



DELAWARE STATE UNIVERSITY

OFFICE OF PLANNING & CONSTRUCTION

1200 N. DuPont Highway
Dover, Delaware 19901-2277

Addendum # 03

Date: 6/14/2017

Project: Science Center South – Animal Research Lab Renovation

Contract: PC-16-019

The work herein shall be considered part of the bid documents for the referenced project and carried out in accordance with the following supplemental instructions issued in accordance with the Contract Documents without change in Contract Sum or Contract Time. Acknowledge receipt of addendum on the bid form as indicated.

Clarifications:

1. See below responses

Changes to Specifications:

2. N/A

Changes to Drawings:

1. N/A

General Information:

1. See attached approved Roller Shades Substitution.
2. Alternate # 9: Impact Fee Allowance \$3,000.00
3. See attached revised bid form to include alternates

Questions and Answers:

1. Alternate 5 states to contact Advantech. Do we get pricing or does the owner hire Advantech? Please advise.

Answer: **Contractor to provide pricing for the integration as per alternate # 5**

2. Alternate 7 states to relocate existing equipment. Is this related to the equipment on drawing A2.2? Please clarify.

Answer: **Contractor to relocate equipment from current Lab in 1st Floor to the new renovated space upon completion**

3. Alternate 8 allowance of 25,000. Is this for the case work, if not what lab specialties does this refer?

Answer: **This is for additional lab equipment such as tables, hoods, Etc.**

4. Can you clarify if the existing epoxy floor will be demoed? This will affect the price.

Answer: **Existing Epoxy Flooring and base will be removed prior to installing new.**

5. We cannot price impact fees until the drawings are approved by the city. Can this be done as an allowance?

Answer: **Dwgs are already submitted to the city and the only addition in the plumbing Dwgs is one (1) drain for the cage washer. See attached Sheet.**

See alternate # 9 in the revised bid form, Impact Fee allowance of \$3,000.00

:

END



BID FORM

Project: PC-16-019– Science Center South – Animal Research Lab Renovation

Location: Delaware State University
Science Center South - Main Campus
1200 North DuPont Hwy
Dover, Delaware

For Bids Due: Friday, June 23, 2017 @3:00 pm

To: Delaware State University
Facilities Building,
Office 101
1200 N. DuPont Highway
Dover, DE 19901-2277
Attn: Zafar Chaudhrey
Associate Vice President

Name of Bidder: _____

Delaware Business License No.: _____ **Taxpayer ID No.:** _____
(A copy of Bidder's Delaware Business License must be attached to this form.)

(Other License Nos.): _____

Phone No.: () _____ - _____ **Fax No.:** () _____ - _____

The undersigned, representing that he has read and understands the Bidding Documents and that this bid is made in accordance therewith, that he has visited the site and has familiarized himself with the local conditions under which the Work is to be performed, and that his bid is based upon the materials, systems and equipment described in the Bidding Documents without exception, hereby proposes and agrees to provide all labor, materials, plant, equipment, supplies, transport and other facilities required to execute the work described by the aforesaid documents for the lump sum itemized below:

\$ _____ (Written Out).

(\$ _____) (Figures).

[This price includes all allowances as documented within the project manual.]

A. ALTERNATES (Note: project is subject to prevailing wages)

1. Alternates: Alternate prices conform to applicable project specification section. Refer to the drawing specifications for a complete description of the following Alternates. An "ADD" or "DEDUCT" amount is indicated by the crossing out the part that does not apply.

- a. **Alternate #1:** Lab safety signage Allowance Net - ADD / DEDUCT
 • \$5,000.00 (Figures).
 • (Written Out).
- b. **Alternate #2:** Corner Guards and Impact resistant Drywall Net - ADD / DEDUCT
 • (Figures).
 • (Written Out).
- c. **Alternate #3:** Dimmable ballast and manual controls Net - ADD / DEDUCT
 • (Figures).
 • (Written Out).
- d. **Alternate #4:** Provide and install Lab Grade Ceiling Tiles, Contractor to apply tile sealant Net - ADD / DEDUCT
 • (Figures).
 • (Written Out).
- e. **Alternate #5:** Access Control interface Net - ADD / DEDUCT
 • (Figures).
 • (Written Out).
- f. **Alternate #6:** FF&E Allowance Net - ADD / DEDUCT
 • \$15,000.00 (Figures).
 • (Written Out).
- g. **Alternate #7:** Contractor to relocate existing furniture Net - ADD / DEDUCT
 • (Figures).
 • (Written Out).
- h. **Alternate #8:** lab Specialties Allowance Net - ADD / DEDUCT
 • \$25,000.00 (Figures).
 • (Written Out).
- i. **Alternate #9:** Impact Fee Allowance Net - ADD / DEDUCT
 • \$3,000.00 (Figures).
 • (Written Out).

B. UNIT PRICES

1. Unit prices conform to applicable project specification section. Refer to the specifications for a complete description of the following Unit Prices:

	<u>ADD</u>	<u>DEDUCT</u>
UNIT PRICE No. 1: (BRIEF DESCRIPTION)	\$ N/A	\$ N/A
UNIT PRICE No. 2: (BRIEF DESCRIPTION)	\$ N/A	\$ N/A
UNIT PRICE No. 3: (BRIEF DESCRIPTION)	\$ N/A	\$ N/A

C. WORK SCHEDULE

1. We understand that this contract is governed by liquidated damages and that submission of this bid is acceptance of the proposed contract completion date. Our proposed detailed project schedule shows more fully the sequence of activities necessary to meet the specified schedule. The project schedule is a required attachment of a complete bid and failure to submit a viable schedule will be a justifiable reason to deem the bid as incomplete.
2. I/We can begin work _____ calendar days after notification of award and will require _____ calendar days thereafter to complete the work. Work on the project will begin _____ calendar days after Letter of Intent.
3. Alternative Work Hours

Work during "regular hours" at this site is being performed on a single shift, eight hours per day, 7:30 AM to 4:30 PM, and five days per week, Monday through Friday. To meet the schedule established on the basis of Item 1 above, our proposed work hours will be _____ hours per day, _____ AM to _____ PM, and _____ days per week, _____ through _____ the cost of which is reflected in our lump sum price. Our lump sum price also includes any mandatory off-hours work required per special conditions.

D. SITE SUPERINTENDANT

We propose to use _____ as our site superintendent. A resume of his/her qualifications is attached.

We understand that DSU reserves the right to interview him/her prior to contract award/prior to start of work and to reject him/her if not considered acceptable. If rejected, we will propose alternate personnel for the position who will be subject to the same review and acceptance procedure, at no increase in our lump sum proposal.

We also understand DSU reserves the right to reject our bid if we are unable to provide a site supervisor acceptable to DSU within thirty (30) calendar days after submission of this bid.

E. REMARKS

1. I/We acknowledge Addendums numbered _____ and the price(s) submitted include any cost/schedule impact they may have.
2. This bid shall remain valid and cannot be withdrawn for thirty (30) days from the date of opening of bids (60 days for School Districts and Department of Education), and the undersigned shall abide by the Bid Security forfeiture provisions. Bid Security is attached to this Bid.
3. The Owner shall have the right to reject any or all bids, and to waive any informality or irregularity in any bid received.
4. This bid is based upon work being accomplished by the Sub-Contractors named on the list attached to this bid.

5. Should I/We be awarded this contract, I/We pledge to achieve substantial completion of all the work within _____ calendar days of the Notice to Proceed.
6. Our Bid Price(s) are firm based on contract award within thirty (30) calendar days of the date of submittal of this bid.
7. I/We understand that we will not be compensated at a later date for claimed additional costs based on any information received during the bid period, but which is not identified in our proposal and subsequently accepted in writing by DSU.

The undersigned represents and warrants that he has complied and shall comply with all requirements of local, state, and national laws; that no legal requirement has been or shall be violated in making or accepting this bid, in awarding the contract to him or in the prosecution of the work required; that the bid is legal and firm; that he has not, directly or indirectly, entered into any agreement, participated in any collusion, or otherwise taken action in restraint of free competitive bidding.

Upon receipt of written notice of the acceptance of this Bid, the Bidder shall, within twenty (20) calendar days, execute the agreement in the required form and deliver the Contract Bonds, and Insurance Certificates, required by the Contract Documents.

I am / We are an Individual / a Partnership / a Corporation

By _____ Trading as _____
(Individual's / General Partner's / Corporate Name)

(State of Corporation)

Business Address: _____

Witness: _____ By: _____
(SEAL) (Authorized Signature)

(Title)

Date: _____

ATTACHMENTS

Sub-Contractor List
Non-Collusion Statement
Bid Security
Construction Schedule
Resume of Site Superintendent
(Others as Required by Project Manuals)

END OF SECTION 00 41 13

STATE OF DELAWARE
OFFICE OF MANAGEMENT AND BUDGET

BID BOND

TO ACCOMPANY PROPOSAL
(Not necessary if security is used)

KNOW ALL MEN BY THESE PRESENTS That: _____
_____ of _____ in the County of _____
and State of _____ as **Principal**, and _____
_____ of _____ in the County of _____ and State of _____
as **Surety**, legally authorized to do business in the State of Delaware ("**State**"), are held and firmly unto the **State**
in the sum of _____ Dollars (\$_____),
or _____ percent not to exceed _____
_____ Dollars (\$_____) of amount of bid on Contract No. _____, to be
paid to the **State** for the use and benefit of _____ (*insert State agency
name*) for which payment well and truly to be made, we do bind ourselves, our and each of our heirs, executors,
administrators, and successors, jointly and severally for and in the whole firmly by these presents.

NOW THE CONDITION OF THIS OBLIGATION IS SUCH That if the above bonded **Principal** who has
submitted to the _____ (*insert State agency name*) a certain proposal to
enter into this contract for the furnishing of certain material and/or services within the **State**, shall be awarded this
Contract, and if said **Principal** shall well and truly enter into and execute this Contract as may be required by the
terms of this Contract and approved by the _____ (*insert State
agency name*) this Contract to be entered into within twenty days after the date of official notice of the award
thereof in accordance with the terms of said proposal, then this obligation shall be void or else to be and remain in
full force and virtue.

Sealed with _____ seal and dated this _____ day of _____ in the year of our Lord two
thousand and _____ (20____).

SEALED, AND DELIVERED IN THE
Presence of

Corporate
Seal

By:

Name of Bidder (Organization)

Authorized Signature

Attest _____

Title

Name of Surety

Witness: _____

By:

Title

SUBCONTRACTOR LIST

In accordance with Title 29, Chapter 6962 (d)(10)b Delaware Code, the following sub-contractor listing must accompany the bid submittal. The name and address of the sub-contractor **must be listed for each category** where the bidder intends to use a sub-contractor to perform that category of work. In order to provide full disclosure and acceptance of the bid by the *Owner*, **it is required that bidders list themselves as being the sub-contractor for all categories where he/she is qualified and intends to perform such work.**

<u>Subcontractor Category</u>	<u>Subcontractor</u>	<u>Address (City & State)</u>	<u>Subcontractors tax payer ID # or Delaware Business license #</u>
1. <u>Demolition</u>	_____	_____	_____
2. <u>Plumbing</u>	_____	_____	_____
3. <u>Mechanical</u>	_____	_____	_____
4. <u>Electrical</u>	_____	_____	_____
5. <u>Controls</u>	_____	_____	_____
6. <u>General Trades</u>	_____	_____	_____
7. <u>Sheet Metal</u>	_____	_____	_____
8. _____	_____	_____	_____
9. _____	_____	_____	_____

NON-COLLUSION STATEMENT

This is to certify that the undersigned bidder has neither directly nor indirectly, entered into any agreement, participated in any collusion or otherwise taken any action in restraint of free competitive bidding in connection with this proposal submitted this date *(to the Office of Management and Budget, Division of Facilities Management)*.

All the terms and conditions of *(Project or Contract Number)* have been thoroughly examined and are understood.

NAME OF BIDDER: _____

**AUTHORIZED REPRESENTATIVE
(TYPED):** _____

**AUTHORIZED REPRESENTATIVE
(SIGNATURE):** _____

TITLE: _____

ADDRESS OF BIDDER: _____

E-MAIL: _____

PHONE NUMBER: _____

Sworn to and Subscribed before me this _____ day of _____ 20____.

My Commission expires _____. NOTARY PUBLIC _____.

THIS PAGE MUST BE SIGNED AND NOTARIZED FOR YOUR BID TO BE CONSIDERED.

AFFIDAVIT OF EMPLOYEE DRUG TESTING PROGRAM

OMB Regulation 4104 for the Drug Testing of Contractor and Subcontractor Employees Working on Large Public Works Projects requires that Contractors and Subcontractors implement a program of mandatory drug testing for Employees who work on Large Public Works Contracts funded all or in part with public funds.

For more information, please refer to the following link for the full regulation: <http://regulations.delaware.gov/register/september2015/final/19%20DE%20Reg%20207%2009-01-15.pdf>

All the terms and conditions of *OMB Regulation 4104* have been thoroughly examined and are understood. We hereby certify that we have in place or will implement during the entire term of the contract a Mandatory Drug Testing Program for our employees on the jobsite that complies with this regulation:

Contractor/Subcontractor Name: _____

Contractor/Subcontractor Address: _____

Authorized Representative (typed or printed): _____

Authorized Representative (signature): _____

Title: _____

Sworn to and Subscribed before me this _____ day of _____ 20_____.

My Commission expires _____. NOTARY PUBLIC _____.

AN AFFIDAVIT SHALL BE PROVIDED BY THE BIDDER AND ALL SUBCONTRACTORS IDENTIFIED IN ATTACHED SUBCONTRACTOR LIST. STATEMENT(S) MUST BE SIGNED AND NOTARIZED FOR YOUR BID TO BE CONSIDERED.



CITY OF DOVER

DEPARTMENT OF PUBLIC WORKS

15 Loockerman Plaza
Dover, DE 19901

Phone: (302) 736-7025
Fax: (302) 736-4217

In order to calculate City and County Impact Fees, which must be paid before you can receive a Certificate of Occupancy, please complete the following and submit this form to the Department of Public Works:

Applicant Name Delaware State University

Location / Address 1200 North DuPont Hwy Dover Delaware 19901

TOTAL FIXTURES <u>BEFORE</u> PERMIT		TOTAL FIXTURES <u>AFTER</u> PERMIT	
Description	Number	Description	Number
Sink (Double or Triple Bowl)		Sink (Double or Triple Bowl)	
Washstand or Lavatory (Single Bowl)	2	Washstand or Lavatory (Single Bowl)	1
Toilet		Toilet	
Bath & Shower		Bath & Shower	
Mop Sink or Service Sink		Mop Sink or Service Sink	
Flush Urinal		Flush Urinal	
Continuous Flush Urinal		Continuous Flush Urinal	
Convenience Outlet (floor drain)		Convenience Outlet (floor drain)	1
Domestic Dishwasher		Domestic Dishwasher	
Commercial Dishwasher		Commercial Dishwasher	
Drinking Fountain		Drinking Fountain	
Garbage Disposal		Garbage Disposal	
Washing Machine		Washing Machine	
Other: EMERGENCY SHOWER AND EYE WASH	1	Other: EMERGENCY SHOWER AND EYE WASH	1
Other:		Other: CAGE WASHER	1

The above information submitted by:

Name: Khalid Zerrad

Of: _____

Telephone: 302-857-7085 Fax: _____

Date: 6/12/2017



SUBSTITUTION REQUEST (During the Bidding Phase)

Project Science Center South
Animal Research Lab

To: StudioJAED Architects & Engineers
Bear, DE

Re: Roller Shade Substitution

Substitution Request Number: _____

From: Jessi Wright; Draper Inc.

Date: 6/13/17

A/E Project Number: 17001

Contract For: Renovation

Specification Title: Roller Shades Description: Room Darkening

Section: 12 24 13 Page: 2 Article/Paragraph: 2.01 B

Proposed Substitution: Draper Inc. as approved equal manufacturer

Manufacturer: Draper Inc Address: 411 S Pearl St. Spiceland, IN 47385 Phone: 765-987-7999

Trade Name: Window Treatments Model No.: FlexShade XD

Attached data includes product description, specifications, drawings, photographs, and performance and test data adequate for evaluation of the request; applicable portions of the data are clearly identified.

Attached data also includes a description of changes to the Contract Documents that the proposed substitution will require for its proper installation.

The Undersigned certifies:

- Proposed substitution has been fully investigated and determined to be equal or superior in all respects to specified product.
- Same warranty will be furnished for proposed substitution as for specified product.
- Same maintenance service and source of replacement parts, as applicable, is available.
- Proposed substitution will have no adverse effect on other trades and will not affect or delay progress schedule.
- Proposed substitution does not affect dimensions and functional clearances.
- Payment will be made for changes to building design, including A/E design, detailing, and construction costs caused by the substitution.

Submitted by: Jessi Wright

Signed by: Jessi Wright

Firm: Draper Inc.

Address: 411 S. Pearl St. Spiceland, IN 47385

Telephone: jessi.wright@draperinc.com

765-856-1334

A/E's REVIEW AND ACTION

- ☒ Substitution approved - Make submittals in accordance with Specification Section 01330.
- ☐ Substitution approved as noted - Make submittals in accordance with Specification Section 01330.
- ☐ Substitution rejected - Use specified materials.
- ☐ Substitution Request received too late - Use specified materials.

Signed by: Jessi Wright

Date: June 14, 2017

Supporting Data Attached: ☐ Drawings ☒ Product Data ☐ Samples ☐ Tests ☐ Reports ☐ _____



About Draper

Draper, Inc. was founded in 1902 by Luther O. Draper as a manufacturer of window shades for schools. Mr. Draper saw the problem of the sun's heat and glare in schools—the largest buildings in most communities at that time. He addressed that problem by making and selling spring-roller window shades in Spiceland, Indiana, 40 miles east of Indianapolis.

The window shade business grew through two world wars and a depression. Today, Draper offers lines of window shades for the commercial, educational, and residential markets, and is one of the country's largest manufacturers of window shades. Draper window shades are sold through leading window coverings dealers across the United States

Today, Draper utilizes a state-of-the-art 400,000 square foot manufacturing facility. Draper offers unmatched customer service and support and has continued to expand and grow its product lines through the recent recession and slow economy.

Draper's in-house engineering department designs our own product components, including clutches, roller tubes, and window shade hardware.



Draper's original factory, c. 1920.



Draper, Inc.'s manufacturing facility today.

RELAX.



YOUR PURCHASE IS COVERED.

The quality of Draper FlexShades is unmatched. We're so sure that your window shades will look great and work well (and continue to do so) that we are offering a 25-year limited warranty on most interior shade products.

We just don't think you'll need it.

Draper, Inc. warrants that its products are free from defects in material and workmanship for the following specified warranty periods:

For Draper's interior shading products:

- 25 years for most Draper FlexShade interior window shade models (excluding Infinity, Infinity 2, GreenScreen® Revive™, EcoShade, and Vela fabrics).
- 10 years for the Draper Techmatic, the Draper Spring Roller Window Shade (excluding Infinity, Infinity 2, GreenScreen® Revive™, EcoShade, and Vela fabrics), and the spring assist mechanism used in any Draper window treatment product.
- 5 years for controls, electronic accessories and motors for the above products, and also for above interior window shade models with Infinity, Infinity 2, GreenScreen® Revive™, EcoShade, and Vela fabrics.
- 1 year for the Draper FlexShade ZIP; the Draper Custom Tension System; the Draper Omega Venetian Blinds; the Draper FlexLouver Rack Arm System, and the Draper FlexWave Light Shelf.

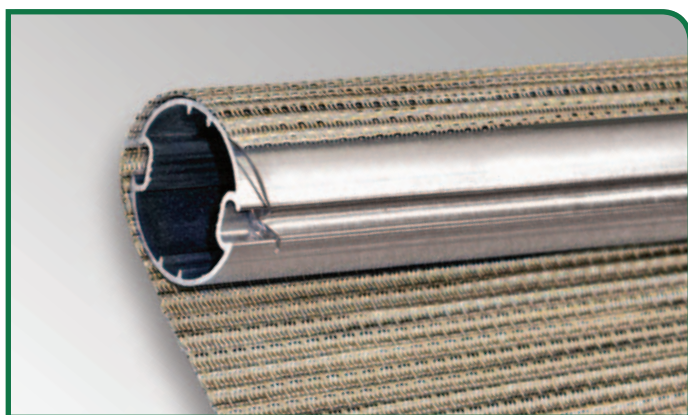
For Draper's exterior shading products:

- 5 years for most Draper Exterior FlexShade models.
- 1 year for the Draper FlexShade ZIP, the Draper Custom Tension System, the Draper Omega Venetian Blinds, the Draper FlexLouver Rack Arm System, the s_en® Shading System, and the s_onro® Daylighting Shutter System.

For more details, please contact Draper or visit our website at www.draperinc.com/go/FlexShadeWarranty.htm.



Clutch FlexShade XD Product Fact Sheet

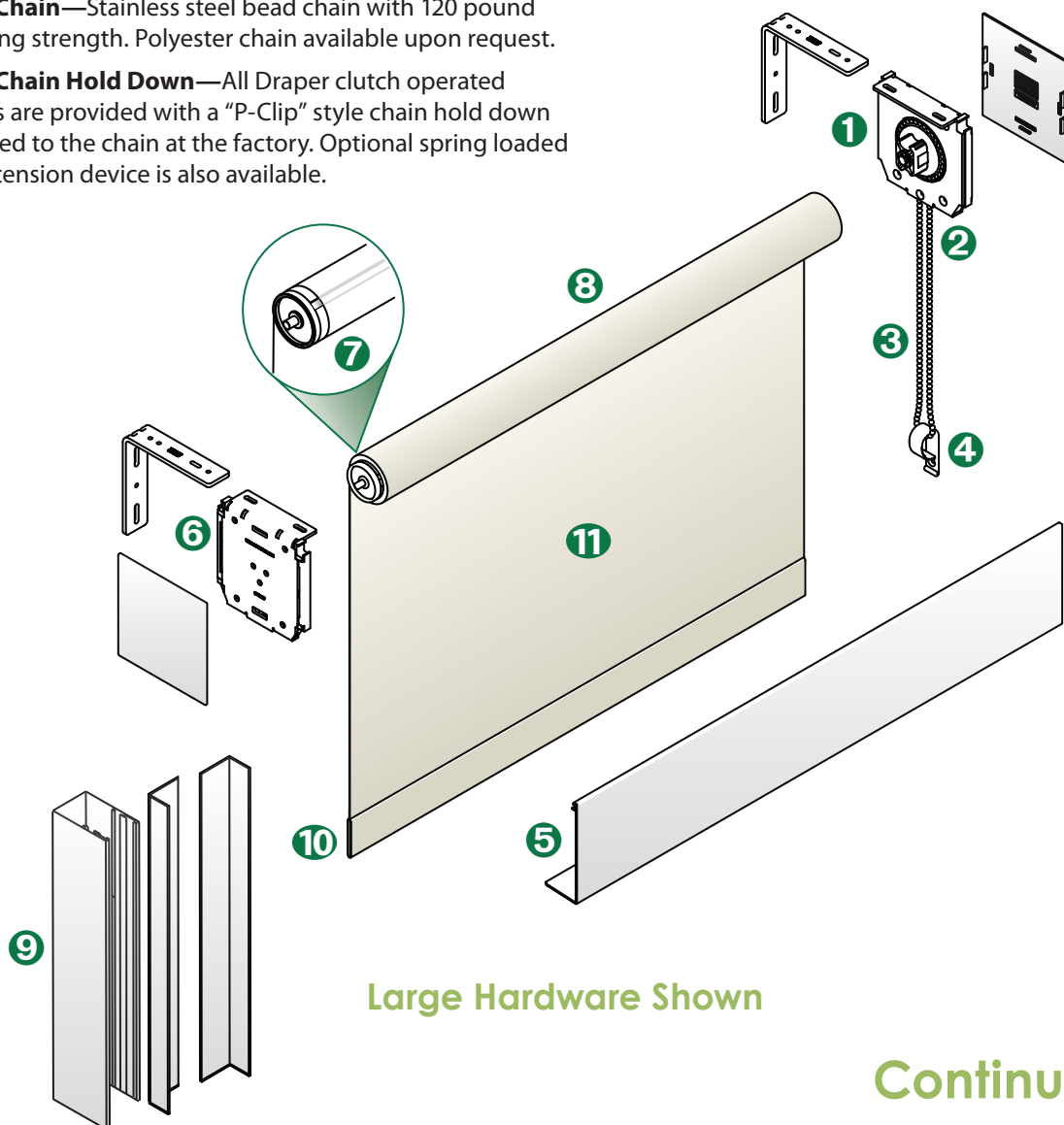


Installation above by Motorized Sun Solutions. Photography by Matt Oberer, matt o photo. Both of Albuquerque, NM.



Clutch FlexShade XD Product Fact Sheet

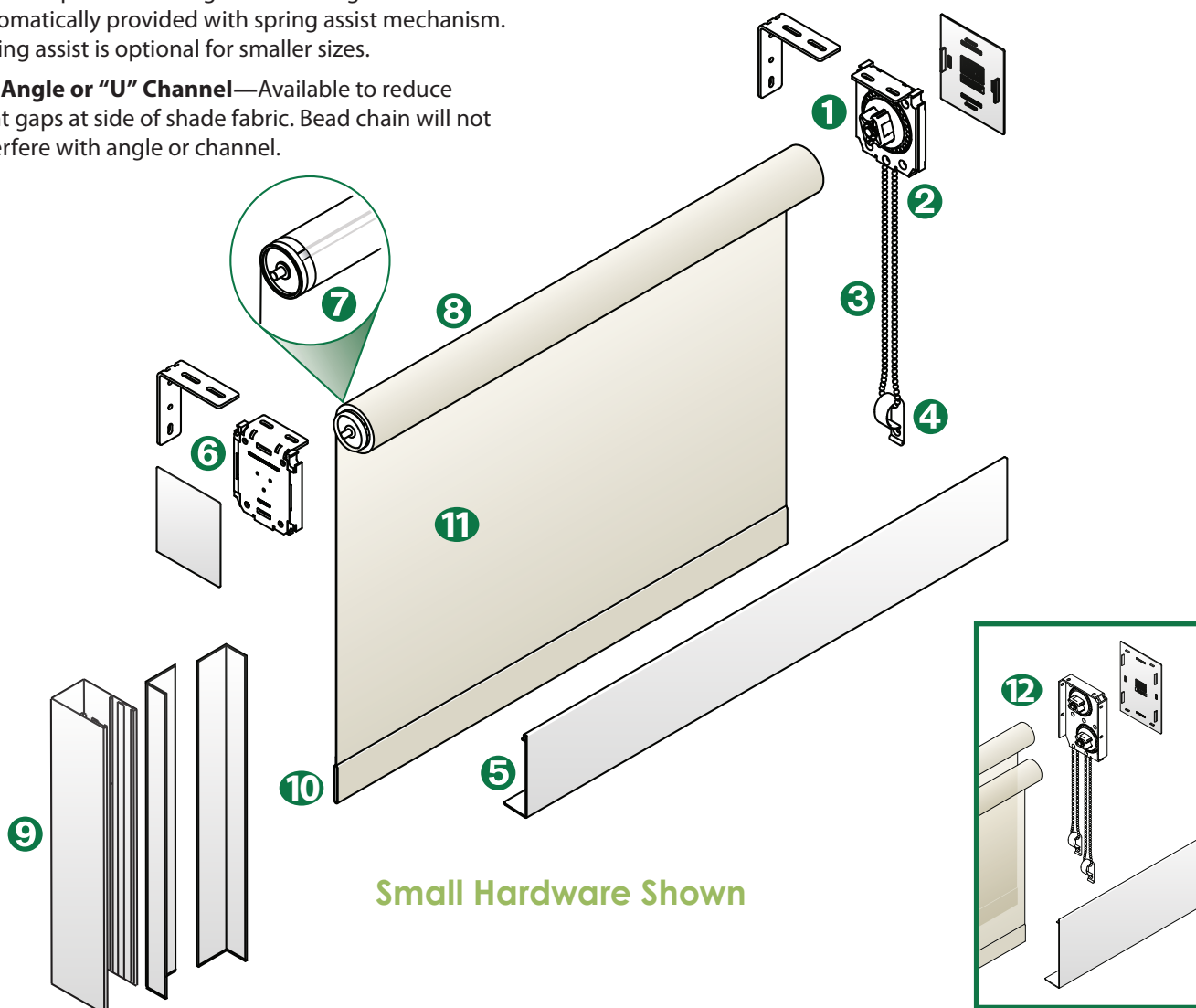
1. **XD Clutch Mechanism**—POM thermoplastic with welded 9 mm (.354") primary steel post, and rotational bearing to ensure smooth, quiet operation. POM is an engineering thermoplastic used in precision parts that require high stiffness, low friction and excellent dimensional stability. Trade names of POMs include DuPont, Delrin; Ticona Hostaform, Celcon; and Polyplastic Duracon. The XD clutch has overrunning design. Positive mechanical attachment of drive mechanism to roller tube. White or black color options.
2. **Centered Bead Chain Drive**—Bead chain will not interfere with optional side channels.
3. **Bead Chain**—Stainless steel bead chain with 120 pound breaking strength. Polyester chain available upon request.
4. **Bead Chain Hold Down**—All Draper clutch operated shades are provided with a "P-Clip" style chain hold down attached to the chain at the factory. Optional spring loaded chain tension device is also available.
5. **Fascia Cover**—FlexShade XD is compatible with standard Draper fascia panel or headbox cover. Aluminum L-shaped or radius fascia cover. Snaps onto endcaps without exposed fasteners. No notching of fascia required. Continuous fascia can cover two or more shade bands. Available in clear anodized, black, bronze, ivory, or white powdercoat finish. Optional powder coat colors are available. Full range of hardware accessories is available.



FlexShade XD Warranty—Single source limited 25-year warranty. Includes all hardware, XD clutch, and shade fabric.

Clutch FlexShade XD Product Fact Sheet

6. **Mounting Brackets (endcaps)**— $\frac{1}{8}$ " thick zinc plated steel with reinforcement ribs. Suitable for wall or ceiling installation. Wall brackets are provided standard with every shade. 2 sizes: $3\frac{1}{4}$ " x $3\frac{3}{4}$ " and $4\frac{1}{2}$ " x $4\frac{1}{2}$ ". Snap on plastic end cap covers are included.
7. **Fabric Attachment**—Shade fabric attached to aluminum roller tube with spline fabric attachment method. Allows for easy removal of fabric panel without removal of roller tube assembly.
8. **Roller Tube**—1.56", 2", 2.36", or 2.56" diameter extruded aluminum roller tube as appropriate for size of shade. **Spring Assist Mechanism** ensures smooth operation of large shades. Larger units are automatically provided with spring assist mechanism. Spring assist is optional for smaller sizes.
9. **"L" Angle or "U" Channel**—Available to reduce light gaps at side of shade fabric. Bead chain will not interfere with angle or channel.
10. **Bottom Hem Pocket**— $2\frac{1}{8}$ " heat sealed bottom hem pocket with $\frac{1}{8}$ " x 1" aluminum slat. Pocket ends are heat sealed so slat bar cannot be easily removed.
11. **Shade Fabric**—Draper uses fabrics from leading textile mills. Unmatched style and color choices. Many fabrics have GREENGUARD® certification, and MicroBan® antimicrobial treatment. Also offer PVC-free and recyclable fabrics. Fire retardancy and antimicrobial documentation and testing reports are available.
12. **Dual Roller FlexShade XD is also available.**



FlexShade XD Warranty—Single source limited 25-year warranty. Includes all hardware, XD clutch, and shade fabric.

FlexShade XD by Draper, Inc.

Prior Approval Side-By-Side Comparison

Specification Section	Draper, Inc.	Specified
Quality- Years manufacturing window shades, and use of materials which meet ASTM- G21 and NFPA 701 standards	Draper began manufacturing window shades in 1902. Fabrics used for your projects meet ASTM G21 and NFPA 701 standards.	The specified has been manufacturing for 40+ years. Their fabrics appear to meet the required standards.
Warranty- 25 year limited lifetime warranty	Draper products are backed by a 25 year limited lifetime warranty.	Product has 25 year limited lifetime warranty.
Chain	Draper uses stainless steel chain with a tensile strength of more than 120 lbs.	The specified uses stainless steel chain with a 90 lb tensile strength.
Hembar & hempocket	Draper uses a metal slat of appropriate size and thickness. The hempockets are heat sealed.	The specified product uses metal hembars and heat sealed hempockets.
Positive mechanical engagement and attachment of fabric to roller	Draper's roller is grooved to slide over the clutch drive. The fabric is welded to a spline. The spline is pressed into one of the two grooves.	The specified uses a spline system to attach the fabric to the roller.
Fascia	Draper's fascia allows for continuous mounting over multiple shades if requested. The fascia does not require exposed fasteners for attachment. Notching is never required for chain drops, with or without U channel.	The specified fascia can be mounted continuously over multiple shades. The fascia does not require exposed fasteners. Notching is not required for shades without U channels.
Drive Assembly	Draper uses a POM thermoplastic with a welded 9 mm primary steel post and rotational bearing to ensure smooth, quiet operation. POM trade names include DuPont Delrin; Ticona Hostaform, Celcon; and Polyplastic Duracon.	The specified uses a POM thermoplastic with a lubricated hub on a steel post.
Pockets	Draper uses an extruded aluminum pocket or steel pocket with exposed aluminum extruded closures.	The specified uses an extruded aluminum pocket or steel pocket with exposed aluminum extruded closures.
Fabrication	Draper shades are manufactured with equal fabric deductions on each side. Draper shades are manufactured to a 1/8" deflection tolerance so the sag in the middle of the roller does not create excessive distortion or buckling. Draper hangs and backlights each shade to inspect for tracking problems and fabric defects.	The specified product requires the shade to hang flat without buckling or distortion or shifting more than an 1/8 inch either direction.
Finishes	Draper powder coats its hardware with an on-site powder coat line. This tough, durable, and environmentally friendly process ensures minimum handling of coated product and maximum offering of colors with a quick lead-time.	The specified product uses a baked-enamel finish from the manufacturer's color range.



Copyright © 2012 Draper Inc. FlexShadeXDvM_PriorApproval12 Printed in U.S.A.

Please Note: Statements about the specified product are based on published information, and are subject to change.

Telephone—800-989-0126/Fax—866-637-5611

After hours, call our West Coast office at 714-447-4383.

Draper Clutch FlexShade XD v Mecho M5

	Draper	Mecho	
Bracket /Clutch			
Thickness	.125"	.125"	
X tra strength	Reinforcement ribs	N/A	
Surface Area	Larger	N/A	
Zinc Plated	Y	Y	
Primary Post			
Diameter	9 mm/ .354"	7.8 mm .311"	
One piece machined steel	Yes	No	
Post Attachment	Tig Welded	Swaged	
Clutch Area			
Width	12.7mm/ .50"	12.7 mm/ .50"	
Bundle Diameter	Larger	N/A	
Rotational Bearing	Yes	No	
Rivets			
clutch		5	4
Idler		7	6
Recessed on rear	Yes	No	
Centered	Yes	No	
Chain Exits	2 Centered Lower/reduces chain interference	4/Offset N/A	
Plastic Material	POM	POM	
Endcap Attachment	Mechanical Snap On	Tape	
Patents	N/A	Friction Hb and Spring	
Idler Notes	Printed	Printed	



Mecho



Draper







FlexShade XD

Premium clutch-operated window shade

Re: Draper XD Cycle Tests

To whom it may concern,

Testing was conducted on the Draper XD clutch at maximum lifting capacity and maximum shade height. This testing was done for 20,000 cycles (from the full raised position to completely lowered then returned to full raised position, this equals 1 cycle). After the testing was completed, the XD Clutch continued to perform to specification. It was subsequently dismantled and examined, the XD Clutch was observed to have negligible signs of wear. 20,000 cycles would represent approximately 55 years of use if it was used daily in a full up to full down to full up cycle.

Best regards,
Jeffrey A. Miller

Manager, Solar Control Products
Draper, Inc.

FlexShade XD

Premium clutch-operated
window shade

by

DRAPER

Please check all appropriate selections and attach room schedule with verified dimensions.

Select Operator Location

Select **right side (standard)** or left side as seen from inside the room, facing the window. Also indicate selection on room schedule.

- ☐ Right Side (standard)
- ☐ Left Side

Select Hardware

- ☐ Brackets Only
- ☐ Fascia
 - ☐ Large
 - ☐ Radius
 - ☐ Square
 - ☐ Small
 - ☐ Radius
 - ☐ Square
- ☐ Headbox
 - ☐ Large
 - ☐ Ceiling/Wall Style
 - ☐ Pocket Style
 - ☐ Small
 - ☐ Ceiling/Wall Style
 - ☐ Pocket Style
- ☐ Type "D" Pocket
 - ☐ Type "D" Corners (How Many? _____)
 - ☐ Inside
 - ☐ Outside
 - ☐ Type "D" Endcap Kits (2 endcaps) (How Many? _____)
- ☐ Wall Clip
 - ☐ With ceiling tile lip
 - ☐ Without ceiling tile lip
- ☐ Closure Panel for Type D or Wall Clip
 - ☐ 1½" closure panel (recommended for clutch operated FlexShades)
 - ☐ 3" closure panel (notching required for Clutch FlexShades)
 - ☐ 5" closure panel (for wall clip only)
- ☐ **Dual Roller FlexShade XD**
 - ☐ Endcaps Only
 - ☐ **Endcaps with Fascia**

- ☐ Horizontal Dual Roller FlexShade XD
 - ☐ Endcaps Only
 - ☐ Endcaps with Small Fascia (large fascia not an option)
- ☐ **Optional Channels for Light Gap Reduction** (special installation considerations for use with Dual Roller FlexShade XD. Contact Draper for details)
 - ☐ "U" Channel 1" x 2½" x 16' length
 - ☐ "H" Channel 1" x 5" x 16' length
 - ☐ "L" Angle ¾" x 1" x 12'3" length
 - ☐ "L" angle 1" x 2¾" x 16' length

Select Hardware Finish

- ☐ Clear Anodized (standard)
- ☐ Black
- ☐ White
- ☐ Ivory
- ☐ Bronze

Select Fabric Orientation

- ☐ Regular Roll (from back of roller)
- ☐ Reverse Roll (from front of roller) [Not available with fascia]

Select Operator Chain

- ☐ **Stainless Steel Chain (standard)**
- ☐ Polyester Chain
 - ☐ Ivory
 - ☐ Grey
 - ☐ Black
 - ☐ Brown
 - ☐ White

Select Cord Tension Device (Bead Chain only)

- ☐ P-Clip Cord Tension Device
- ☐ Optional Spring Loaded Cord Tension Device

Select Clutch Color

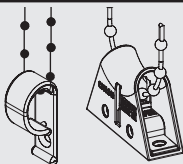
- ☐ White (standard)
- ☐ Black

Optional Spring Assist

- ☐ Spring Assist per manufacturer's standards (standard as required)
- ☐ Spring Assist on all units

Safety Note for Bead Chain Clutch Shades

Please Note: If shades are to be installed in areas accessible to young children, be certain to use cord tension device included with Bead Chain Clutch shades. Clutch-operated shades should not be installed near cribs or playpens.



For fabric selection and dimensions, please see pages 2 and 3.

DRAPER®

411 S. Pearl St., Spiceland, IN 47385 USA ■ 765-987-7999

www.draperinc.com ■ fax 765-987-7142

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Printed in U.S.A.

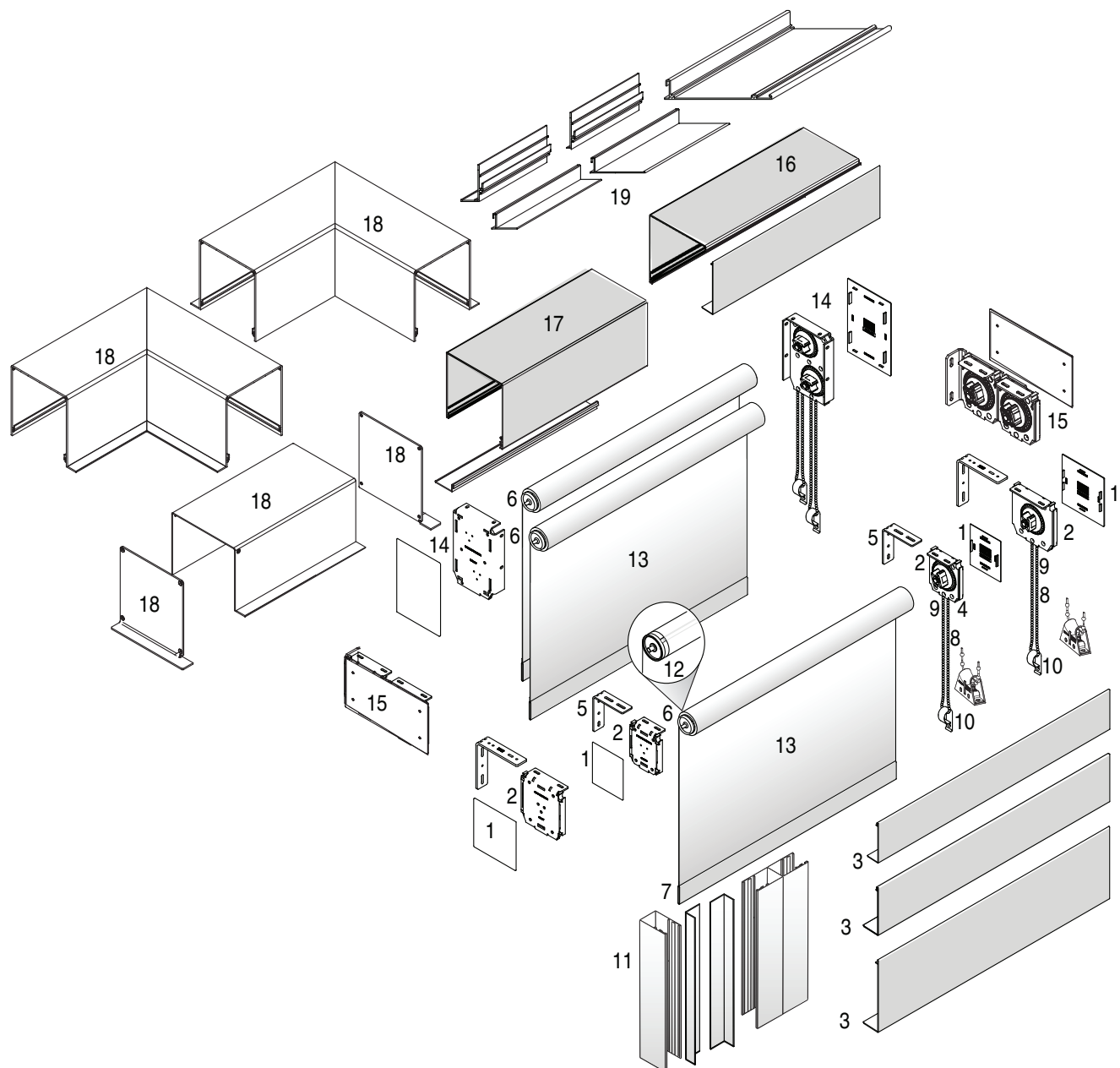
PROJECT: _____

ARCHITECT: _____

CONTRACTOR: _____

SUPPLIER: _____

DATE: _____ REVISED: _____



- ① End Cap Covers.
- ② Mounting Brackets (endcaps).
- ③ Fascia Cover
- ④ XD Clutch Mechanism.
- ⑤ Wall Brackets.
- ⑥ Roller Tube.
- ⑦ Bottom Hem Pocket.
- ⑧ Centered Bead Chain Drive.
- ⑨ Bead Chain.
- ⑩ Bead Chain Hold Down. Optional spring loaded chain tension device is also available.
- ⑪ "L" Angle, "H" Channel or "U" Channel.
- ⑫ Fabric Attachment.
- ⑬ Shade Fabric.
- ⑭ Dual Roller FlexShade XD.
- ⑮ Horizontal Dual Roller FlexShade XD.
- ⑯ Ceiling/Wall Headbox.
- ⑰ Pocket Headbox.
- ⑱ Type "D" Pocket. Pre-welded corners and endcaps optionally available.
- ⑲ Wall Clips and Closures with or without ceiling tile lip.
- ⑳ Optional Spring Assist Mechanism not shown.

⚠ Caution: When mounting a FlexShade XD in a headbox, the unit must be ceiling mounted with fasteners through the clutch and idler brackets. The headbox extrusion cannot be mounted to a structure unless the XD brackets are secured inside the extrusion.

Specifications—FlexShade XD**Equipment**

XD Clutch Operator: POM thermoplastic with welded 9 mm (.354") primary steel post with rotational bearing to ensure smooth and quiet operation. Overrunning design. Positive mechanical engagement of drive mechanism to tube. White (standard) or black color options. Stainless steel (standard) bead chain, or polyester control loop. Polyester chain in ivory, black or grey.

Rollers: Extruded aluminum 1.56", 2", 2.36", 2.56" and 3.12" diameter roller tube as appropriate for size of shade.

Components

Endcap: 1/8" thick zinc plated steel with reinforcement ribs. Wall or ceiling installation. 2 sizes: 3 1/4" x 3 3/4" and 4 1/2" x 4 1/2". Wall mount brackets are provided as standard. Snap-on plastic end cap covers to match clutch color.

Fabric Attachment: Fabric attached to roller tube with spline fabric attachment method. Allows for removal of fabric panel without removal of roller assembly.

Fascia: Optional L-shaped or radius cover of 6063-T5 extruded aluminum. Assembly snaps onto endcaps without exposed fasteners. **Clear anodized finish (standard)** or ivory, bronze, black or white powder coat. Fascia can also be wrapped in fabric. Radius fascia on small hardware only.

Headbox: Standard consists of fascia, L-shaped back/top cover. Assembly snaps onto endcaps. Optional, for pocket installation, includes a U-shaped back/top/front cover with removable bottom closure panel. Small size: 3 7/16" x 3 15/16". Large size: 4 11/16" x 4 11/16". Some exposed fasteners required. **Clear anodized (standard)** finish or black, white, ivory or bronze powder coat finish. Slat: Aluminum, encased in heat seamed hem.

Type D Pocket: Fabricated of 6063-T5 aluminum alloy for perimeter installation. Finished white. 5" x 5 3/8" x .125" with tile support lip and removable bottom closure. Pre-welded corners and endcaps optionally available. Larger 9 1/2" x 5 3/8" x .125" version for mounting two XD mechanisms in the same pocket also available.

Dimensions: Shades to fit windows with maximum protection from light streaks. Finished length of shades no less than 6" greater than window height.

"L" Angle (3/4" x 1" x 12'3", 1" x 2 3/4" x 16' or cut to length) and **"U" Channel** (1" x 2 1/2" x 16' or cut to length): Accepts side edges of fabric, prevents light gaps. Interior of channel provides for use of flat head screws. Dimensions of rollers, operators and hardware at manufacturer's discretion.

Specifications—Dual Roller FlexShade with XD Clutch

Two rollers mounted to a single set of endcaps, to accept fascia.

Equipment

XD Clutch Operator: POM thermoplastic with welded 9 mm (.354") primary steel post with rotational bearing to ensure smooth and quiet operation. Overrunning design. Positive mechanical engagement of drive mechanism to tube. White (standard) or black color options. Stainless steel (standard) bead chain, or polyester control loop. Polyester chain in ivory, black or grey.

Rollers: Extruded aluminum 1.56", 2" or 2.56" diameter roller tube as appropriate for size of shade.

Components

Dual Roller Endcaps (vertical): 1028 steel stamping. Complete with adapter roller bracket. Installs to wall or ceiling. Shades mount in vertical configuration (see drawings). Accepts fascia.

Fabric Attachment: Fabric attached to roller tube with spline fabric attachment method. Allows for removal of fabric panel without removal of roller assembly.

Fascia (for Endcaps): L-shaped cover of extruded aluminum, .060 wall. Assembly snaps onto endcaps without exposed fasteners. **Clear Anodized (standard)**, black, white, ivory, or bronze powder coat finish available.

Horizontal Dual XD FlexShade Bracket: 1028 steel stamping. Complete with adapter roller bracket. Installs to wall. Shades mount in horizontal configuration (see drawings). Accepts standard XD fascia.

"L" Angle (3/4" x 1" x 12'3", 1" x 2 3/4" x 16' or cut to length), **"U" Channel** (1" x 2 1/2" x 16' or cut to length) and **"H" Channel** (1" x 5" x 16' or cut to length): Accepts side edges of fabric, prevents light gaps. Interior of channel provides for use of flat head screws.

Dimensions of rollers, operators and hardware at manufacturer's discretion.

Select Fabric _____ Color name and number**Blackout****Draper SB9000**

Draper SB9100 _____

Mermet Edessa Twilight FR _____

Mermet Flocke _____

Mermet Vizela _____

Phifer SheerWeave® SW7000 _____

Phifer SheerWeave® SW7100 _____

Solar**23%**

Phifer SheerWeave® SW1000 _____

14%

Phifer SheerWeave® SW3000 _____

10%

Mermet "E" Screen _____

Phifer SheerWeave® SW2100 _____

Phifer SheerWeave® SW2710 _____

Phifer SheerWeave® SW2600 _____

Phifer SheerWeave® SW2410 _____

Phifer SheerWeave® PW4100 _____

5%

GreenScreen Revive _____

Mermet "E" Screen _____

Mermet "M" Screen _____

Mermet Silverscreen _____

Phifer SheerWeave® Basic _____

Phifer SheerWeave® Infinity 2 _____

Phifer SheerWeave® SW2000 _____

Phifer SheerWeave® SW2705 _____

Phifer SheerWeave® SW2900 _____

Phifer SheerWeave® PW3500 _____

Phifer SheerWeave® PW4500 _____

Phifer SheerWeave® PW4550 _____

Phifer SheerWeave® Infinity 2 _____

Mermet Silverscreen _____

4%

Mermet "S" Screen _____

3%

Mermet "E" Screen _____

Mermet "M" Screen _____

Phifer SheerWeave® Basic _____

Phifer SheerWeave® Infinity 2 _____

Phifer SheerWeave® SW2703 _____

Phifer SheerWeave® SW2400 _____

Phifer SheerWeave® PW4400 _____

Phifer SheerWeave® PW4600 _____

Phifer SheerWeave® PW4650 _____

Ferrari Soltis 99 _____

1%

GreenScreen Revive _____

Mermet "E" Screen _____

Mermet "T" Screen _____

Mermet Vizela _____

Phifer SheerWeave® SW2701 _____

Phifer SheerWeave® SW2500 _____

Phifer SheerWeave® PW4800 _____

Varies

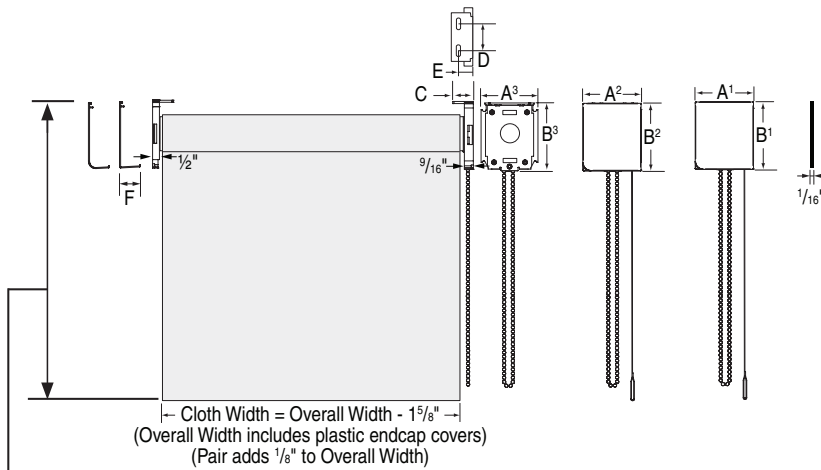
Mermet Vela _____

Phifer SheerWeave® SW5000 _____

For additional fabric information, go to www.draperinc.com/WindowShades/stylelist.asp.

To use our online fabric selection tool, go to www.draperinc.com/WindowShades/tools/fabricselector.

FlexShade XD Dimensions

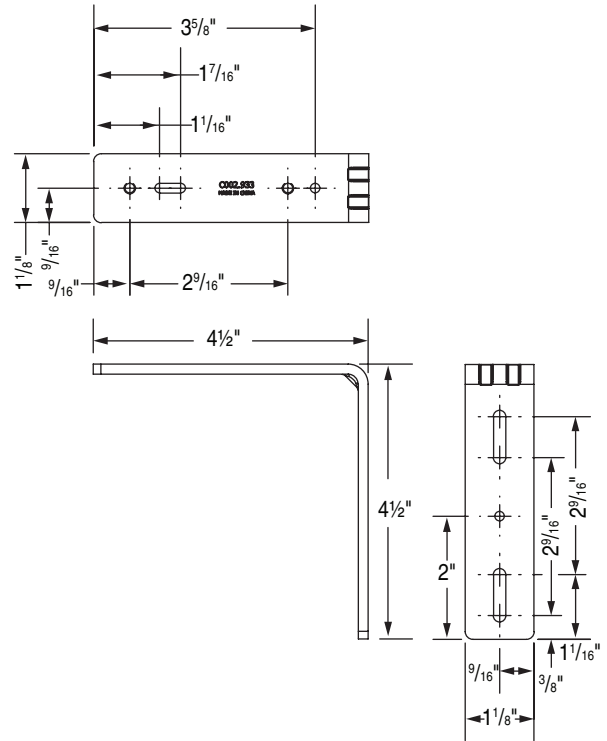


When measuring shade height, remember to include endcaps and wall brackets, fascia or headbox.

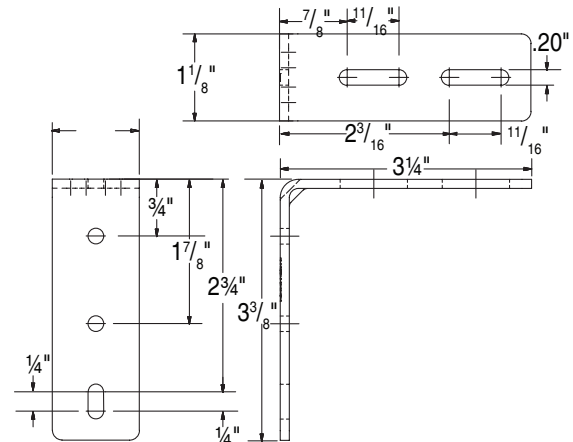
Headbox		Fascia		Endcaps*	
Small	Large	Small	Large	Small	Large
A ¹	3 ⁷ / ₁₆ "	4 ¹¹ / ₁₆ "	A ²	3 ³ / ₈ "	4 ⁵ / ₈ "
B ¹	3 ¹⁵ / ₁₆ "	4 ¹¹ / ₁₆ "	B ²	3 ⁷ / ₈ "	4 ⁵ / ₈ "
C	1 ³ / ₁₆ "	1 ³ / ₁₆ "	C	1 ³ / ₁₆ "	1 ³ / ₁₆ "
D	1 ⁵ / ₁₆ "	2 ⁹ / ₁₆ "	D	1 ⁵ / ₁₆ "	2 ⁹ / ₁₆ "
E	1 ³ / ₁₆ "	1 ³ / ₁₆ "	E	1 ³ / ₁₆ "	1 ³ / ₁₆ "
F	1 ³ / ₁₆ "	1 ⁹ / ₁₆ "	F	1 ³ / ₁₆ "	1 ⁹ / ₁₆ "
				N/A	N/A

* For Wall Mounting Bracket, add ³/₁₆" to A³ and B³.

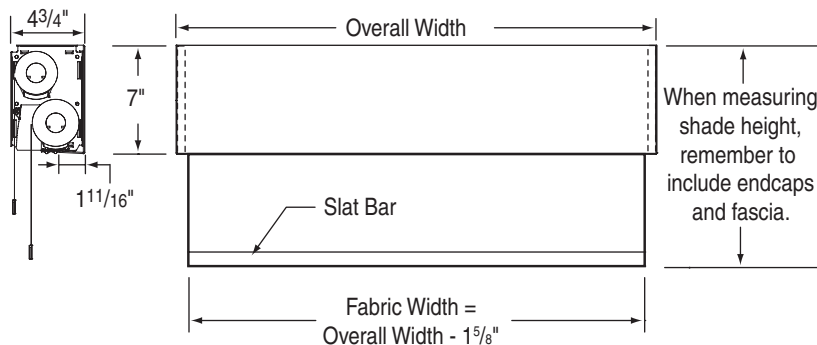
Large Wall Bracket Dimensions



Small Wall Bracket Dimensions

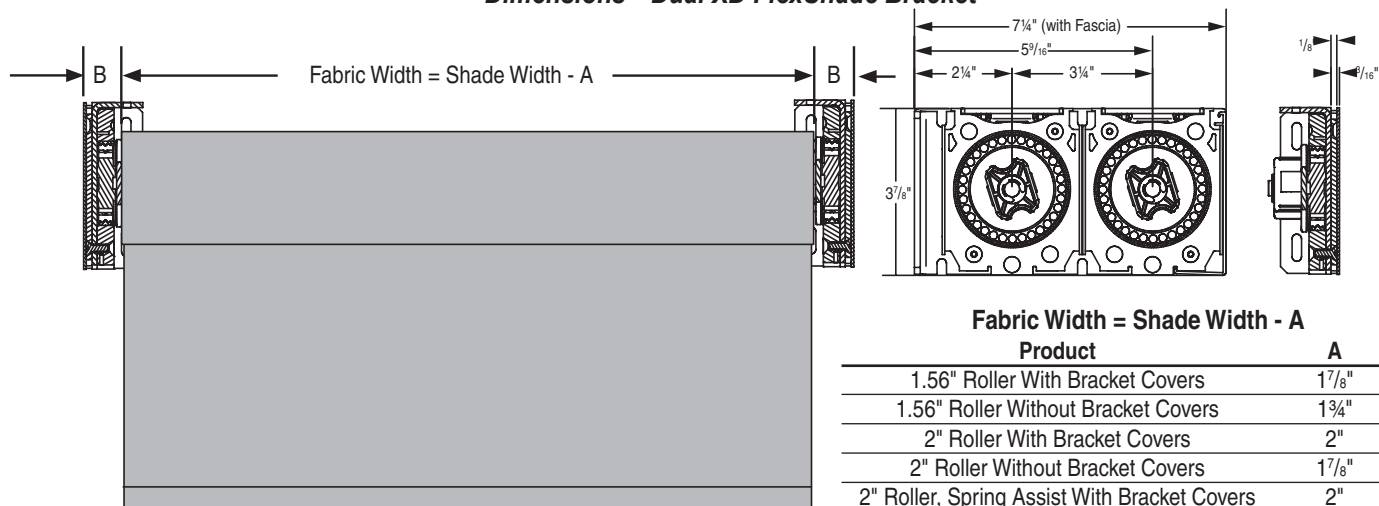


Dimensions—Dual Roller



When measuring shade height, remember to include endcaps and fascia.

Dimensions—Dual XD FlexShade Bracket



Fabric Width = Shade Width - A

Product	A	B
1.56" Roller With Bracket Covers	1 ⁷ / ₈ "	1 ⁵ / ₁₆ "
1.56" Roller Without Bracket Covers	1 ³ / ₄ "	7/8"
2" Roller With Bracket Covers	2"	1"
2" Roller Without Bracket Covers	1 ⁷ / ₈ "	1 ⁵ / ₁₆ "
2" Roller, Spring Assist With Bracket Covers	2"	1"
2" Roller, Spring Assist Without Bracket Covers	1 ⁷ / ₈ "	1 ⁵ / ₁₆ "

Interior Sun Control Fabrics

Phifer
SheerWeave
BRAND FABRIC
STYLE PW3500/4100/4400

MADE WITH
ecolibrium
BIO BASED PLASTICIZERS

Style PW3500 (4000)

(5% open)



PW3560 Linen (Alabaster)

Style PW4100

(10% open)



PW4160 Linen (Alabaster)

Style PW4400

(3% open)

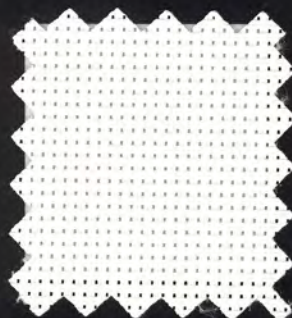


PW4460 Linen (Alabaster)

**A Greener
Shading Solution**



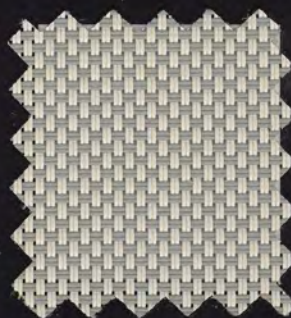
THE ABOVE STYLES
ARE ALSO AVAILABLE IN
THE COLORS SHOWN BELOW.



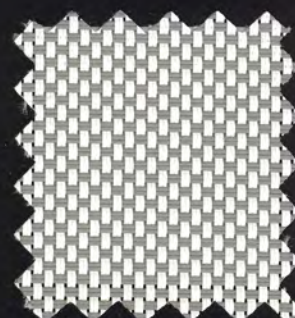
Snowy White (Chalk)



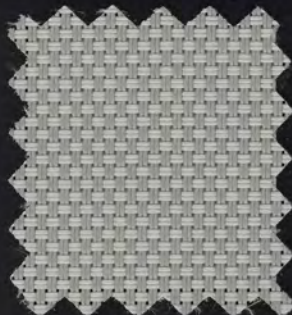
Bone (Pebblestone)



Greystone



Granite



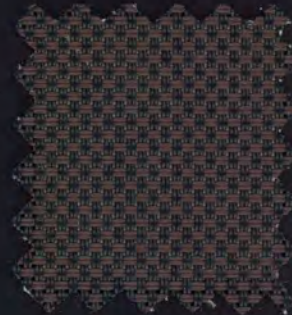
Soft Grey (Pewter)



Ash



Ebony



Tobacco

SheerWeave® Style PW3500/4100/4400

Specifications

■ Ideal for use in Roller-Operated Shades, Fixed Panels, and Panel Track, Style PW3500/4100/4400 can also be used in exterior roller shades. DOW ECOLIBRIUM™ Bio-Based Plasticizers offer a renewable alternative that is phthalate-free, offering a more sustainable option while having the same great performance and feel of current materials.

Fire Classification: California U.S. Title 19 (small scale), NFPA 701-2004 TM#1 (small scale), NFPA 101 (Class A Rating), UBC (Class I), BS 5867 2008 Part 2 Type B Performance, NFPA 701 TM#2 Large Scale, ASTM E 84 (Class 1), CAN/ULC-S109-03 (large and small scale), and CAN/CGSB-2.4.162-M80

Bacteria and Fungal Resistance: ASTM E 2180, AATCC30 Part 3, ASTM G21, ASTM D 3273, GREENGUARD Mold and Bacteria Standard ASTM 6329; includes Microban antimicrobial additives

Environmental Certification: Certified to GREENGUARD Gold standards for low chemical emissions into indoor air during product usage

Lead Free: RoHS / Directive 2002/95/EC, US Consumer Product Safety Commission Section 101, ANSI/WCMA A100.1-2007 for lead content and REACH (EC 1907/2006) compliant

Acoustical Performance: NRC (Noise Reduction Coefficient) and SAA (Sound Absorption Average) tested in accordance with ASTM C423-09a. See performance values below.

Composition: 25% Polyester, 75% Vinyl on Polyester (Over 50% of compound components are derived from crop-based feed stocks and minerals. Over 2/3 of total compound is derived from non fossil fuel based materials.)

Standard Uses: Roller-Operated Shades, Fixed Panels, and Panel Track

Warranty: 10-year interior; 5-year exterior



PRODUCT CERTIFIED FOR
LOW CHEMICAL EMISSIONS
UL.COM/IGG
UL 2818



Microban® antimicrobial protection inhibits the growth of stain-causing bacteria, mold and mildew on the shade.



Style PW3500 (4000)

■ Made from vinyl-coated polyester yarns, Style PW3500 (4000) is designed with today's demanding commercial market in mind.

Standard Widths: 63", 84", 98" and 126" (160cm, 213.4cm, 248.9cm and 320cm)

Standard Roll Length: 30 Linear Yards (27.4m)

Mesh Weight: 19.2 oz/yd² (651 g/m²)

Fabric Thickness: .036 in (0.91mm)

Openness Factor: Approximately 5%

UV Blockage: Approximately 95%

Acoustical Value: NRC .10 / SAA .11

Style PW4100

■ Similar in design to Style PW3500 (4000), Style PW4100 has a slightly more open weave to provide increased outward visibility.

Standard Widths: 63", 84" and 98" (160cm, 213.4cm and 248.9cm)

Standard Roll Length: 30 Linear Yards (27.4m)

Mesh Weight: 17.5 oz/yd² (593 g/m²)

Fabric Thickness: .035 in (0.89mm)

Openness Factor: Approximately 10%

UV Blockage: Approximately 90%

Style PW4400

■ Designed with a 3% openness factor, Style PW4400 offers maximum UV blockage while maintaining good outward visibility.

Standard Widths: 63", 84", 98" and 126" (160cm, 213.4cm, 248.9cm and 320cm)

Standard Roll Length: 30 Linear Yards (27.4m)

Mesh Weight: 20.7 oz/yd² (702 g/m²)

Fabric Thickness: .037 in (0.94mm)

Openness Factor: Approximately 3%

UV Blockage: Approximately 97%

Acoustical Value: NRC .20 / SAA .19

* Performance evaluations conducted by Matrix, Inc., Mesa, Arizona.

TS = Solar Transmittance
RS = Solar Reflectance
AS = Solar Absorption
TV = Visual Transmittance
1/4CL = 1/4" Clear Glass
1CL = 1" Insulating Clear Glass
1/4HA = 1/4" Heat Absorbing Glass
1HA = 1" Insulating Heat Absorbing Glass

The solar optical properties are used to calculate the shading coefficient. The shading coefficient represents the percentage of solar heat gain that is transmitted to the interior through the glass and shading system. Darker colors provide maximum glare reduction and visibility. For complete technical information, current test results, performance specifications and larger samples, contact our Sun Control Marketing Department.



411 S. Pearl St. Spiceland, IN 47385
Ph: 765-987-7999 Fax: 765-987-7142
www.draperinc.com

Solar Heat Control Properties of Phifer SheerWeave Style PW3500 (4000) With DOW ECOLIBRIUM™ Fabrics Installed Internally, Zero-Degree Profile Angle

*Solar Optical Properties					Shading Coefficient w/ Single Insulating			
Style No.	Color	TS	RS	AS	TV	1/4CL	1/4HA	1CL 1HA
PW3510	Snowy White (Chalk)	16	68	16	12	0.32	0.31	0.31 0.25
PW3520	Bone (Pebblestone)	14	49	37	12	0.44	0.37	0.41 0.30
PW3525	Greystone	10	34	56	9	0.52	0.42	0.32 0.24
PW3540	Soft Grey (Pewter)	8	27	65	9	0.56	0.44	0.51 0.36
PW3545	Granite	11	41	48	10	0.48	0.40	0.29 0.23
PW3555	Ash	7	11	82	8	0.66	0.49	0.41 0.30
PW3560	Linen (Alabaster)	15	57	28	13	0.39	0.35	0.36 0.28
PW3570	Ebony	6	5	89	8	0.69	0.51	0.63 0.43
PW3580	Tobacco	7	5	88	8	0.70	0.51	0.44 0.31

Solar Heat Control Properties of Phifer SheerWeave Style PW4100 With DOW ECOLIBRIUM™ Fabrics Installed Internally, Zero-Degree Profile Angle

*Solar Optical Properties					Shading Coefficient w/ Single Insulating			
Style No.	Color	TS	RS	AS	TV	1/4CL	1/4HA	1CL 1HA
PW4110	Snowy White (Chalk)	18	66	16	15	0.34	0.32	0.32 0.25
PW4120	Bone (Pebblestone)	16	48	36	15	0.45	0.38	0.41 0.31
PW4125	Greystone	14	35	51	14	0.53	0.42	0.48 0.34
PW4140	Soft Grey (Pewter)	12	26	62	14	0.58	0.45	0.53 0.37
PW4145	Granite	15	42	43	14	0.49	0.40	0.29 0.23
PW4155	Ash	10	10	80	11	0.67	0.50	0.42 0.31
PW4160	Linen (Alabaster)	19	56	25	16	0.41	0.36	0.38 0.29
PW4170	Ebony	10	4	86	11	0.71	0.52	0.64 0.43
PW4180	Tobacco	10	5	85	11	0.70	0.51	0.45 0.32

Solar Heat Control Properties of Phifer SheerWeave Style PW4400 With DOW ECOLIBRIUM™ Fabrics Installed Internally, Zero-Degree Profile Angle

*Solar Optical Properties					Shading Coefficient w/ Single Insulating			
Style No.	Color	TS	RS	AS	TV	1/4CL	1/4HA	1CL 1HA
PW4410	Snowy White (Chalk)	12	70	18	7	0.30	0.30	0.16 0.15
PW4420	Bone (Pebblestone)	9	51	40	6	0.42	0.36	0.38 0.28
PW4425	Greystone	6	39	55	5	0.48	0.40	0.44 0.32
PW4440	Soft Grey (Pewter)	3	26	71	2	0.56	0.44	0.34 0.25
PW4445	Granite	6	48	46	5	0.43	0.37	0.25 0.20
PW4455	Ash	3	10	87	4	0.66	0.49	0.60 0.41
PW4460	Linen (Alabaster)	10	62	28	6	0.35	0.32	0.19 0.17
PW4470	Ebony	3	3	94	3	0.70	0.51	0.63 0.43
PW4480	Tobacco	3	5	92	3	0.69	0.50	0.62 0.42

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® MICROBAN is a registered trademark of Microban Products Company.
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Draper SunBloc SB9000/SB9100

These DRAPER room-darkening window shade fabrics are constructed of tough woven fiberglass coated on both sides with durable, sun-resistant, flexible vinyl. They are flame, fade, and mildew resistant, washable and tearproof. Designed for the toughest service, without that "institutional look."

SunBloc Series SB9000 (Triopak II)



White
SB9010



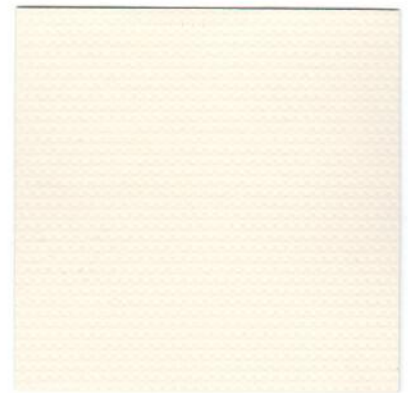
Ivory
SB9020



Tan
SB9030



Grey
SB9040



Oyster
SB9070



Black
SB9050



Champagne
SB9060



Dark Grey
SB9080

SunBloc Series SB9100 (Duopak)

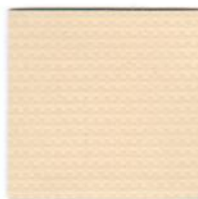
White on the outside.



Grey
SB9110



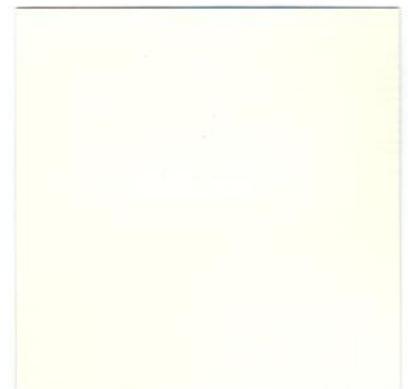
Chocolate
SB9120



Wheat
SB9130



Dark Grey
SB9140



Ivory
SB9102



Putty
SB9150



Forest Green
SB9160



Black
SB9170



Burgundy
SB9180



Navy
SB9190

DRAPER®

Draper SunBloc SB9000/SB9100

Draper's opaque vinyl fiberglass fabrics are real energy savers — reducing heat loss in winter, heat build-up in summer. In cold weather, window shades can reduce heat loss through glass by as much as 25%. When it's hot outside, shades can cut heat gain by 50%.*

*"Window Shades and Energy Conservation," Illinois Institute of Technology

SunBloc Series SB9000 (Triopak II)

The toughest shade fabric ever developed, SB9000 (Triopak II) is available in eight neutral colors. It is an excellent insulating material, reducing heat transfer both winter and summer. Constructed of tough materials: close-woven fiberglass coated on both sides with durable, sun-resistant, flexible vinyl. Flame, fade and mildew resistant, washable, and tearproof.

Specification: Close woven fiberglass base textile with sun-resistant vinyl film securely bonded to each side. Opaque, fire retardant, washable and stain resistant. Tensile strength 190 lbs. warp x 180 lbs. fill.

Technical Data

Opacity:	100%
Shading Coefficient (¼" glass):	.25
Maximum width without seam:	72"
Fabric Thickness	.015"
Weight/sq. yard	12 oz.
Fire retardant rating:	Meets NFPA 701 1996-Test 1

SunBloc Series SB9100 (Duopak)

White on the outside, ten decorator colors on the inside. Close-woven fiberglass is sandwiched between two layers of tough, flexible vinyl. Flame, fade and mildew-proof, SB9100 (Duopak) is designed for the toughest service, without the "institutional look."

Specification: Close woven fiberglass base textile with sun-resistant vinyl film securely bonded to each side. Opaque, fire retardant, washable and stain resistant. Tensile strength 190 lbs. warp x 180 lbs. fill.

Technical Data

Opacity:	100%
Shading Coefficient (¼" glass):	.25
Maximum width without seam:	72"
Fabric Thickness	.013"
Weight/sq. yard	12 oz.
Fire retardant rating:	Meets NFPA 701 1996-Test 1

DRAPER®

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