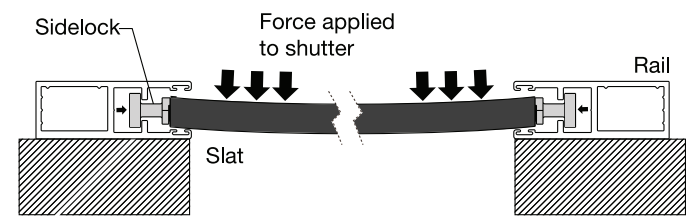


| ShopGuard RLL59-HD System Specifications | | | | | Operator Options | |
|---|---|---|-------------------------------------|-----------------------------------|------------------|------------------------|
| Recommended Opening Width 2' - 10' With Motor 3' - 16' | Recommended Opening Height Manual 2' - 10' Motor 2' - 10' | Recommended Maximum SQ. FT. Manual 50 Motor 160 | Curtain Weight 1.6 LBS / SQ. FT. | Profile Height 2.36" (59mm) | Gear | Motor / Remote Control |
| Housing Size (A) vs. FM Shutter Height | | | | | | |
| | | | | | 7 | 7.5 |
| | | | | | 8 | 8.5 |
| | | | | | 9 | 9.5 |
| | | | | | 10 | 10 |



System Specification Sheets
 ShopGuard RLL59 HD 59mm Slat Profile
 with End Retention Sidelocks



ROLLAC 2017

System Specifications

VERSION 04.06.17

To place an order please call:

(888) 2-ROLLAC (276-5522)

For more information please call:

(281) 485-1911 (local)

To find out more about our company or our products,
please visit our website: www.rollac.com.

email: architects@rollac.com

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System Overview and Technical Specifications

Drawing 2

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Drawing 3

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DETAIL: Recess / Jamb Mounting

Drawing 6

DETAIL: In Wall Mounting

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Drawing 9

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Drawing 11

ShopGuard System Spec Sheet

Drawing 12

Mounting Options for Rails

Drawing 13

Exposed Base Slat Detail and Wall Mounting Bottom Stop Detail

Drawing 14

Wall Mounting Side Rail Connections to wood and concrete walls

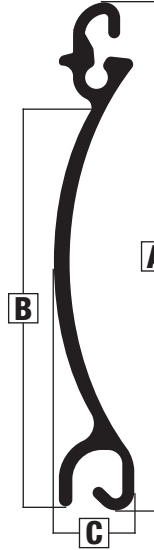
Drawing 15

Common Terms used for Rolling Shutters and Shutter System Frames



ShopGuard RLL59-HD Single Wall Extruded Slat - Solid

Commercial Security Solution



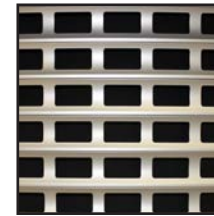
| Slat Details | | | | | | |
|-------------------|------------------|------------|-------------|-------------|-----------------|-------------|
| Total Height (A) | 2.63" | | 68 mm | | | |
| Total Height (B) | 2.39" | | 59 mm | | | |
| Profile Width (C) | 0.38" | | 9.8 mm | | | |
| Wall Gauge | 0.078" | | 2.0 mm | | | |
| Maximum Area | 120 sqft | | 11 sqm | | | |
| Weight | Solid (no punch) | | Grid Punch | | Rectangle Punch | |
| | 1.61 lbs/sft | 7.9 kg/sqm | 1.4 lbs/sft | 6.85 kg/sqm | 1.31 lbs/sft | 6.36 kg/sqm |



Solid



Grid



Rectangle

| Color Availability | | |
|--------------------|----------------|--------------|
| | Curtain Colors | Frame Colors |
| White | • | • |
| Cream | • | • |
| Beige | • | • |
| Bronze | • | • |
| Brown | | • |
| Grey | | • |
| Arcona Beige | | • |
| Anodized Silver | • | |
| Metallic | | • |

| Slat Details |
|--|
| <ul style="list-style-type: none"> Single-walled extruded aluminum Gauge 2.0 mm / 0.078" Type 6005-T5, class1 anodized or powder coated finish. |

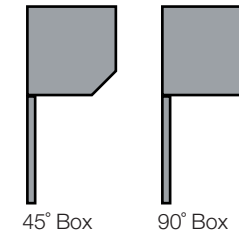
| Aluminum Base Slat for Maxi Slats |
|---|
| Cream, White, Grey, Light Beige, Bronze, Dark Brown, Arcona Beige |

| Slat Deduction for Shutter Manufacturing | | |
|--|---|---|
| Slat | Small Leg 45° & 90° 4"-10" | Large Leg 45° 10", 12" |
| RLL59 | 7.3 cm / 2 ⁷ / ₁₆ " | 8.7 cm / 3 ⁷ / ₁₆ " |

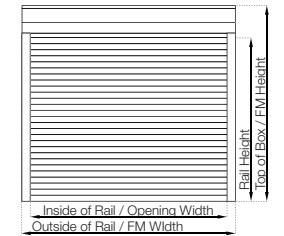
| Standard Side Rail - Maxi |
|---|
| End Retention Side Rail - 76 mm x 28 mm (3.00" x 1.11") |
| Anodized Silver, Cream, White, Light Beige, Bronze |

| Optional Side Rail - Maxi |
|---|
| End Retention Side Rail - 89 mm x 28 mm (3.50" x 1.06") |
| Anodized Silver, Cream, White, Light Beige, Bronze |

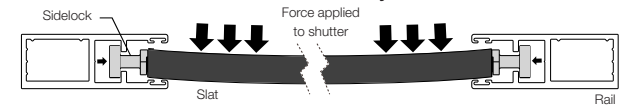
Box Housing Shape



Shutter Dimension Diagram



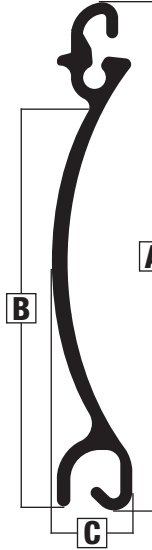
End Retention System



| Rail Height By Housing Size | | | | | |
|-----------------------------|--------------|---------------|--------------|--------------|--------------|
| Box Size | 6" (150 mm) | 6.5" (165 mm) | 7" (180 mm) | 8" (205 mm) | 9" (230 mm) |
| Axle | 70 mm | 70 mm | 70 mm | 70 mm | 70 mm |
| RLL59-HD | N/A | N/A | 48" | 76" | 113" |
| Box Size | 9" (230 mm) | 10" (250 mm) | 10" (250 mm) | 12" (300 mm) | 12" (300 mm) |
| Axle | 70 mm + Ring | 70 mm | 70 mm + Ring | 70 mm | 70 mm + Ring |
| RLL59-HD | 102" | 160" | 129" | 216" | 189" |

ShopGuard RLL59-HD Single Wall Extruded Slat - Rectangle Punch

Commercial Security Solution



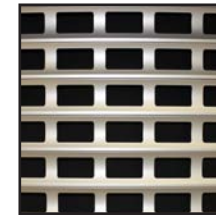
| Slat Details | | | | | | |
|-------------------|------------------|------------|-------------|-------------|-----------------|-------------|
| Total Height (A) | 2.63" | | 68 mm | | | |
| Total Height (B) | 2.39" | | 59 mm | | | |
| Profile Width (C) | 0.38" | | 9.8 mm | | | |
| Wall Gauge | 0.078" | | 2.0 mm | | | |
| Maximum Area | 120 sqft | | 11 sqm | | | |
| Weight | Solid (no punch) | | Grid Punch | | Rectangle Punch | |
| | 1.61 lbs/sft | 7.9 kg/sqm | 1.4 lbs/sft | 6.85 kg/sqm | 1.31 lbs/sft | 6.36 kg/sqm |



Solid



Grid



Rectangle

| | Color Availability | |
|-----------------|--------------------|--------------|
| | Curtain Colors | Frame Colors |
| White | • | • |
| Cream | • | • |
| Beige | • | • |
| Bronze | • | • |
| Brown | | • |
| Grey | | • |
| Arcona Beige | | • |
| Anodized Silver | • | |
| Metallic | | • |

| Slat Details |
|--|
| <ul style="list-style-type: none"> • Single-walled extruded aluminum • Gauge 2.0 mm / 0.078" • Type 6005-T5, class1 anodized or powder coated finish. |

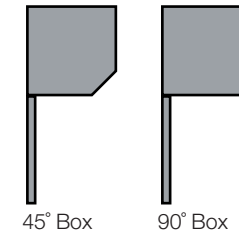
| Aluminum Base Slat for Maxi Slats |
|---|
| Cream, White, Grey, Light Beige, Bronze, Dark Brown, Arcona Beige |

| Slat Deduction for Shutter Manufacturing | | |
|--|---|---|
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| RLL59 | 7.3 cm / 2 ⁷ / ₁₆ " | 8.7 cm / 3 ⁷ / ₁₆ " |

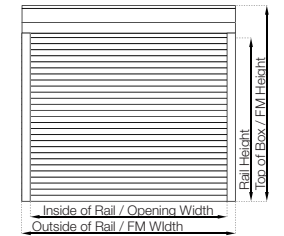
| Standard Side Rail - Maxi |
|---|
| End Retention Side Rail - 76 mm x 28 mm (3.00" x 1.11") |
| Anodized Silver, Cream, White, Light Beige, Bronze |

| Optional Side Rail - Maxi |
|---|
| End Retention Side Rail - 89 mm x 28 mm (3.50" x 1.06") |
| Anodized Silver, Cream, White, Light Beige, Bronze |

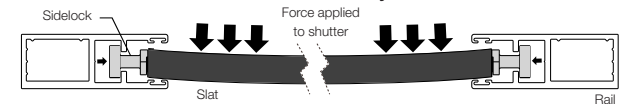
Box Housing Shape



Shutter Dimension Diagram



End Retention System



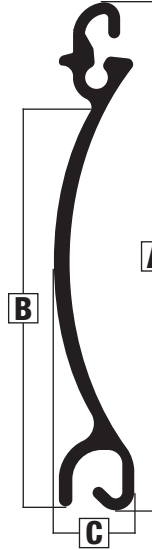
| Rail Height By Housing Size | | | | | |
|-----------------------------|--------------|---------------|--------------|--------------|--------------|
| Box Size | 6" (150 mm) | 6.5" (165 mm) | 7" (180 mm) | 8" (205 mm) | 9" (230 mm) |
| Axle | 70 mm | 70 mm | 70 mm | 70 mm | 70 mm |
| RLL59-HD | N/A | N/A | 48" | 76" | 113" |
| Box Size | 9" (230 mm) | 10" (250 mm) | 10" (250 mm) | 12" (300 mm) | 12" (300 mm) |
| Axle | 70 mm + Ring | 70 mm | 70 mm + Ring | 70 mm | 70 mm + Ring |
| RLL59-HD | 102" | 160" | 129" | 216" | 189" |

ShopGuard RLL59-HD Single Wall Extruded Slat - Grid Punch

Commercial Security Solution



RLL59-HD



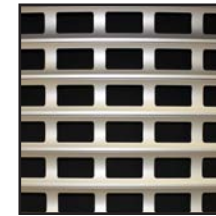
| Slat Details | | | | | | |
|-------------------|------------------|------------|-------------|-------------|-----------------|-------------|
| Total Height (A) | 2.63" | | 68 mm | | | |
| Total Height (B) | 2.39" | | 59 mm | | | |
| Profile Width (C) | 0.38" | | 9.8 mm | | | |
| Wall Gauge | 0.078" | | 2.0 mm | | | |
| Maximum Area | 120 sqft | | 11 sqm | | | |
| Weight | Solid (no punch) | | Grid Punch | | Rectangle Punch | |
| | 1.61 lbs/sft | 7.9 kg/sqm | 1.4 lbs/sft | 6.85 kg/sqm | 1.31 lbs/sft | 6.36 kg/sqm |



Solid



Grid



Rectangle

| | Color Availability | |
|-----------------|--------------------|--------------|
| | Curtain Colors | Frame Colors |
| White | • | • |
| Cream | • | • |
| Beige | • | • |
| Bronze | • | • |
| Brown | | • |
| Grey | | • |
| Arcona Beige | | • |
| Anodized Silver | • | |
| Metallic | | • |

| Slat Details |
|--|
| <ul style="list-style-type: none"> • Single-walled extruded aluminum • Gauge 2.0 mm / 0.078" • Type 6005-T5, class1 anodized or powder coated finish. |

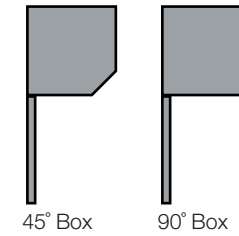
| Aluminum Base Slat for Maxi Slats |
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| Cream, White, Grey, Light Beige, Bronze, Dark Brown, Arcona Beige |

| Slat Deduction for Shutter Manufacturing | | |
|--|---|---|
| Slat | Small Leg 45° & 90° 4"-10" | Large Leg 45° 10", 12" |
| RLL59 | 7.3 cm / 2 ⁷ / ₁₆ " | 8.7 cm / 3 ⁷ / ₁₆ " |

| Standard Side Rail - Maxi |
|---|
| End Retention Side Rail - 76 mm x 28 mm (3.00" x 1.11") |
| Anodized Silver, Cream, White, Light Beige, Bronze |

| Optional Side Rail - Maxi |
|---|
| End Retention Side Rail - 89 mm x 28 mm (3.50" x 1.06") |
| Anodized Silver, Cream, White, Light Beige, Bronze |

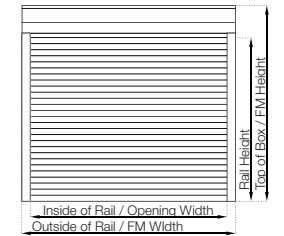
Box Housing Shape



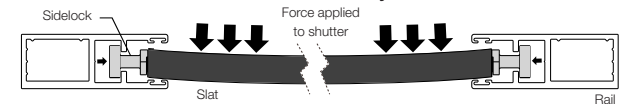
45° Box

90° Box

Shutter Dimension Diagram



End Retention System

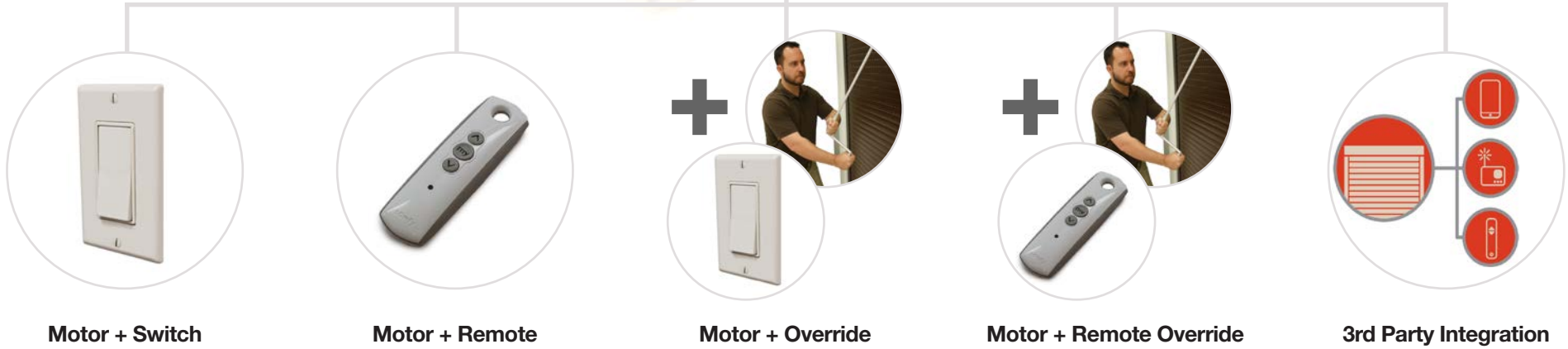


| Rail Height By Housing Size | | | | | |
|-----------------------------|--------------|---------------|--------------|--------------|--------------|
| Box Size | 6" (150 mm) | 6.5" (165 mm) | 7" (180 mm) | 8" (205 mm) | 9" (230 mm) |
| Axle | 70 mm | 70 mm | 70 mm | 70 mm | 70 mm |
| RLL59 | N/A | N/A | 48" | 76" | 113" |
| Box Size | 9" (230 mm) | 10" (250 mm) | 10" (250 mm) | 12" (300 mm) | 12" (300 mm) |
| Axle | 70 mm + Ring | 70 mm | 70 mm + Ring | 70 mm | 70 mm + Ring |
| RLL59 | 102" | 160" | 129" | 216" | 189" |



Operator Overview

Motorized Options



Each Option Includes Motorized Operation





Operator Overview

Manual Options



Recoil Box



Crank Box



Push / Pull System

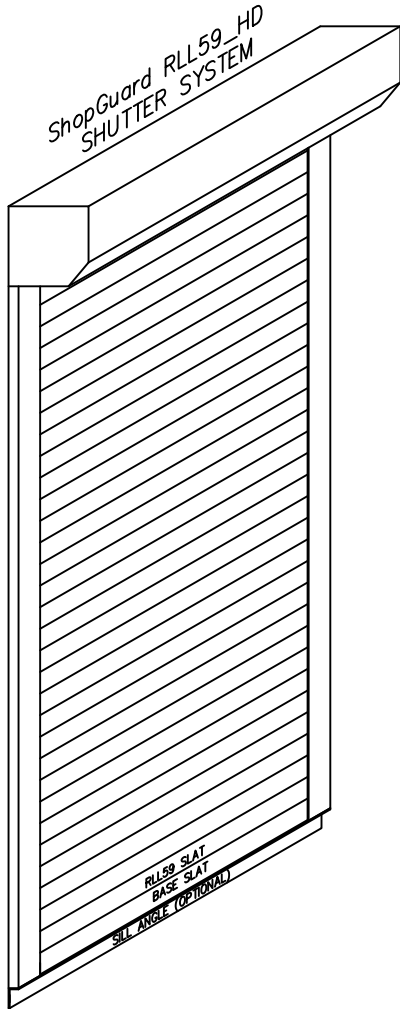


Gear Drive / Crank Handle



The ShopGuard RLL59_HD - Shutter System

System Overview and Technical Specifications

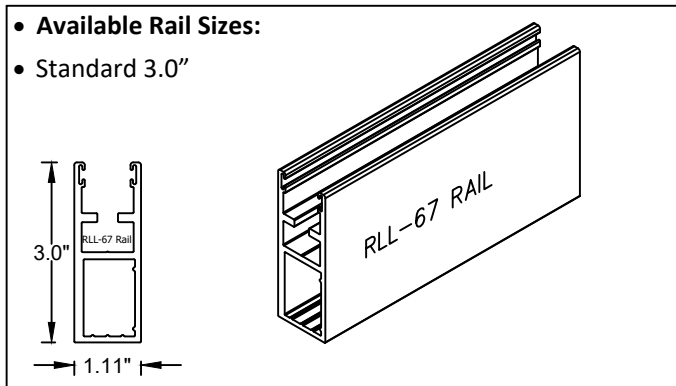


• Available Colors:

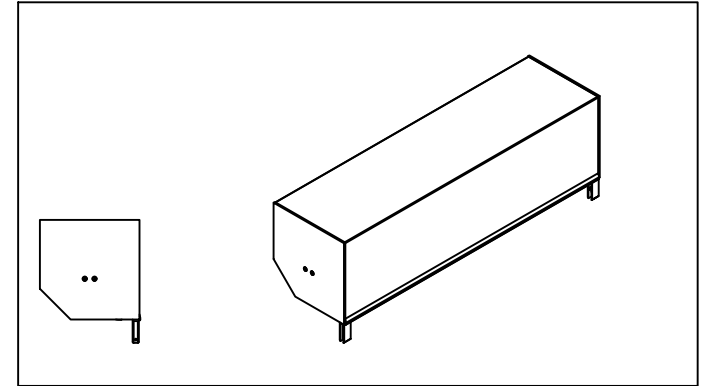
| Curtain | Frame |
|---------------------|---------------------------|
| White | White |
| Beige (Light Beige) | Beige (Light Beige) |
| Cream | Cream |
| Anodized | Metallic |
| Bronze | Bronze |
| | Arcona Beige (Dark Beige) |
| | Dark Brown |
| | Grey |
| | Bronze |

• Available Rail Sizes:

- Standard 3.0"

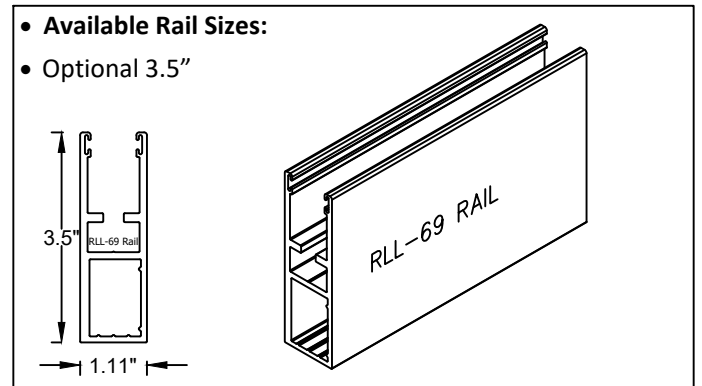


• Available Housing Design Choices - Side Cap 45°



• Available Rail Sizes:

- Optional 3.5"

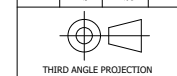


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PEARLAND, TX 77581
TEL: 281-485-1911
WWW.ROLLAC.COM

| | | |
|-----------|-----------|------------|
| DRAWN | NAME | DATE |
| TRAVIS E. | | 2017/03/01 |
| CHECKED | STEFAN P. | 2017/03/01 |

| | |
|--|-------------------------------|
| APPR. | YYYY/MM/DD |
| UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES | |
| ANGLES ± .5 | .X ± .1 .XX ± .03 .XXX ± .005 |



PROJECT:

DESCRIPTION:
SYSTEM SPECIFICATION SHEETS FOR
RLL59_HD SHUTTER SYSTEM.

| | | |
|-------------|-----------------|---------|
| SIZE | DWG. NO. | REV |
| A | RLL59_HD | A |
| SCALE: NONE | WEIGHT: XX.XLBS | 1 OF 15 |

• **Required Minimum and Maximum Dimensions for Operators**

| | |
|--------------------------------------|----------|
| Manual System Min and Max Dimensions | |
| System Width | 2' - 10' |
| System Height | 2' - 10' |
| Maximum System SQFT | 50 sqft |

| | |
|--|----------|
| Motorized Systems Min and Max Dimensions | |
| System Width | 3' - 16' |
| System Height | 3' - 12' |
| Maximum System SQFT | 160 sqft |

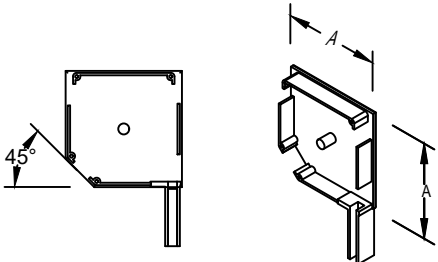
*The system specifications and information herein are based on the dimensional recommendations. If a system requires dimensions outside the scope of these technical recommendations, special engineering and installations may be required. Always consult with Rollac first.

| | |
|----------------------------|----------------|
| System Weight | |
| Approximate Systems Weight | 3.2 lbs / sqft |
| Curtain Weight | 1.6 lbs / sqft |
| Profile Height | 2.36" |

• **Available Operators and SQFT Limitations**

| | |
|---|----------|
| Operator System Dimensions | Max SQFT |
| Gear | 37 sqft |
| Gear + Assist Spring | 57 sqft |
| Motor Regular Switch | 160 sqft |
| Motor with Over Ride | 160 sqft |
| Motor with Remote Control | 160 sqft |
| Motor with Remote Control and Over Ride | 160 sqft |


Dimensions of Side Cap 45°



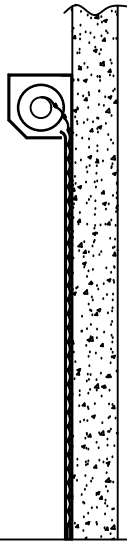
| Dimensions of Side Caps - 45° | | |
|-------------------------------|---------------|--|
| Box | A | |
| 5.0" (125mm) | 4.72" (120mm) | |
| 5.5" (137mm) | 5.20" (132mm) | |
| 6.0" (150mm) | 5.71" (145mm) | |
| 6.5" (165mm) | 6.30" (160mm) | |
| 7.0" (180mm) | 6.89" (175mm) | |
| 8.0" (205mm) | 7.87" (200mm) | |
| 9.0" (230mm) | 8.86" (225mm) | |
| 10.0" (250mm) | 9.65" (245mm) | |

The ShopGuard RLL59_HD - Shutter System

System Overview and Technical Specifications

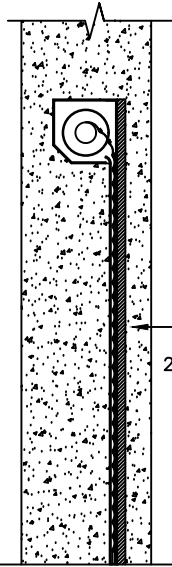
| | | | | |
|--|------------|-------------|---|---------------|
|  <p>Copyright © 2017 Rollac V2.16.2017 ROLLAC ROLLING SHUTTERS 5331 W. ORANGE ST. PEARLAND, TX 77581 TEL: 281-485-1911 WWW.ROLLAC.COM</p> | NAME | DATE | PROJECT: DESCRIPTION: SYSTEM SPECIFICATION SHEETS FOR RLL59_HD SHUTTER SYSTEM. | |
| | DRAWN | TRAVIS E. | | 2017/02/15 |
| | CHECKED | STEFAN P. | | 2017/02/15 |
| | APPR. | | | YYYY/MM/DD |
| UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES | | | SIZE DWG. NO. A RLL59 HD A | |
| ANGLES | .X ± .5 | .XX ± .1 | | .XXX ± .03 |
| THIRD ANGLE PROJECTION | | | SCALE: NONE WEIGHT: XX.XLBS 2 OF 15 | |

SHUTTER MOUNTING OPTIONS



SURFACE MOUNT

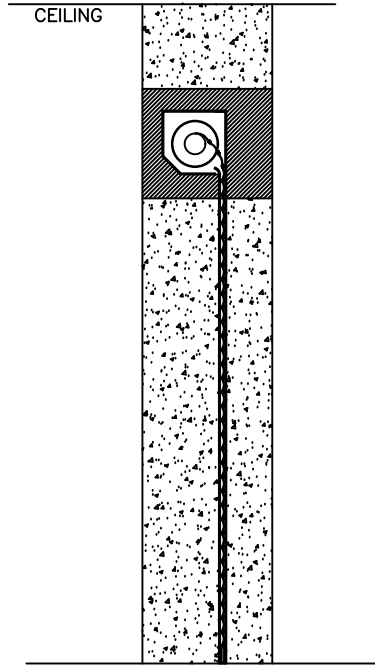
SEE PAGE # 4
FOR DETAILS



RECESS/JAMB MOUNT

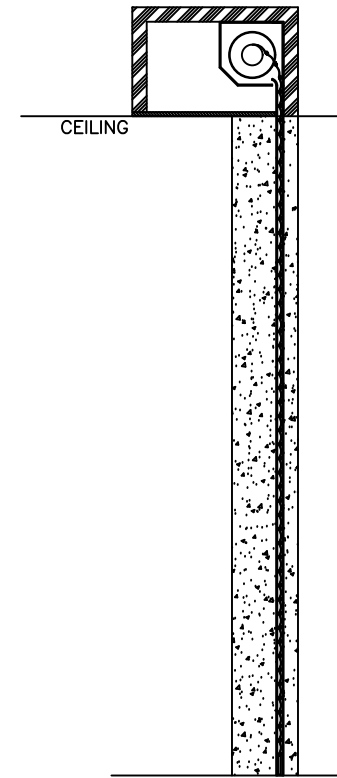
SEE PAGE # 5
FOR DETAILS

2" X 2"
ANGLE



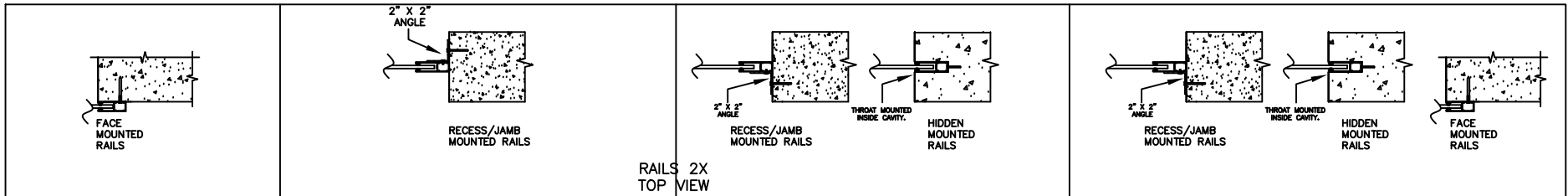
INWALL MOUNT

SEE PAGE # 6
FOR DETAILS



ABOVE CEILING/SOFFIT MOUNT

SEE PAGE # 7
FOR DETAILS



RAILS 2X
TOP VIEW

RAIL MOUNTING OPTIONS BY SHUTTER MOUNT METHODS



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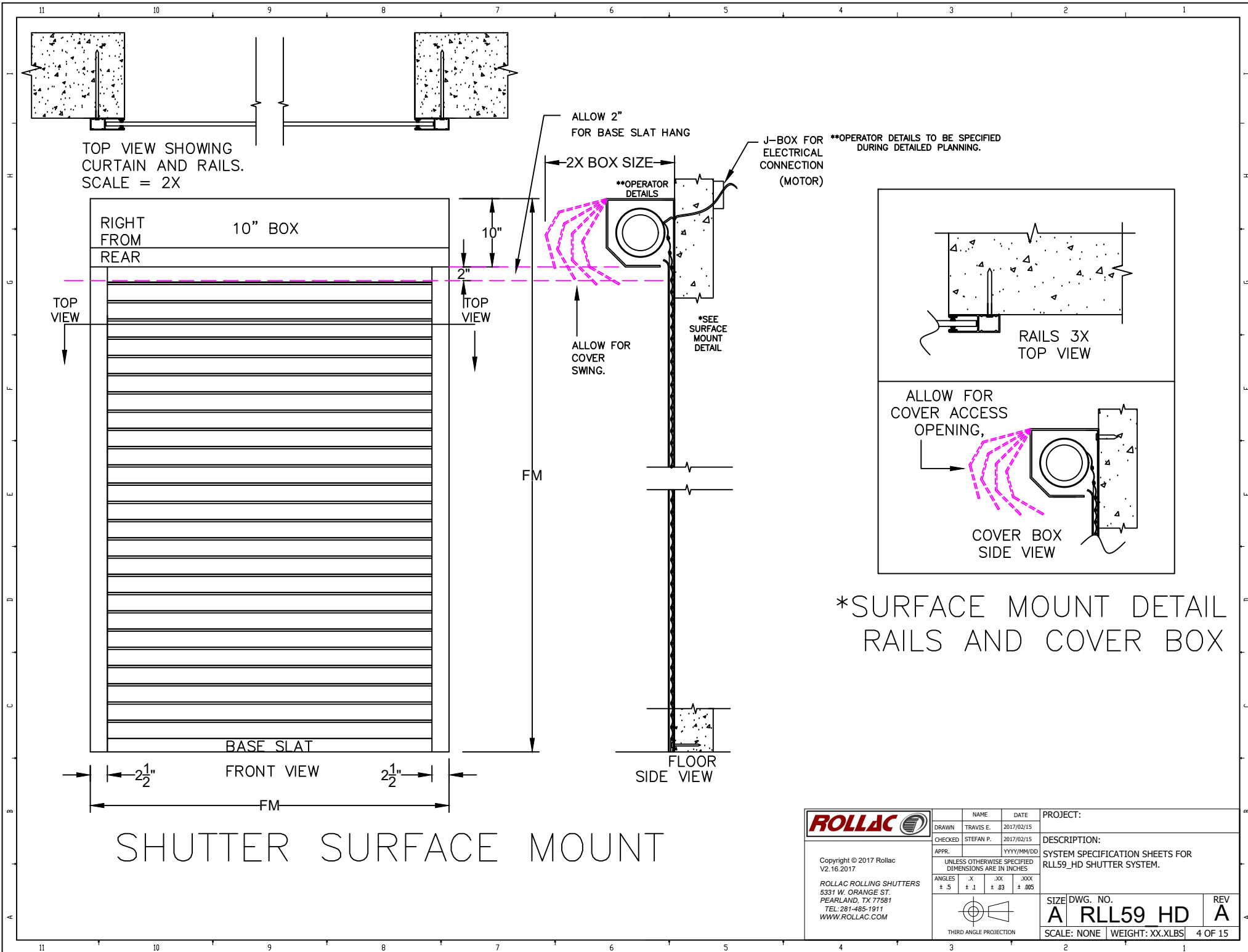
ROLLAC ROLLING SHUTTERS
5331 W. ORANGE ST.
PEARLAND, TX 77581
TEL: 281-485-1911
WWW.ROLLAC.COM

| | | |
|--|------------|---|
| NAME | DATE | PROJECT: |
| DRAWN TRAVIS E. | 2017/02/15 | |
| CHECKED STEFAN P. | 2017/02/15 | DESCRIPTION: |
| APPR. | YYYYMM/DD | SYSTEM SPECIFICATION SHEETS FOR RLL59_HD SHUTTER SYSTEM. |
| UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES | | |
| ANGLES | .X | .XX |
| ± .5 | ± .1 | ± .03 |
| | | ± .005 |



THIRD ANGLE PROJECTION

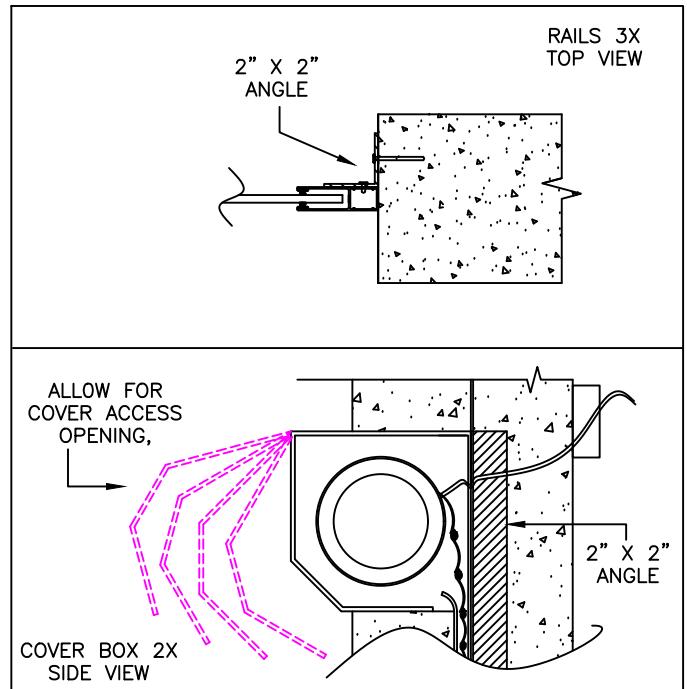
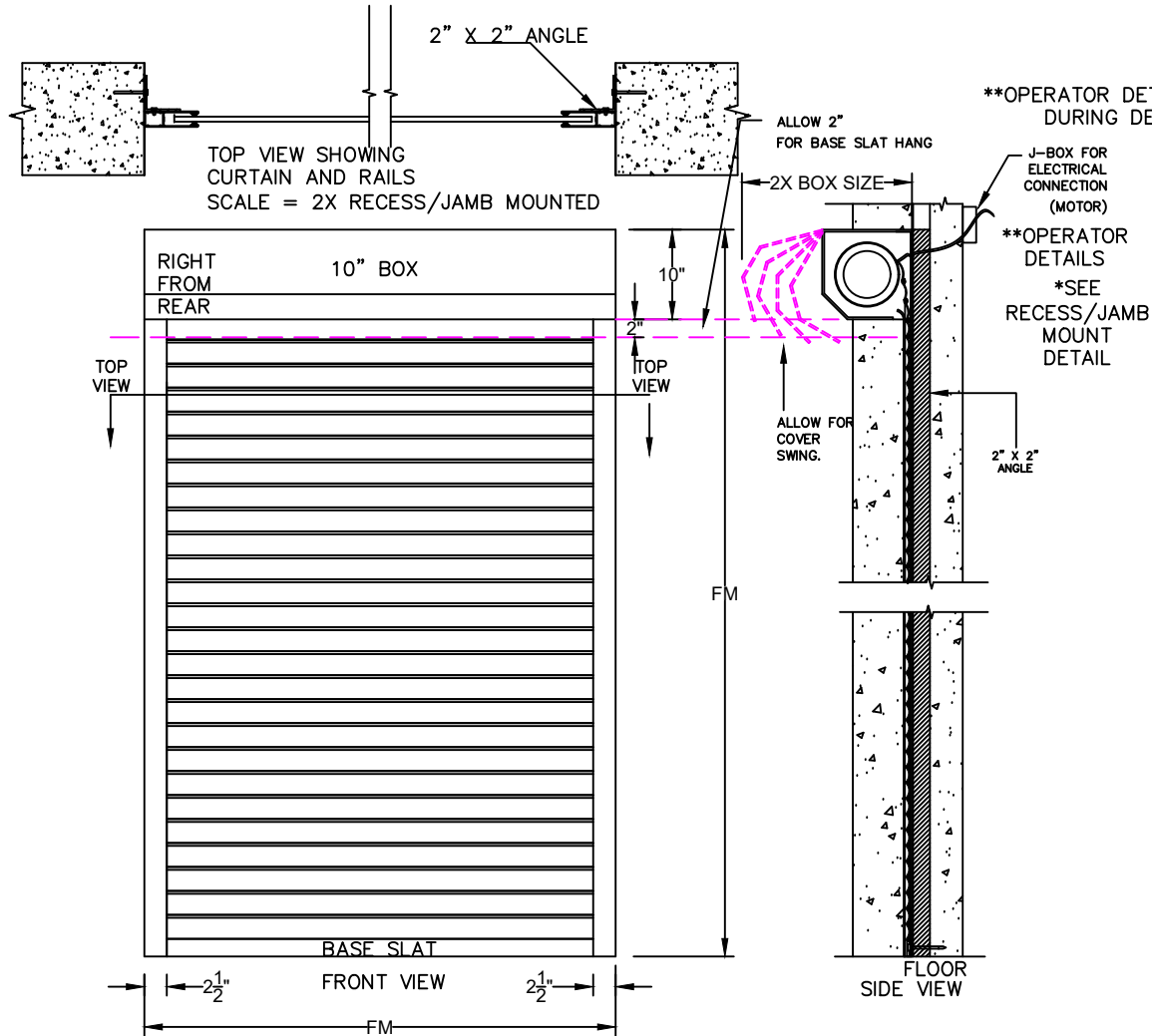
| | |
|-------------------|-----------------|
| SIZE DWG. NO. | REV |
| A RLL59 HD | A |
| SCALE: NONE | WEIGHT: XX.XLBS |
| 3 OF 15 | |



*SURFACE MOUNT DETAIL
RAILS AND COVER BOX

| | | | | |
|---|-----------|------------|-------------------|--|
| ROLLAC | | NAME | DATE | PROJECT: |
| DRAWN | TRAVIS E. | 2017/02/15 | | |
| CHECKED | STEFAN P. | 2017/02/15 | | DESCRIPTION: |
| APPR. | | YYYY/MM/DD | | SYSTEM SPECIFICATION SHEETS FOR RLL59_HD SHUTTER SYSTEM. |
| UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES | | | | |
| ANGLES | X | .XX | .XXX | |
| | ± .5 | ± .1 | ± .03 | ± .005 |
| THIRD ANGLE PROJECTION | | | SIZE DWG. NO. | REV |
| | | | A RLL59 HD | A |
| | | | SCALE: NONE | WEIGHT: XX.XLBS |
| | | | | 4 OF 15 |

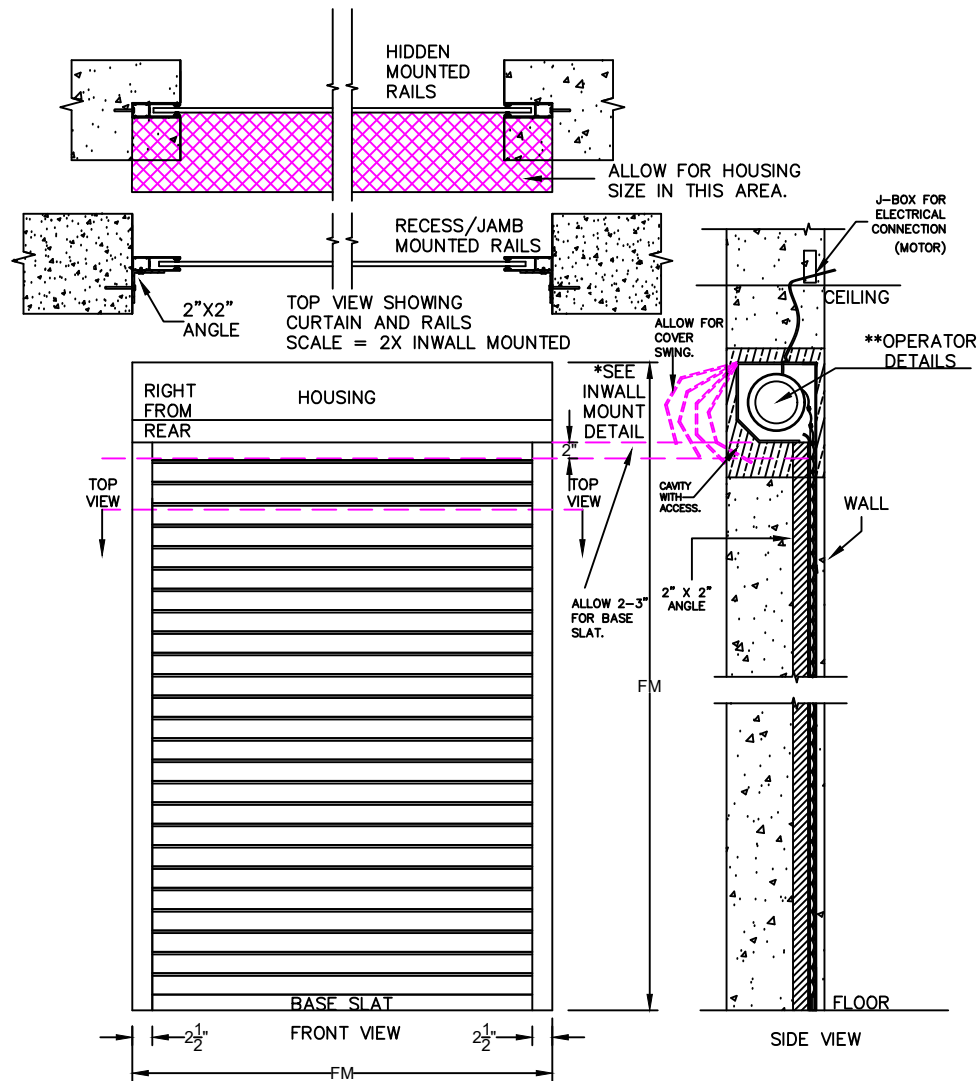
Copyright © 2017 Rollac
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PEARLAND, TX 77581
TEL: 281-485-1911
WWW.ROLLAC.COM



*RECESS/JAMB MOUNT DETAIL
RAILS AND COVER BOX

RECESS/JAMB MOUNT

| | | | | |
|---|--|-----------|------------|--|
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| | CHECKED | STEFAN P. | 2017/03/01 | DESCRIPTION: |
| | APPR. | | YYYY/MM/DD | SYSTEM SPECIFICATION SHEETS FOR RLL59_HD SHUTTER SYSTEM. |
| | UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES | | | |
| ANGLES | ± .5 | ± .1 | ± .03 | ± .005 |
| <p>THIRD ANGLE PROJECTION</p> | | | | <p>SIZE DWG. NO.</p> <p>A RLL59 HD</p> <p>SCALE: NONE WEIGHT: XX.XLBS 5 OF 15</p> |
| | | | | <p>REV</p> <p>A</p> |



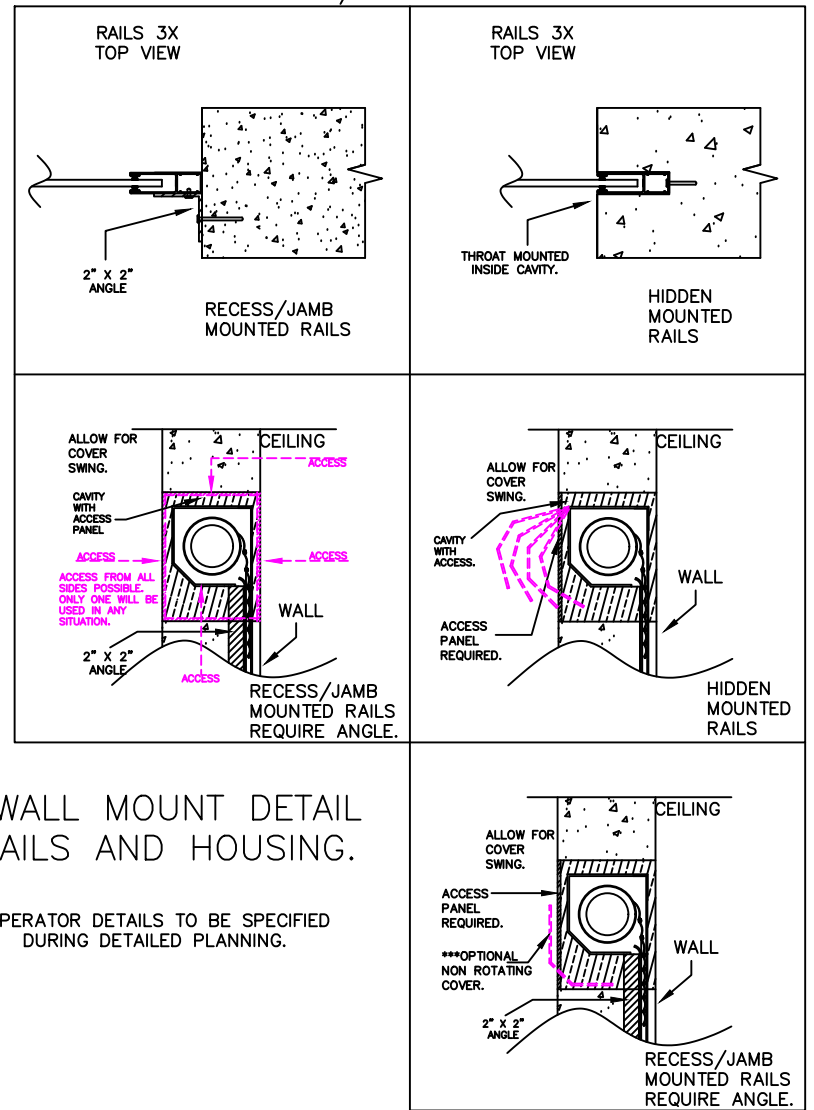
INWALL MOUNT

INWALL MOUNTED SHUTTERS ARE USUALLY MOUNTED INSIDE A CAVITY WITHIN THE HEADER ABOVE THE OPENING.

AN ACCESS PANEL WILL HAVE TO BE PROVIDED TO ENABLE INSTALLATION AND SERVICE. ACCESS CAN BE FROM EITHER SIDE, TOP OR BOTTOM. ACCESS TO BE DETERMINED DURING DETAIL SPECIFICATION.

THE OPTIONAL NON ROTATING COVER ALLOWS EASIER ACCESS INSIDE THE ACCESS PANEL IN SOME INSTALLATIONS. CONTACT ROLLAC FOR MORE DETAILS.

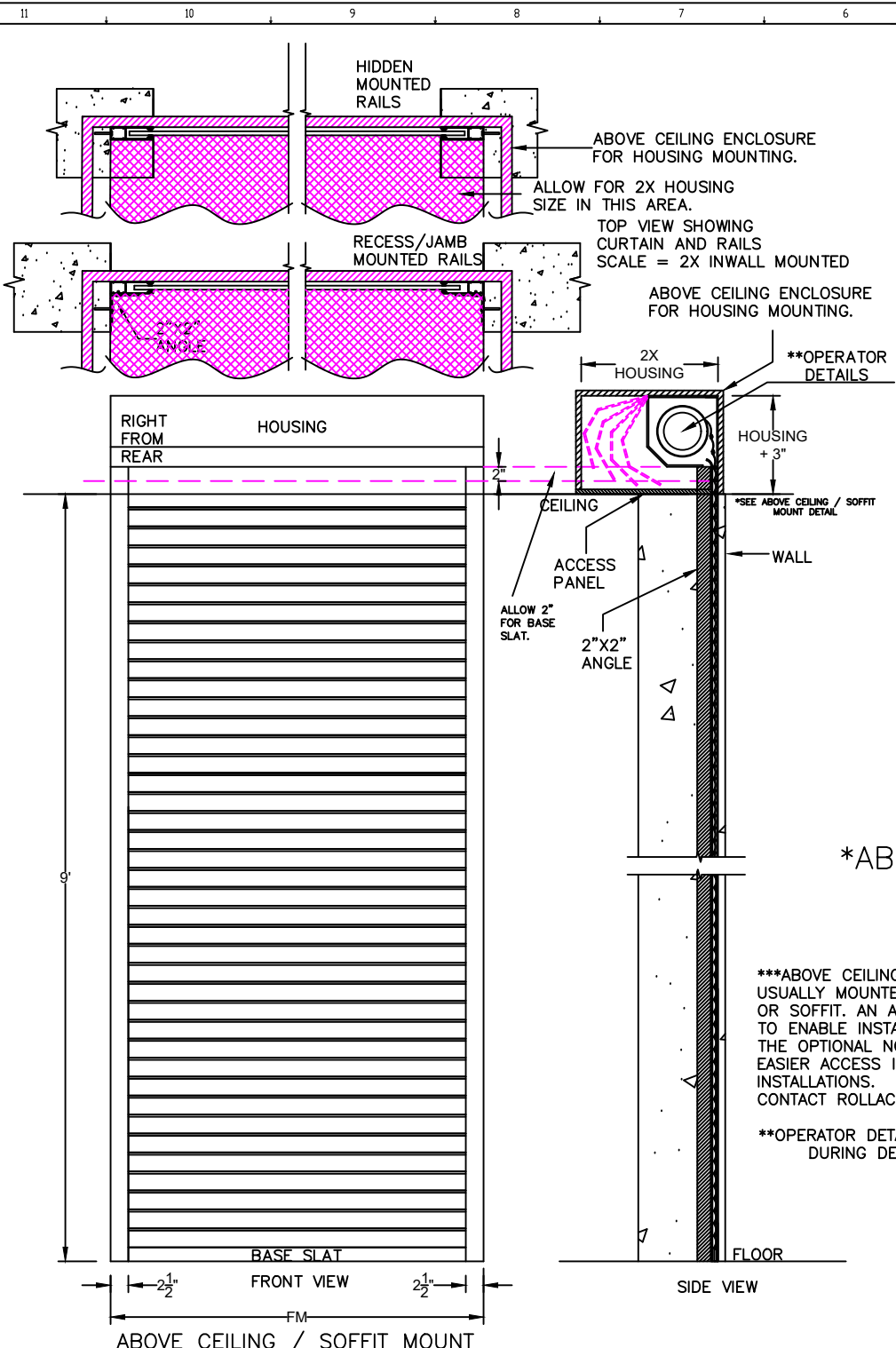
INWALL MOUNT SHUTTER RAILS CAN BE MOUNTED HIDDEN OR RECESS/JAMB MOUNTED



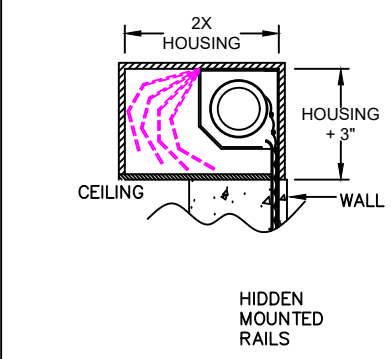
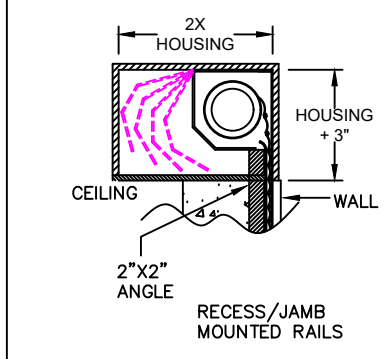
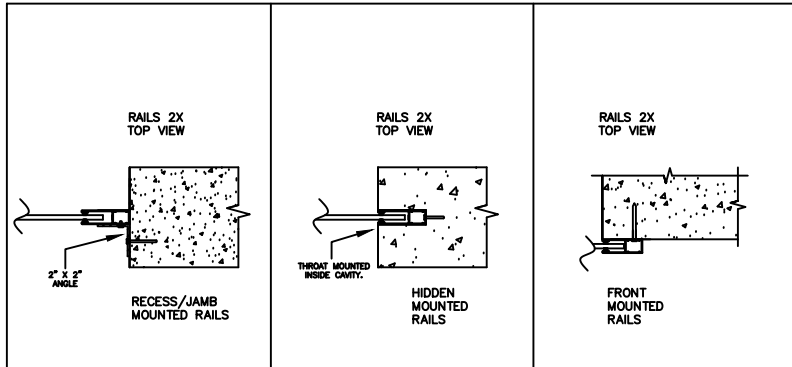
*INWALL MOUNT DETAIL
RAILS AND HOUSING.

**OPERATOR DETAILS TO BE SPECIFIED
DURING DETAILED PLANNING.

| | | | | | | | | | | | |
|---|---------|-----------|---|---|-----|-----|--|------|------|--------------|--------------|
| <p>Copyright © 2017 Rollac V2.16.2017</p> <p>ROLLAC ROLLING SHUTTERS 5331 W. ORANGE ST. PEARLAND, TX 77581 TEL. 281-485-1911 WWW.ROLLAC.COM</p> | NAME | DATE | PROJECT: | | | | | | | | |
| | DRAWN | TRAVIS E. | 2017/02/15 | DESCRIPTION: SYSTEM SPECIFICATION SHEETS FOR RLL59_HD SHUTTER SYSTEM. | | | | | | | |
| | CHECKED | STEFAN P. | 2017/02/15 | | | | | | | | |
| | APPR. | | YYYY/MM/DD | | | | | | | | |
| UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES | | | SIZE DWG. NO. | | | | | | | | |
| <table border="1"> <tr> <td>ANGLES</td> <td>X</td> <td>XXX</td> <td>XXX</td> </tr> <tr> <td></td> <td>+ .5</td> <td>+ .1</td> <td>+ .03 ± .005</td> </tr> </table> | | | ANGLES | X | XXX | XXX | | + .5 | + .1 | + .03 ± .005 | A RLL59 HD A |
| ANGLES | X | XXX | XXX | | | | | | | | |
| | + .5 | + .1 | + .03 ± .005 | | | | | | | | |
| <p>THIRD ANGLE PROJECTION</p> | | | SCALE: NONE WEIGHT: XX.XLBS 6 OF 15 | | | | | | | | |



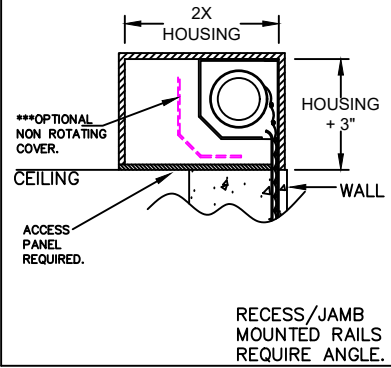
ABOVE CEILING / SOFFIT MOUNT SHUTTER RAILS CAN BE FRONT MOUNTED, HIDDEN OR RECESS/JAMB MOUNTED.



*ABOVE CEILING / SOFFIT MOUNT DETAIL RAILS AND HOUSING.

***ABOVE CEILING/SOFFIT MOUNTED SHUTTERS ARE USUALLY MOUNTED INSIDE A CAVITY ABOVE THE CEILING OR SOFFIT. AN ACCESS PANEL WILL HAVE TO BE PROVIDED TO ENABLE INSTALLATION AND SERVICE. THE OPTIONAL NON ROTATING COVER ALLOWS EASIER ACCESS INSIDE THE ACCESS PANEL IN SOME INSTALLATIONS. CONTACT ROLLAC FOR MORE DETAILS.

**OPERATOR DETAILS TO BE SPECIFIED DURING DETAILED PLANNING.



| | | | | |
|---|------------|-----------------|---------------|---|
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| | DRAWN | TRAVIS E. | 2017/03/01 | DESCRIPTION: SYSTEM SPECIFICATION SHEETS FOR RLL59_HD SHUTTER SYSTEM. |
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| UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES | | | | |
| ANGLES | .X ± .5 | .XX ± .1 | .XXX ± .03 | .XXX ± .005 |
| THIRD ANGLE PROJECTION | | | | |
| SIZE DWG. NO. | | REV | | |
| A RLL59 HD | | A | | |
| SCALE: NONE | | WEIGHT: XX.XLBS | | |
| | | 7 OF 15 | | |

Recommended Fastener - Schedule RLL59_HD

| Substrate | Type of Screw | Commonly Used | Minimum Embedment (E.D.) | Minimum Edge Distance | Screw Hole Spacing |
|----------------------------------|---|--|---|-----------------------|---|
| Wood Framing | #14 Wood or Lag Screw Pan Head, Phillips | Wood Screw #14 Stainless Steel, Pan Head, Phillips STUCCO: #14 x 3*, FIBER CEMENT BOARD: #14 x 3 BRICK-VENEER: #14 x 4 (Screw length depends on brick size and distance to wood framing) | 1.5" Threaded Penetration to Existing Wood Stud | 2" Edge Distance | <u>Drill hole Spacing:</u> 12" Approximately every 12" or less starting 4" from the bottom up to 4" from the top. <u>Drill hole Size:</u> |
| Concrete | #14 Screw Pan Head, Phillips with S7 Fisher Anchor or Plug | #14 X 2" screw with Fisher S7 Anchor or Plug Please. | Follow the installation instructions on the Fisher Plug but we recommend the embedment to be around 1.75" Minimum. | 3" Edge Distance | The Standard Recommended Drill hole is $\frac{1}{2}$ ". Rollac will do a step drill with $\frac{1}{2}$ " entry and $\frac{1}{4}$ " exit hole. This type of drill will fit all #14 screws. |
| Aluminum / Build Out / Angles | #14 TEK Screw Pan Head, Phillips | #14 X 1 Self Drilling PP SS TEK (TEK = Self Drilling) | n.a. | n.a. | Please advise if other screws, such as Tapcon Anchors, are used as it will change the drill size.. |
| Red Iron | TEKS 5 Screws #12 ** Hexagon Head, Phillips | #12 | n.a. | n.a. | |
| Commercial Aluminum Studs | TEKS 5 Screws #12 ** Hexagon Head, Phillips | #12 | n.a. | n.a. | |

* No embedment into stucco shall be considered as part of the required embedment



** Screw shall not be made out of stainless steel as material is too soft to drill into a steel structure. Use other corrosion resistant material

*** Fastener Schedule applies to face mount only. For other installation techniques, see engineering.

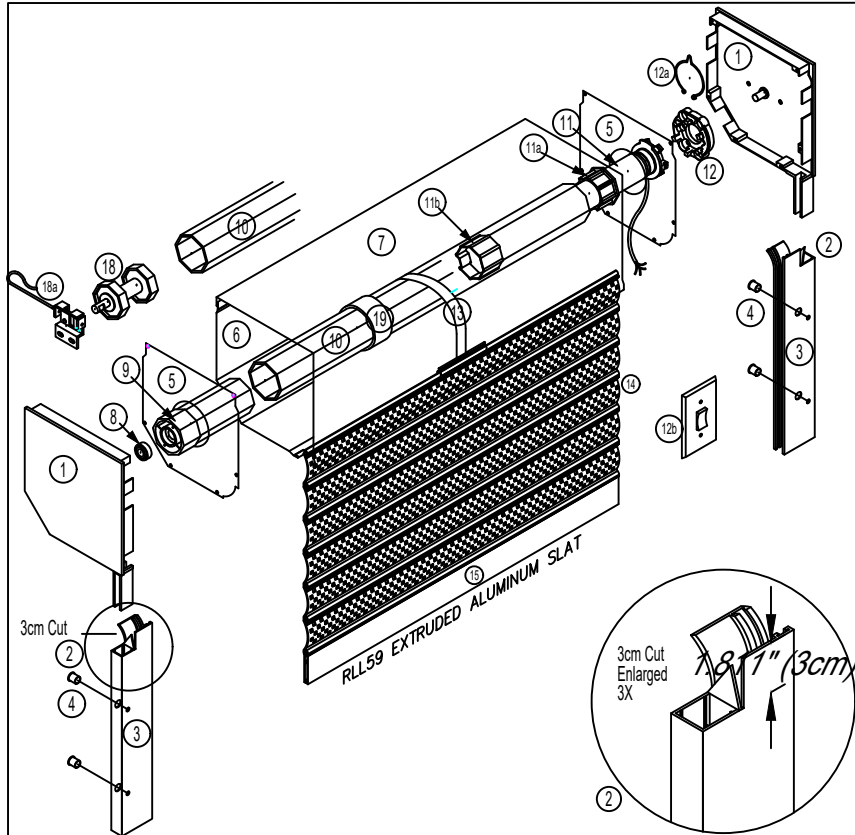
Installation contractor is to seal/caulk all shutter component edges which remain in continuous contact with the building to prevent wind / rain intrusion. Caulk and seal shutter tracks all around full length.

Disclaimer: It is the responsibility of the installer to verify that the surface and structure is suitable to install a rolling shutter. Fastener schedule is a recommendation. Installer to verify that rolling shutter is securely fastened.

Choose Corrosion Resistant Material that is appropriate for the environment in which the product is being installed. Choose appropriate screw length to meet minimum embedment.

| | | | | |
|--|--|-------------|---------------|---|
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| | CHECKED | TRAVIS E. | 2017/03/01 | DESCRIPTION: SYSTEM SPECIFICATION SHEETS FOR RLL59_HD SHUTTER SYSTEM. |
| | APPR. | STEFAN P. | 2017/03/01 | |
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|  THIRD ANGLE PROJECTION | | | | SIZE DWG. NO. A RLL59 HD |
| SCALE: NONE | | | | WEIGHT: XX.XLBS 8 OF 15 |
| | | | | REV A |

MOTORIZED ROLLING SHUTTER MANUAL OVERRIDE OPTIONS.



MANUAL OVERRIDE MOUNTED AT REAR OF SHUTTER NORMALLY GOING THROUGH WALL

MANUAL OVERRIDE MOUNTED ON 45 DEGREE.

MANUAL OVERRIDE MOUNTED AT FRONT OF ENCLOSURE

MANUAL OVERRIDE MOUNTED AT BOTTOM OF ENCLOSURE

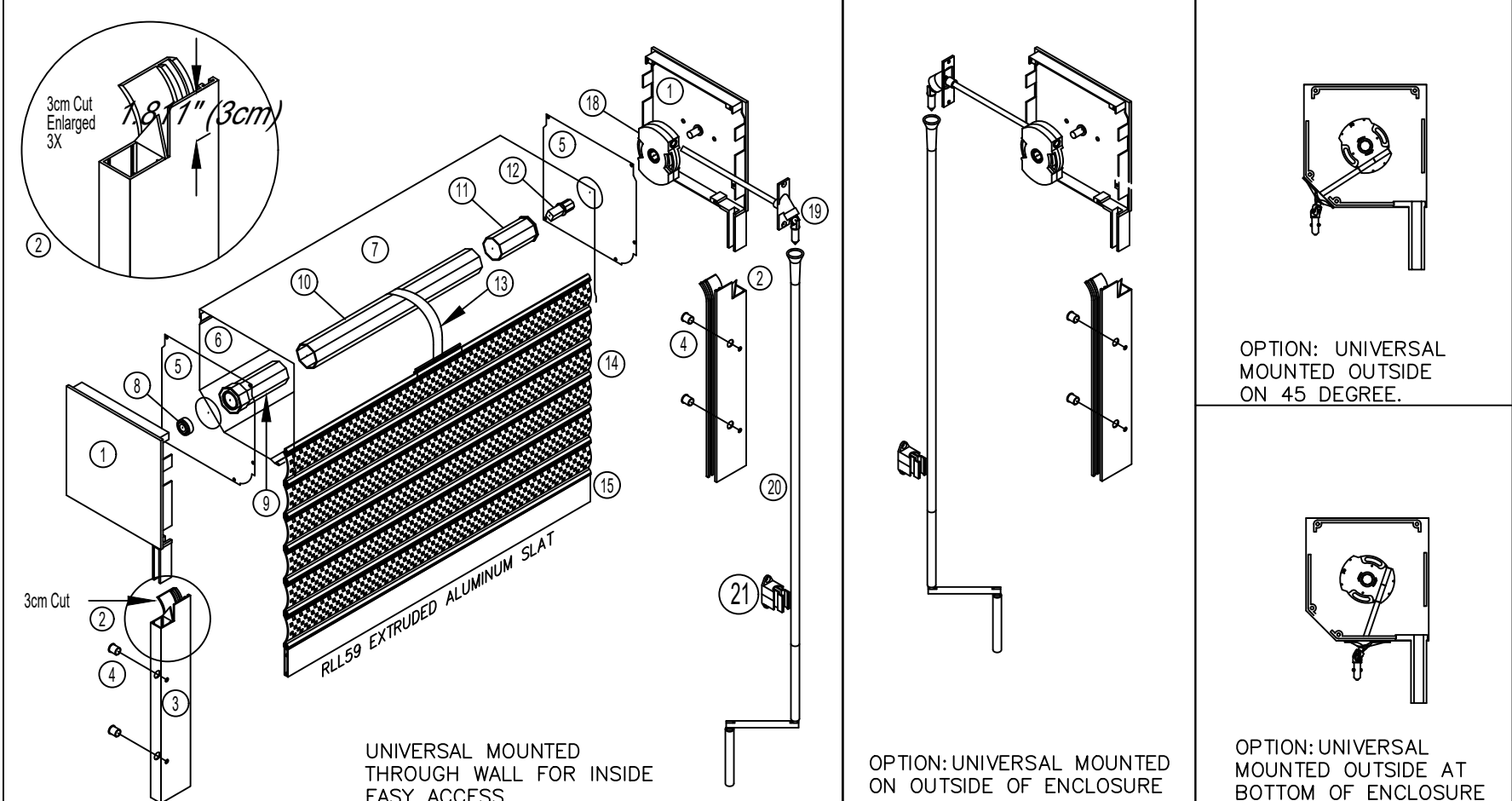
SPECIAL REMOVABLE CRANK HANDLE OPTION FOR OVER RIDE MOTORS. USED FOR EMERGENCY OPERATION.

- | | | |
|---------------------------------|------------------------------------|---------------------------------------|
| ① Side/End Cap | ⑨ Idler Insert (PVC) | ⑬ Springlock Hanger |
| ② 3cm Cut | ⑩ 70 mm Axle (Galvanized/Aluminum) | ⑭ RLL59 Optional Small Grid Slats |
| ③ Guide Rail With 3cm Cut | ⑪ Tubular Motor | ⑮ Base Slat |
| ④ Plug Button | ⑪a Crown | |
| ⑤ Safety Plate | ⑪b Drive | |
| ⑥ Housing (Front/Bottom) 6"-10" | ⑫ Motor Bracket | ⑯ Idler (PVC) |
| ⑦ Housing (Top/Back) 6"-10" | ⑫a Spring Ring | ⑯a Idler Bracket (Steel) |
| ⑧ Ball Bearing | ⑫b Switch | ⑰ Axle Ring - PVC or Alum. (Optional) |

ShopGuard RLL59 System - GRID - MOTOR OPERATED
Copyright © 2017 by Rollac Rolling Shutters

| | | | | |
|---|------------|-------------|------------------------------------|---|
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| | DRAWN | TRAVIS E. | 2017/02/15 | DESCRIPTION: SYSTEM SPECIFICATION SHEETS FOR RLL59_HD SHUTTER SYSTEM. |
| | CHECKED | STEFAN P. | 2017/02/15 | |
| | APPR. | | YYYY/MM/DD | |
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| THIRD ANGLE PROJECTION | | | SIZE DWG. NO. A RLL59 HD | REV A |
| SCALE: NONE | | | WEIGHT: XX.XLBS | 9 OF 15 |

ROLLING SHUTTER GEAR OPERATION OPTIONS



UNIVERSAL MOUNTED THROUGH WALL FOR INSIDE EASY ACCESS.

OPTION: UNIVERSAL MOUNTED ON OUTSIDE OF ENCLOSURE

OPTION: UNIVERSAL MOUNTED OUTSIDE ON 45 DEGREE.

OPTION: UNIVERSAL MOUNTED OUTSIDE AT BOTTOM OF ENCLOSURE

- ① Side/End Cap
- ② 3cm Cut
- ③ Guide Rail With 3cm Cut
- ④ Plug Button
- ⑤ Safety Plate
- ⑥ Housing (Front/Bottom) 6"-10"
- ⑦ Housing (Top/Back) 6"-10"
- ⑧ Ball Bearing
- ⑨ Idler Insert (PVC)
- ⑩ 70mm + Ring Axle (Galvanized/Aluminum)
- ⑪ Gear Insert
- ⑫ Gear Connector
- ⑬ Springlock Hanger
- ⑭ RLL59 Optional Small Grid Slats
- ⑮ Base Slat
- ⑯ Gear
- ⑰ Universal
- ⑱ Crank Handle
- ⑲ Crank Holder (Optional)

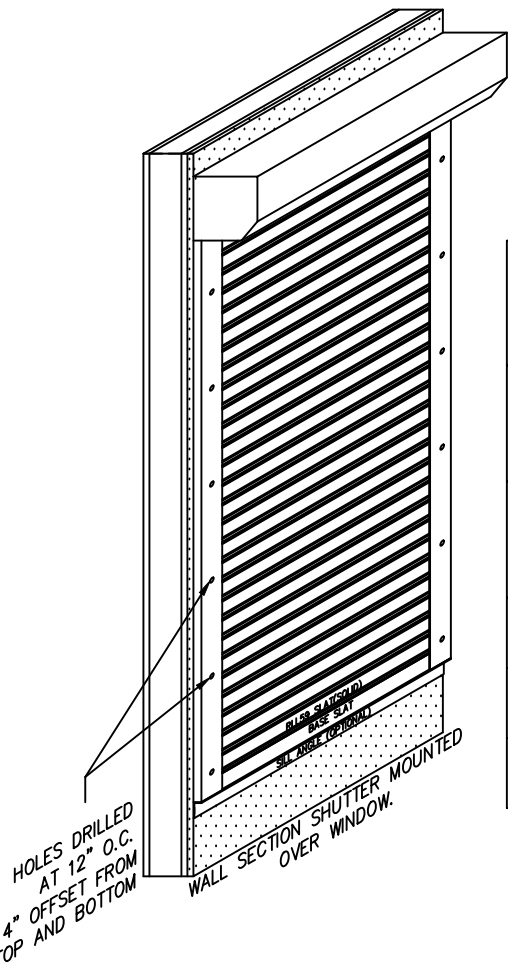
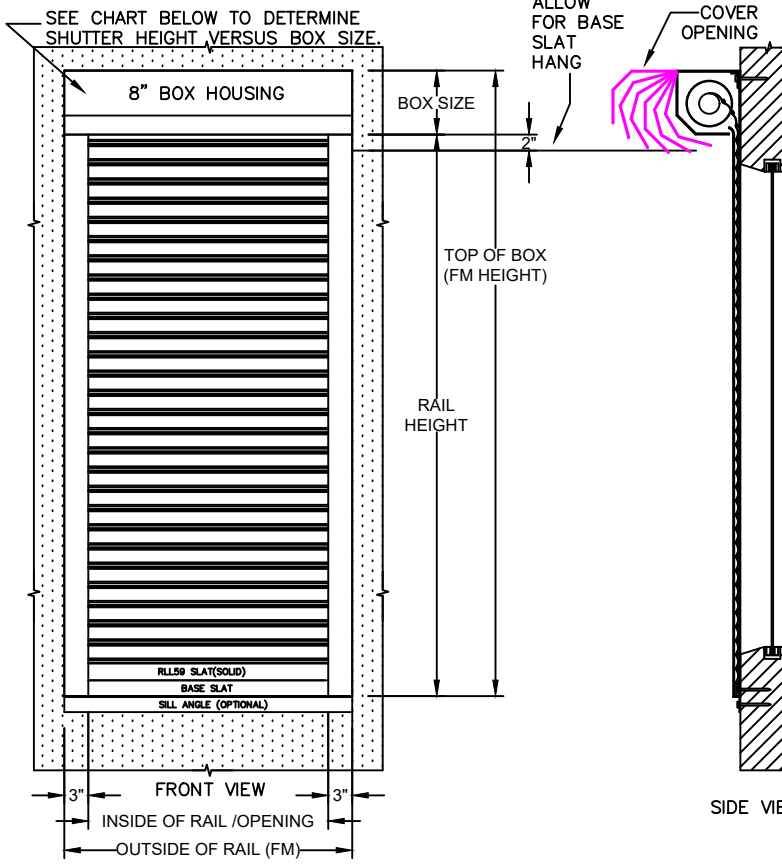
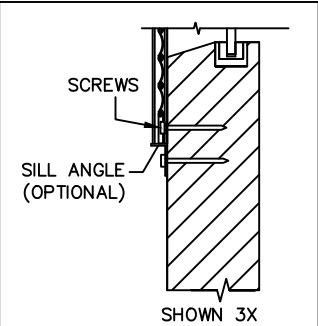
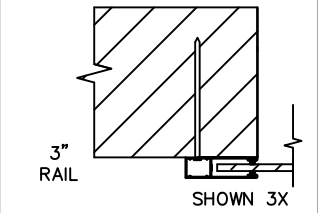
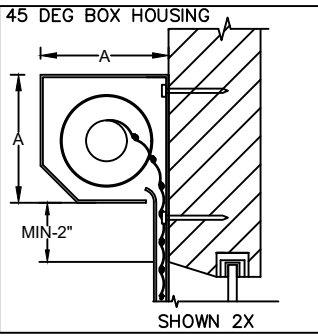
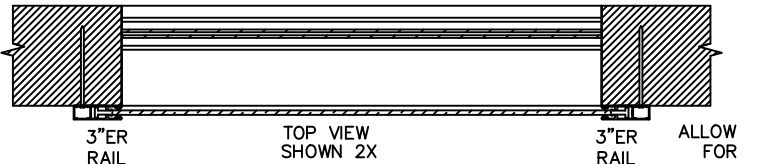
ShopGuard RLL59_HD - GRID GEAR OPERATED
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| | | |
|---|---------------|--|
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| DRAWN TRAVIS E. | 2017/02/15 | |
| CHECKED STEFAN P. | 2017/02/15 | DESCRIPTION: |
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| ANGLES | .X .XX .XXX | |
| ± .5 ± .1 ± .03 ± .005 | | |
| THIRD ANGLE PROJECTION | SIZE DWG. NO. | REV |
| | A RLL59 HD | A |
| | SCALE: NONE | WEIGHT: XX.XLBS |
| | | 10 OF 15 |



ShopGuard RLL59 Heavy Duty SYSTEM

RECOMMENDED OPENING WIDTH
MANUAL 2'-10'
MOTOR 3'-16'

RECOMMENDED OPENING HEIGHT
MANUAL 2'-10'
MOTOR 2-12'

RECOMMENDED MAXIMUM USAGE
SQ FT.
MANUAL 50
MOTOR 160

SOLID SLAT CURTAIN WEIGHT
1.6 lbs./sq ft..

PROFILE HEIGHT
2.36"

SYSTEM WEIGHT
2X
CURTAIN WEIGHT

| | |
|--|---|
| <p>APPLICATIONS FOR THE RLL59 Heavy Duty SYSTEM</p> <p>COMMERCIAL/RESIDENTIAL SECURITY SOLAR SHADING</p> | <h2 style="margin: 0;">RLL59-Heavy Duty System Specification</h2> <p>OPERATOR OPTIONS; GEAR MOTOR MOTOR/OVERRIDE</p> |
|--|---|

ShopGuard RLL59 System - Housing Size(A) Versus FM Height of Shutter.

| RLL 59 | FM Height ft. | 2.5 | 3 | 3.5 | 4 | 4.5 | 5 | 5.5 | 6 | 6.5 | 7 | 7.5 | 8 | 8.5 | 9 | 9.5 | 10 | 10.5 | 11 | 11.5 | 12 | 12.5 | 13 |
|--------|--------------------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|-----|------|-----|------|-----|
| | Box Housing Size(A) in. | 7 | 7 | 7 | 7 | 8 | 8 | 8 | 8 | 9 | 9 | 9 | 9 | 9 | 9 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 |
| | Rail Size in. | 3ER | 3ER | 3ER | 3ER | 3ER | 3ER | 3ER | 3ER | 3ER | 3ER | 3ER | 3ER | 3ER | 3ER | 3ER | 3ER | 3ER | 3ER | 3ER | 3ER | 3ER | 3ER |

ROLLAC

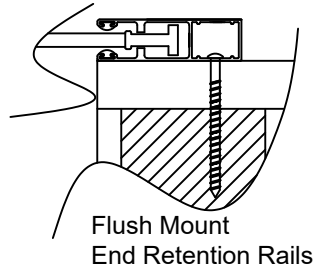
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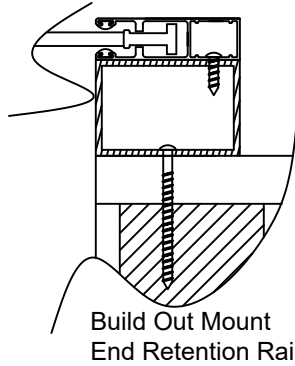
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|---|------------|-----------------|--|--|------|----------|-----|---|----------|---|-------------|--|-----------------|--|--|----------|
| DRAWN | TRAVIS E. | DATE | 2017/02/15 | PROJECT: | | | | | | | | | | | | |
| CHECKED | STEFAN P. | 2017/02/15 | | DESCRIPTION: SYSTEM SPECIFICATION SHEETS FOR RLL59_HD SHUTTER SYSTEM. | | | | | | | | | | | | |
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| ANGLES | .X ± .5 | .XX ± .1 | .XXX ± .03 | .XXX ± .005 | | | | | | | | | | | | |
| <p>THIRD ANGLE PROJECTION</p> | | | <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 20%;">SIZE</td> <td style="width: 40%;">DWG. NO.</td> <td style="width: 20%;">REV</td> </tr> <tr> <td>A</td> <td>RLL59 HD</td> <td>A</td> </tr> <tr> <td colspan="2">SCALE: NONE</td> <td>WEIGHT: XX.XLBS</td> </tr> <tr> <td colspan="2"></td> <td>11 OF 15</td> </tr> </table> | | SIZE | DWG. NO. | REV | A | RLL59 HD | A | SCALE: NONE | | WEIGHT: XX.XLBS | | | 11 OF 15 |
| SIZE | DWG. NO. | REV | | | | | | | | | | | | | | |
| A | RLL59 HD | A | | | | | | | | | | | | | | |
| SCALE: NONE | | WEIGHT: XX.XLBS | | | | | | | | | | | | | | |
| | | 11 OF 15 | | | | | | | | | | | | | | |

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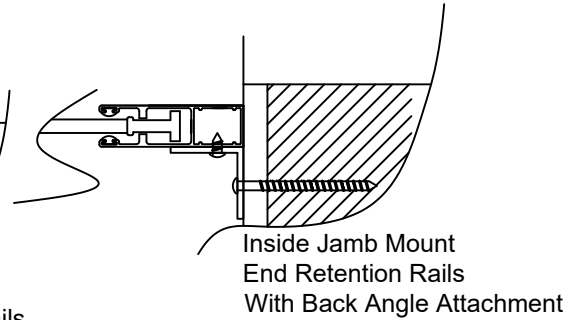
MOUNTING OPTIONS "END RETENTION" RAILS



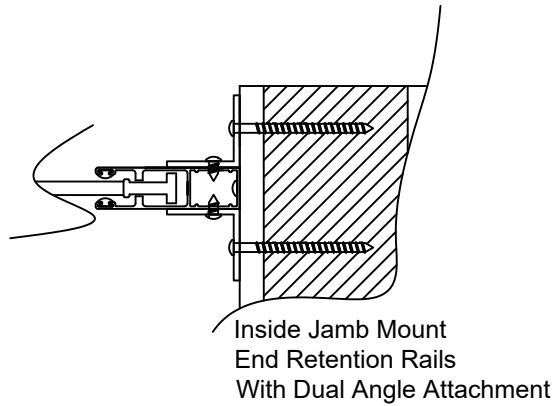
Flush Mount
End Retention Rails



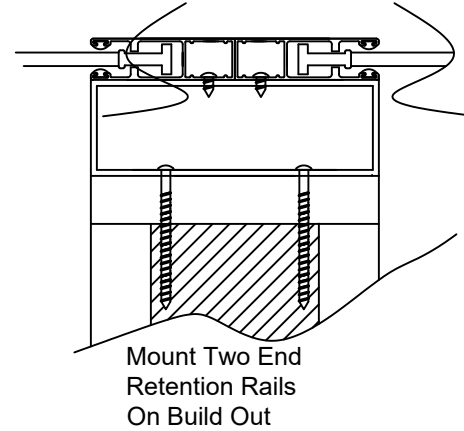
Build Out Mount
End Retention Rails



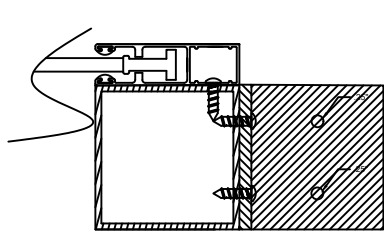
Inside Jamb Mount
End Retention Rails
With Back Angle Attachment



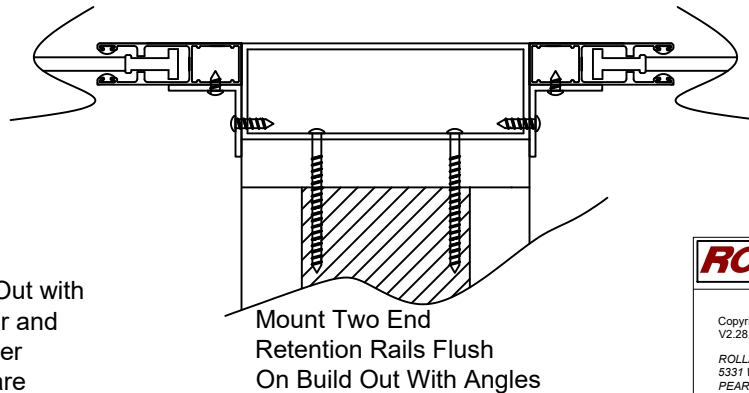
Inside Jamb Mount
End Retention Rails
With Dual Angle Attachment




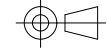
Mount Two End
Retention Rails
On Build Out

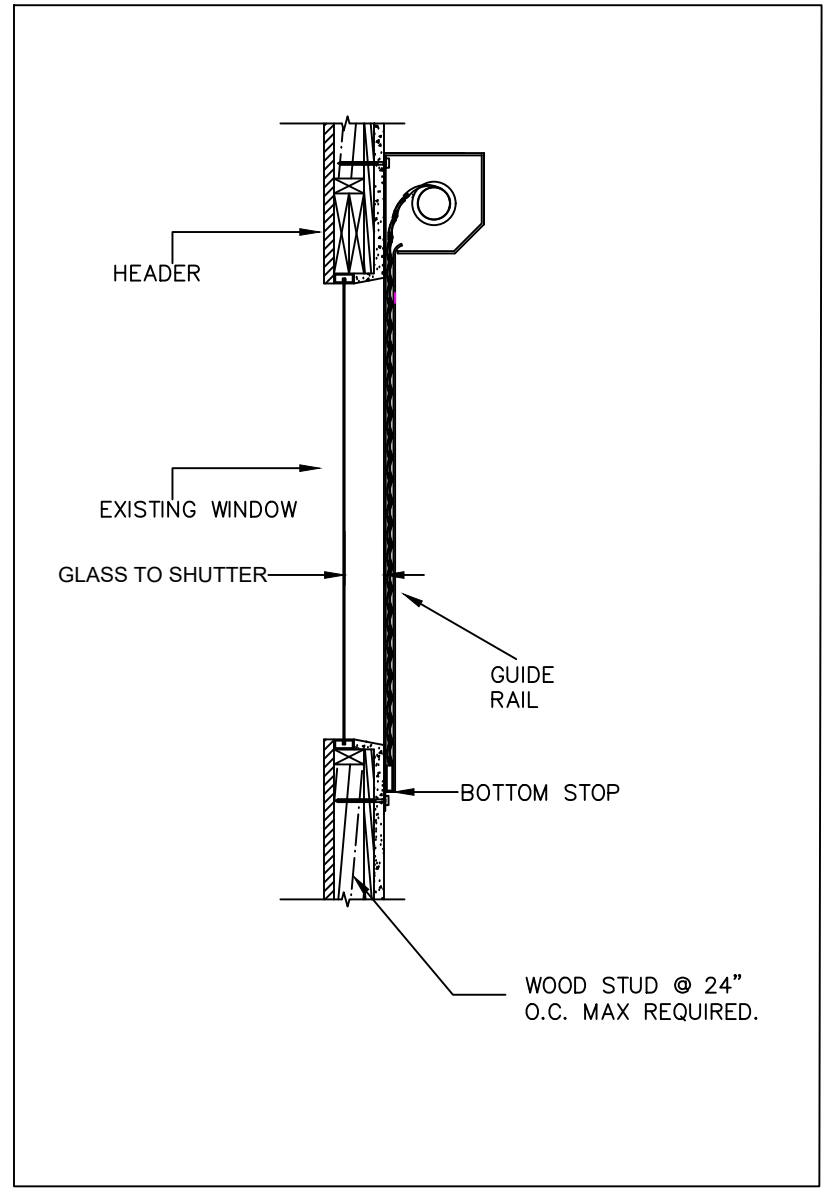
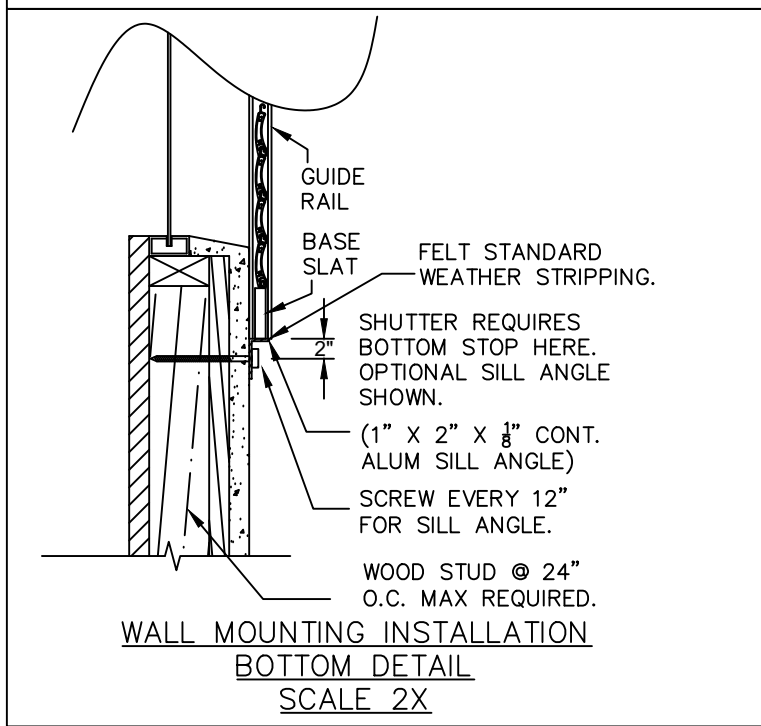
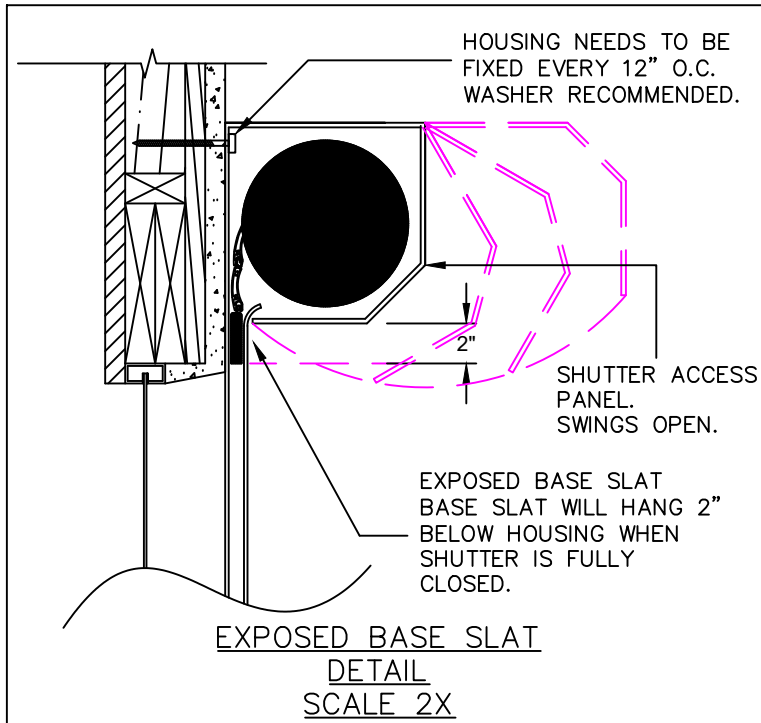


3 Inch X 3 Inch Clip.
Mounted to 3 Inch X 3 inch Build Out with
rails attached. Use one clip at floor and
ceiling for each rail to mount shutter
when no other mounting options are
available. Other sizes are available.



Mount Two End
Retention Rails Flush
On Build Out With Angles

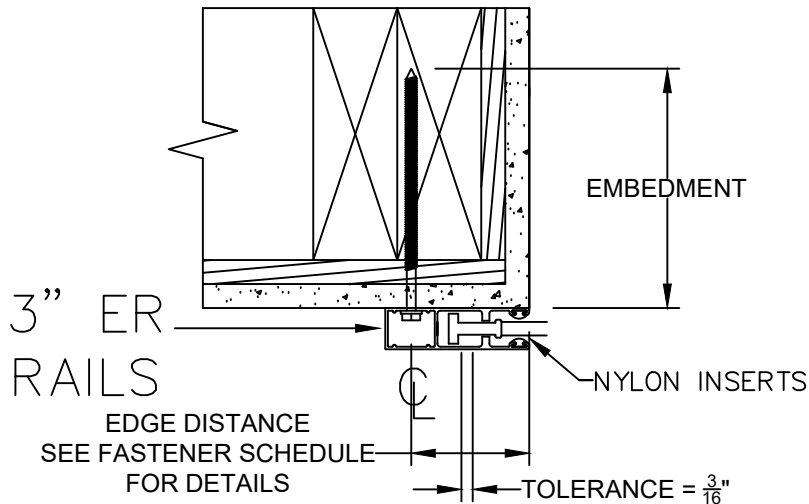
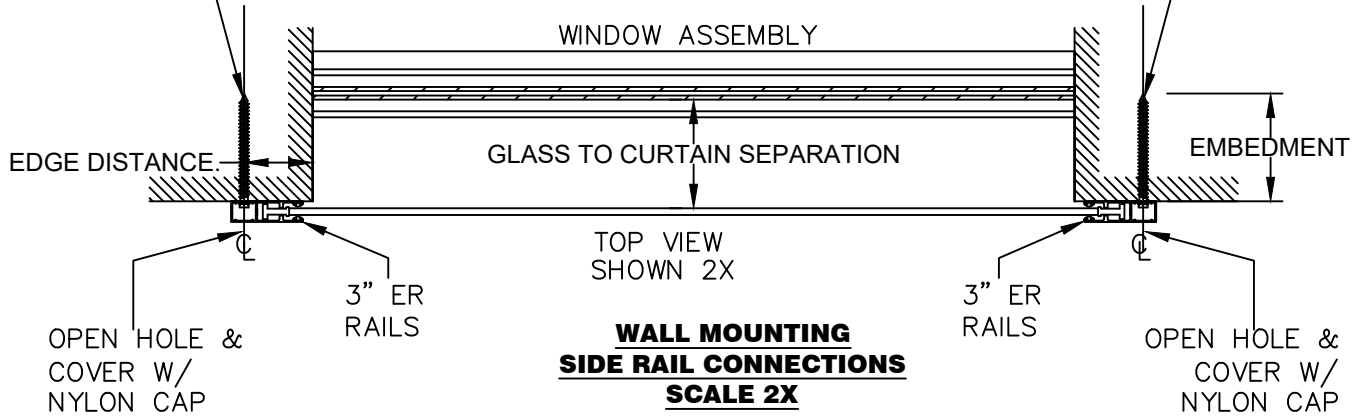
| | | | | |
|---|------------|--|---------------|--|
| ROLLAC  | | NAME | DATE | PROJECT: |
| DRAWN | TRAVIS E. | 2017/03/01 | | |
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| ANGLES | .X ± .5 | .XX ± .1 | .XXX ± .03 | .XXX ± .05 |
| Copyright © 2017 Rollac V2.28.2017 ROLLAC ROLLING SHUTTERS 5331 W. ORANGE ST. PEARLAND, TX 77581 TEL: 281-485-1911 WWW.ROLLAC.COM | | THIRD ANGLE PROJECTION  | | SIZE DWG. NO. A RLL59 HD |
| | | SCALE: NONE WEIGHT: XX.XLBS | | REV A 12 OF 15 |



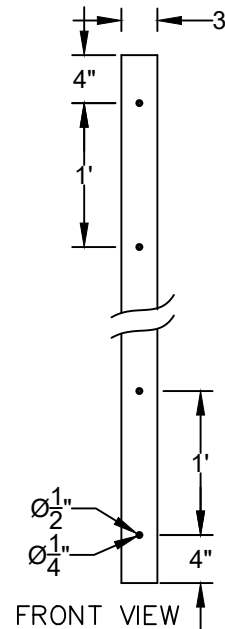
| | | | | |
|--|-----------|------------------------|-------|---|
| ROLLAC | | NAME | DATE | PROJECT: |
| DRAWN | TRAVIS E. | 2017/03/01 | | DESCRIPTION: SYSTEM SPECIFICATION SHEETS FOR RLL59_HD SHUTTER SYSTEM. |
| CHECKED | STEFAN P. | 2017/03/01 | | |
| APPR. | | YYYY/MM/DD | | |
| UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES | | | | |
| ANGLES | .X | .XX | .XXX | |
| | ± .5 | ± .1 | ± .03 | ± .005 |
| Copyright © 2017 Rollac V2.28.2017 | | THIRD ANGLE PROJECTION | | SIZE DWG. NO. A RLL59 HD |
| ROLLAC ROLLING SHUTTERS 5331 W. ORANGE ST. PEARLAND, TX 77581 TEL: 281-485-1911 WWW.ROLLAC.COM | | | | REV A |
| | | SCALE: NONE | | WEIGHT: XX.XLBS |
| | | | | 13 OF 15 |

(SEE FASTENER SCHEDULE FOR SCREW TYPE AND SPACING)

(SEE FASTENER SCHEDULE FOR SCREW TYPE AND SPACING)



WALL MOUNTING SIDE RAIL CONNECTIONS TO WOOD CONSTRUCTION WALL
SCALE 2X



RAIL DETAIL—STANDARD RAIL

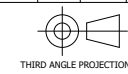
RAIL HOLES ARE SPACED ABOUT 12" APART BEGINNING 4" FROM TOP AND BOTTOM. THE OUTSIDE HOLE IS $\frac{1}{2}$ " AND THE INSIDE HOLE IS $\frac{1}{4}$ " STANDARD. NYLON CAPS WILL BE PROVIDED FOR COVERING THE HOLES AFTER INSTALLATION.



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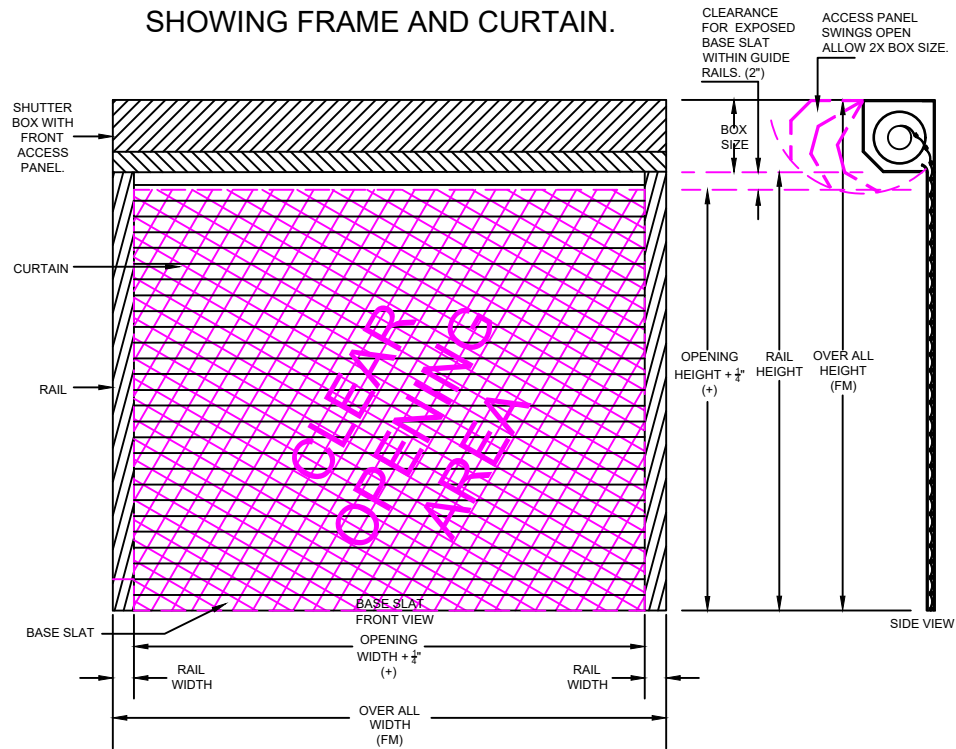
| | | |
|---|---------------|----------------|
| DRAWN | TRAVIS E. | 2017/03/01 |
| CHECKED | STEFAN P. | 2017/03/01 |
| APPR. | | YYYY/MM/DD |
| UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES | | |
| ANGLES | .X ± .5 | .XX ± .1 |
| | .XXX ± .03 | .XXX ± .005 |

| | | |
|---------------|--|-----------------|
| PROJECT: | | |
| DESCRIPTION: | SYSTEM SPECIFICATION SHEETS FOR RLL59_HD SHUTTER SYSTEM. | |
| SIZE DWG. NO. | A | RLL59 HD |
| SCALE: | NONE | WEIGHT: XX.XLBS |
| REV | A | 14 OF 15 |



COMMON TERMS USED FOR ROLLING SHUTTERS

MEASUREMENT AND PLANNING GUIDE FOR ROLLING SHUTTERS SHOWING FRAME AND CURTAIN.



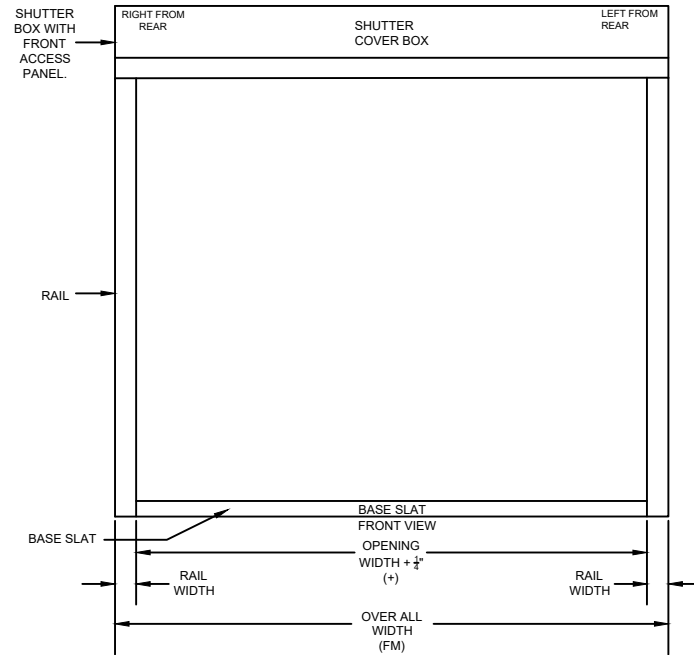
Measuring for rolling shutters is easy once you know what issues to consider


- 1) Consider the way a rolling shutter will need to be installed. Is the area free of obstruction or will you need to fit the shutter within a certain space?
The answer to this question will tell you whether you should use a plus (+) measurement or FM measurement.
- 2) Consider the height of the shutter. The taller the shutter, the larger the box size. In addition to the added height for the box, some space should be allowed for the base slat of a fully open shutter in order to keep the view from inside unobstructed.
- 3) Consider the width of the shutter. Adding either 5 inches for mini rails or 6 inches for maxi rails is a good general rule to follow. Keep in mind, however, that this is only a guideline, and technical changes may be made when necessary.
- 4) Consider how power is supplied to the shutter and the location of any control switches. Consider Tape or Crank placement if manual.

If you have any questions about this measuring and planning guideline, please don't hesitate to contact us at (281)485-1911 or at Sales@rollac.com.

SHUTTER SYSTEM FRAME

SHUTTER SYSTEM FRAME



| | | | | |
|--|------------|---|-----------------|--|
| ROLLAC | | NAME | DATE | PROJECT: |
| DRAWN | TRAVIS E. | 2017/03/01 | | |
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| ANGLES | .X ± .5 | .XX ± .1 | .XXX ± .03 | .00X ± .005 |
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| ROLLAC ROLLING SHUTTERS 5331 W. ORANGE ST. PEARLAND, TX 77581 TEL: 281-485-1911 WWW.ROLLAC.COM | | SCALE: NONE | WEIGHT: XX.XLBS | REV A 15 OF 15 |



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