Opening: March 9, 2023 at 11AM

One Time Purchase of Reflective Signs for Jefferson Parish Traffic Engineering

Question: Line 7 Just mentions Background color white and text color black, but then list MUTCD R8-3. Should this be the MUTCD Black, red and white no parking symbol? No mention of red.

Answer: Yes, #7 of the Bid is for Black, Red and White No Parking symbol.

Remove and Replace: Please remove Pages 5, 6, and 7 from the Bid Form and replace with the Revised Per Addendum #1 Pages 5, 6, and 7.

Sincerely,

Brenda M. Bellow
Buyer I
Jefferson Parish Purchasing Department

Bidders must acknowledge all addenda on the bid form. Bidder acknowledges receipt of This addendum on the bid form as indicated. Failure to do so will result in bid rejection.

This addendum is a part of the contract documents and modifies the original bidding documents and specifications. The contents of this addendum shall be included in the contract documents. Changes made by this addendum shall take precedence over the documents of earlier date.

GENERAL GOVERNMENT BLDG. – 200 DERBIGNY ST., SUITE 4400. GRETNA, LA 70053
OFFICE 504.364.2678

JOSEPH S. YENNI BLDG. – 1221 ELMWOOD PARK BLVD., SUITE 404, JEFFERSON, LA 70123
OFFICE 504.364.2678

EMAIL: PURCHASING@JEFFPARISH.NET WEBSITE: WWW.JEFFPARISH.NET

DATE: 3/07/2023

INVITATION TO BID
THIS IS NOT AN ORDER

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BID NO.: 50-00141449

JEFFERSON PARISH

PURCHASING DEPARTMENT
P.O. BOX 9
GRETNA, LA. 70054-0009
504-364-2678

VENDOR: **Blackstar Diversified Enterprises**

BUYER: BBELLOW

As per LSA-RS 47:301 et seq., all governmental bodies are excluded from payment of sales taxes to any Louisiana taxing body. Quotations shall be based on F.O.B. Agency warehouse or jobsite, anywhere within the Parish as designated by the Purchasing Department.

JEFFERSON PARISH reserves the right to cancel all or any part of an order if not shipped promptly. No charges will be allowed for parking or cartage unless specified in quotation. The order must not be filled at a higher price than quoted. JEFFERSON PARISH reserves the right to cancel at any time and for any reason by issuing a THIRTY (30) day written notice to the contractor.

JEFFERSON PARISH is expecting all products to be new and all work to be done in workman-like manner, according to standard practices. Any deviations or alteration from the specifications must be indicated on the bid form for each item and upon request, product data for same must be submitted by the time specified by the Purchasing Department.

DELIVERY: FOB JEFFERSON PARISH	
INDICATE DELIVERY DATE ON EQUIPMENT AND SUPPLIES	<u>30 Days</u>
INDICATE STARTING TIME (IN DAYS) FOR CONSTRUCTION WORK	<u>n/a</u>
INDICATE COMPLETION TIME (IN DAYS) FOR CONSTRUCTION WORK	<u>n/a</u>

In the event that addenda are issued with this bid, bidders MUST acknowledge all addenda on the bid form. Bidder must acknowledge receipt of an addendum on the bid form by placing the addendum number as indicated. Failure to acknowledge any addendum on the bid form will result in bid rejection.

Acknowledge Receipt of Addenda: NUMBER: 1

NUMBER: _____

NUMBER: _____

NUMBER: _____

LOUISIANA CONTRACTOR'S LICENSE NO.: (if applicable) n/a

*** ALL BIDDERS MUST COMPLETE SECTION BELOW ***	
FIRM NAME: Blackstar Diversified Enterprises	
SIGNATURE: (Must be signed here) 	TITLE: VP of Sales
PRINT OR TYPE NAME: Chad Risher	
ADDRESS: 11131 Winchester Park Drive	
CITY, STATE: New Orleans, LA	ZIP: 70128
TELEPHONE: (504) 265-9919	FAX: (504) 265-9919
EMAIL ADDRESS: chad@blackstardiversified.net	

TOTAL PRICE OF ALL BID ITEMS: \$ 37,335.00

REVISED PER ADDENDUM #1

INVITATION TO BID FROM JEFFERSON PARISH - continued

BID NO.: 50-00141449

SEALED BID

ITEM NUMBER	QUANTITY	U/M	DESCRIPTION OF ARTICLES	UNIT PRICE QUOTED	TOTALS
			ONE TIME PURCHASE OF REFLECTIVE SIGNS FOR JEFFERSON PARISH TRAFFIC ENGINEERING		
1	100.00	EA	0010 REFLECTIVE SPEED LIMIT 30 SIGN (R2-1) 18" X 24" PART # 624-000102	\$ 18.50	\$ 1,850.00
2	100.00	EA	0020 REFLECTIVE SPEED LIMIT 20 SIGN (R2-1) 18" X 24" PART # 624-000122	\$ 18.50	\$ 1,850.00
3	100.00	EA	0030 REFLECTIVE SPEED LIMIT 35 SIGN (R2-1) 18" X 24" PART # 624-000103	\$ 18.50	\$ 1,850.00
4	100.00	EA	0040 REFLECTIVE SPEED LIMIT 25 SIGN (R2-1) 18" X 24" PART # 624-000110	\$ 18.50	\$ 1,850.00
5	500.00	EA	0050 REFLECTIVE ALL WAY SIGN (R1-3P) 18" X 6" PART # 603-004850	\$ 6.50	\$ 3,200.00
6	400.00	EA	0060 REFLECTIVE STOP SIGN (R1-1) 30" OCTAGON PART # 624-000350	\$ 35.00	\$ 14,000.00
7	200.00	EA	0070 CUSTOM REFLECTIVE DECAL 12" SQUARE BACKGROUND COLOR: WHITE TEXT COLOR: BLACK SYMBOL: RED DECAL TEXT: R8-3 NO PARKING SYMBOL PART # 670-300001	\$ 4.00	\$ 800.00
8	100.00	EA	0080 CUSTOM REFLECTIVE DECAL RECTANGLE 18" X 24" BACKGROUND COLOR: YELLOW	\$ 6.50	\$ 650.00
			REVISED PER ADDENDUM #1		

INVITATION TO BID FROM JEFFERSON PARISH - continued

BID NO.: 50-00141449

SEALED BID

ITEM NUMBER	QUANTITY	U/M	DESCRIPTION OF ARTICLES	UNIT PRICE QUOTED	TOTALS
			TEXT COLOR: BLACK DECAL TEXT W1-8 CHEVRON PART # 670-300003		
9	100.00	EA	0090 REFLECTIVE NO RIGHT TURN SIGN (R3-1) 24" X 24"	\$ 24.75	\$ 2,475.00
			PART # 624-000446 0100 REFLECTIVE NO LEFT TURN SIGN (R3-2) 24" X 24"	\$ 24.75	\$ 2,475.00
10	100.00	EA	0100 REFLECTIVE NO LEFT TURN SIGN (R3-2) 24" X 24"	\$ 24.75	\$ 2,475.00
			PART # 624-000447 0110 CUSTOM REFLECTIVE DECAL RECTANGLE 30" X 24"	\$ 30.85	\$ 3,085.00
11	100.00	EA	0110 CUSTOM REFLECTIVE DECAL RECTANGLE 30" X 24"	\$ 30.85	\$ 3,085.00
			BACKGROUND COLOR: WHITE TEXT COLOR: BLACK U-TURN PART # 670-300005		
12	50.00	EA	0120 REFLECTIVE SCHOOL SIGN (S1-1) 36" PENTAGON	\$ 65.00	\$ 3,250.00
			DIAMOND GRADE DG3 FLUORESCENT YELLOW GREEN PART # 614-012609		
13	1.00	ONLY	0130 SHIPPING	\$ Included	\$ Included
			DELIVER TO: JEFFERSON PARISH TRAFFIC ENGINEERING 2100 DICKORY AVE. HARRAHAN, LA 70123 **PLEASE SEE ATTACHED SPECIFICATIONS**		
			REVISED PER ADDENDUM #1		



Transportation Safety Division

3M™ High Intensity Prismatic Reflective Sheeting Series 3930

Product Bulletin Series 3930
June 2021

Replaces Product Bulletin 3930 Dated May 2018

1 Description

High Intensity Prismatic Reflective Sheeting Series 3930 (“Sheeting”) is a non-metalized microprismatic lens reflective sheeting designed for use in the production of durable reflective traffic control signs and delineators that are exposed vertically in service (“Signs”). Applied to properly prepared Sign substrates, the Sheeting provides long-term reflectivity and durability.

Sheeting is available in the following colors.

Table 1. Product codes by color.

Color	Product Code
White	3930
Yellow	3931
Red	3932
Orange	3934
Blue	3935
Green	3937
Brown	3939



2 Specifications

2.1 Daytime Color (x, y, Y)

The chromaticity coordinates and total luminance factors of the retroreflective Sheeting conform to the limits presented in Table 2.

Table 2. Daytime color specification limits.^a

Color	1		2		3		4		Reflectance Limit (Y%)	
	x	y	x	y	x	y	x	y	Minimum	Maximum
White	0.303	0.300	0.368	0.366	0.340	0.393	0.274	0.329	27	
Yellow	0.498	0.412	0.557	0.442	0.479	0.520	0.438	0.472	15	45
Red	0.648	0.351	0.735	0.265	0.629	0.281	0.565	0.346	2.5	15
Orange	0.558	0.352	0.636	0.364	0.570	0.429	0.506	0.404	10	30
Blue	0.140	0.035	0.244	0.210	0.190	0.255	0.065	0.216	1	10
Green	0.026	0.399	0.166	0.364	0.286	0.446	0.207	0.771	9	12
Brown	0.430	0.340	0.610	0.390	0.550	0.450	0.430	0.390	1	9

a. The four pairs of chromaticity coordinates determine the acceptable color in terms of the CIE 1931 Standard Colorimetric System.

2.1.1 Color Test - Ordinary Colored Sheeting

Conformance to standard chromaticity (x, y) and luminance factor (Y%) requirements shall be determined instrumentally, in accordance with ASTM E1164, on Sheeting applied to smooth test panels cut from aluminum alloy 6061-T6 or 5052-H38. Chromaticity and luminance factor values shall be determined using a HunterLab ColorFlex 45/0 spectrophotometer.¹ Calculations shall be performed using CIE Illuminant D65 and the 2° standard observer.

2.2 Coefficient of Retroreflection (R_A)

The values shown in Table 3 are minimum coefficients of retroreflection.

Table 3. Minimum coefficient of retroreflection, R_A, for new Sheeting (cd/lux/m²).

Entrance Angle ^a	Sheeting Color	Observation Angle ^b	
		0.2°	0.5°
-4°	White	560	200
	Yellow	420	150
	Red	84	30
	Orange	210	75
	Blue	30	13
	Green	56	21
	Brown	18	7.5
30°	White	280	100
	Yellow	210	75
	Red	42	15
	Orange	105	37
	Blue	14	6
	Green	28	10
	Brown	6.5	3.5

a. Entrance Angle – The angle from the illumination axis to the retroreflector axis. The retroreflector axis is an axis perpendicular to the retroreflective surface.

b. Observation Angle – The angle between the illumination axis and the observation axis.

1. The instrumentally determined color values of retroreflective sheeting can vary significantly depending on the make and model of colorimetric spectrophotometer used, as well as the color and retroreflective optics of the sheeting (David M. Burns and Timothy J. Donahue, Measurement Issues in the Color Specification of Fluorescent Retroreflective Materials for High Visibility Traffic Signing and Personal Safety Applications, Proceedings of SPIE: Fourth Oxford Conference on Spectroscopy, 4826, pp. 39–49, 2003). For the purposes of this document, the HunterLab ColorFlex 45/0 spectrophotometer shall be the referee instrument.



2.2.1 Test for Coefficient of Retroreflection

Conformance to coefficient of retroreflection requirements shall be determined instrumentally, in accordance with ASTM E-810 "Test Method for Coefficient of Retroreflection of Retroreflective Sheeting." Per ASTM E-810, the values presented in Table 3 are averages of R_A values obtained at 0° and 90° rotations.

2.3 Printed Colors and Overlay Films

When processed according to 3M recommendations, the coefficient of retroreflection of a screen-printed transparent color on white Sheeting shall be not less than 70% of the R_A value of the corresponding colored Sheeting presented in Table 3. White Sheeting covered with 3M ElectroCut™ Film Series 1170, when processed according to 3M recommendations, shall have a coefficient of retroreflection of not less than 100% of the value of the corresponding colored Sheeting, as presented in Table 3. The chromaticities and luminances of printed colors and overlay films shall conform to the specifications presented in Table 2.

3 Physical Properties

3.1 Fabrication Lines

The manufacture of prismatic Sheeting results in the presence of fabrication lines in the final product, as shown in Figure 1. The Sheeting's fabrication lines are slightly thicker than its seal pattern legs and noticeable under shop light but not observable on the road, either in daylight or at night, under typical use conditions.

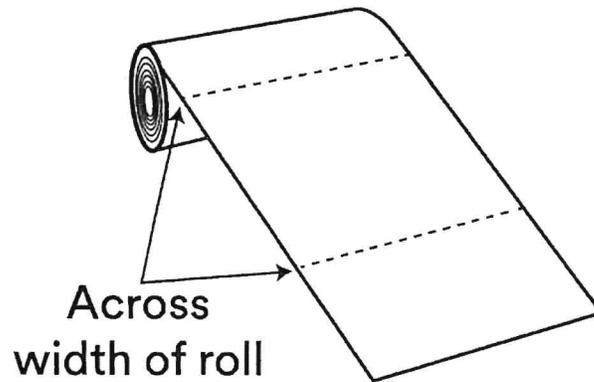


Figure 1. Fabrication lines.

3.2 Adhesive

Sheeting has a pressure-sensitive adhesive that is recommended for application at temperatures of 65 °F (18 °C) and higher.



3.3 Entrance Angularity Performance and Orientation

Sheeting has been designed to be an effective wide angle reflective sheeting regardless of its orientation on the substrate or the ultimate orientation of the Sign after installation. However, because the efficiency of light return from cube corner reflectors is not equal at all application orientations, which is especially apparent at larger entrance angles, it is possible to get the widest entrance angle light return from a particular orientation. When high entrance angle (>50°) performance is required for a given Sign (e.g. “keep right” symbols), it can be obtained easily by properly orientating the Sheeting on the Sign substrate. In such situations, the completed Sign should have the Sheeting positioned at the 0° orientation (downweb direction perpendicular to the road). When the flat side of the diamond (direction of diamond chain links) is vertical on the completed Sign, the Sheeting is said to be at a 0° orientation. When the “primary groove line” (or, flat side of the diamond shape) is horizontal on the completed Sign, the Sheeting is said to be at a 90° orientation. See Figure 1 for details.

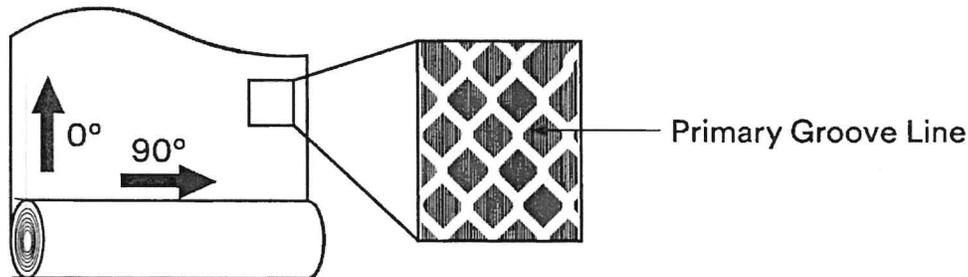


Figure 2. Primary groove lines used to define Sheeting orientation.

Unless a Sign’s location and/or position calls for extra-wide entrance angularity performance or a specific installation direction is required in a customer specification, Signs and applied copy (letters, arrows, borders, and shields) can be fabricated and installed using the application orientation that most efficiently utilizes the reflective Sheeting.

Note: For multi-panel Signs, it is recommended that all background panels be applied with the Sheeting oriented in the same direction.

4 Sign Fabrication Methods

4.1 Squeeze Roll Application

Sheeting should be applied to Sign substrates at temperatures of 65 °F (18 °C) and higher using either of the following methods:

Mechanical squeeze roll applicator – refer to [3M Information Folder 1.4](#). Applications to extrusions that are edge wrapped require sufficient softening of the Sheeting prior to edge wrapping. Softening can be accomplished by directing additional heat to the “next to last” edge roller. This practice may increase productivity and minimize cracking.

Hand squeeze roll applicator – refer to [3M Information Folder 1.6](#) for details.

Background and complete Sign applications of Sheeting must be performed using a roll laminator, either mechanical or hand driven.

4.2 Hand Application

Hand application is recommended for legend and copy only. Refer to [3M Information Folder 1.5](#) for more details.

Hand applications are more likely to show visual irregularities that may be objectionable to aesthetically critical customers. These irregularities are more noticeable on darker colors. To obtain a uniform close-up appearance, a roll laminator must be used.

All direct applied copy and border **MUST** be cut and squeegeed at all metal joints.



4.3 Splices

Sheeting must be butt spliced when more than one piece of Sheeting is used on a single piece of substrate. Sheeting pieces should not touch one another. Avoiding overlap prevents the buckling that can occur as Sheeting expands under extreme temperature and humidity conditions.

4.4 Double Faced Signs

The Sheeting on the bottom side of a double faced Sign can be damaged if rolled through a squeeze roll applicator using an unprotected steel bottom roller. The use of a semi-soft flat sheet between the steel roller and the applied Sign face will protect the Sign face from damage. Use of a rubber mat, tag board, or cardboard is recommended.

5 Substrates

For traffic Sign use, the substrates that have been found to be most reliable and durable are properly prepared aluminum sheets and extrusions. Users are urged to carefully evaluate the adhesion and Sign durability properties of all other substrates. Other substrates suitable for secure and durable applications of Sheeting have the following characteristics:

- Clean
- Smooth
- Flat
- Rigid
- Dimensionally stable
- Weather resistant
- Non-porous
- High surface energy (pass water break test)

Refer to [3M Information Folder 1.7](#) for surface preparation recommendations. Substrates with low surface energies may require additional preparation steps, such as flame treatment, mechanical abrasion, or use of adhesion promoters prior to Sheeting application. Guide Sign extrusions may be edge wrapped. Flat panels and unwrapped extrusions must be carefully trimmed so that Sheeting sections on adjacent panels do not touch on assembled Signs.

Sheeting has been designed primarily for application to flat substrates. Any application to a substrate with a radius of curvature of less than five inches should also be supported by rivets or bolts. Plastic substrates are not recommended where cold shock performance is required. Sign failures caused by substrate failures or improper surface preparations are not the responsibility of 3M.

6 Imaging

Sheeting may be processed into traffic Signs using any of the imaging methods described below. 3M assumes no responsibility for the failures of Sign face legends or backgrounds that have been processed with non-3M process colors or with matched component imaging materials other than those listed below.

6.1 Digital Imaging

Sheeting is compatible with the HP Latex 360/365 printers in combination with HP 831/HP 871 Latex inks. This compatibility is backed with a 3M MCS™ Warranty and 3M MCS Warranty for Traffic when the printing guidelines in [3M Information Folder 1.18](#) are followed and 3M ElectroCut™ Film 1170C Clear is applied over the finished graphics. See Section 13 of this document for more information regarding the MCS Warranties.

6.2 Screen Processing

Sheeting may be screen processed into traffic Signs using 3M Process Colors Series 880I or Series 880N before or after being mounted onto a substrate. Series 880I and 880N process colors can be screened at temperatures of 60–100 °F (16–38 °C) and at relative humidities of 20–50%. A P.E. 157 screen mesh with a fill pass is recommended. Refer to [3M Information Folder 1.8](#) for details. Clear coating is neither required nor recommended. Use of process color series other than 880I or 880N is not recommended.

