



steel
CONNECT

HOW TO MANAGE ON-SITE INSTALLATION & QUALITY CONTROL OF EXTERNAL CLADDING






**DO YOU WISH
TO HAVE A
WELL
CONSTRUCTED
BUILDING?**



**GOOD
BUILDING
DESIGN
DOESN'T JUST
HAPPEN ON
PAPER**



**IT RELIES ON
GOOD
EXECUTION
ON-SITE TOO**



**LEAD TO
BUILDINGS
WHICH
REQUIRES LESS
MAINTENANCE**



**GOOD
DESIGN
+
GOOD
EXECUTION
=
EXCELLENT
OUTCOME**



**IT'S POSSIBLE
TO ACHIEVE
SUCH LEVEL OF
EXECUTION**



**NEED
COLLECTIVE
EFFORT TO
EDUCATE ON
GOOD
ON-SITE
PRACTICES**



1

STORAGE ON-SITE & HANDLING



INSPECTION OF MATERIAL ON ARRIVAL

— DENTS



INSPECTION OF MATERIAL ON ARRIVAL

—

PAINT CRACKS



INSPECTION OF MATERIAL ON ARRIVAL — SCRATCHES





1

STORAGE ON-SITE & HANDLING

ON-SITE STORAGE OF MATERIAL

① STORAGE ON-SITE & HANDLING

**WET STORAGE
CONDITION
WILL AFFECT
MATERIAL
QUALITY**



① STORAGE ON-SITE & HANDLING

**MOISTURE
TRAPPED
BETWEEN
STACKED
CLADDING
DUE TO
CAPILLARY
EFFECT**



① STORAGE ON-SITE & HANDLING

**TRAPPED
MOISTURE
COULD AFFECT
BARE FINISH
COATING
PERFORMANCE**



① STORAGE ON-SITE & HANDLING

**COULD
SOFTEN THE
PAINT LAYER**



① STORAGE ON-SITE & HANDLING

**CAUSE LIGHT
STAINS ON
THE PAINT
FINISHES**

1 STORAGE ON-SITE & HANDLING

**THE MATERIAL
SHOULD BE
DRIED BEFORE
INSTALLATION**

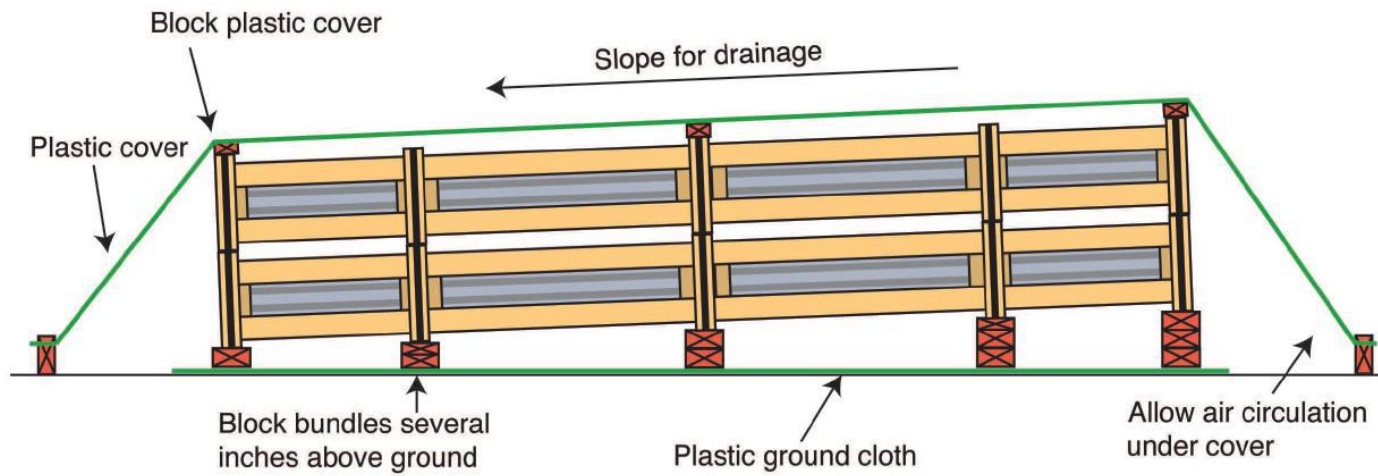
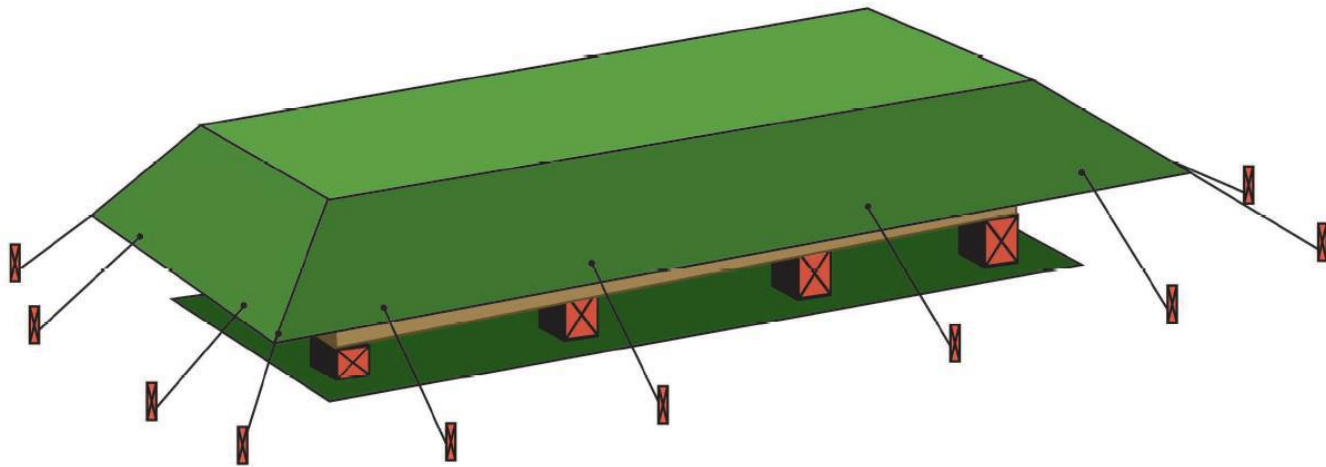


Illustration of Proper storage and tarp covering.



SLOPED STACKING & COVERED

DESIGN & PLANNING STAGE

—
TO INCLUDE
MATERIAL
STORAGE



②

CUTTING SHEETS ON-SITE

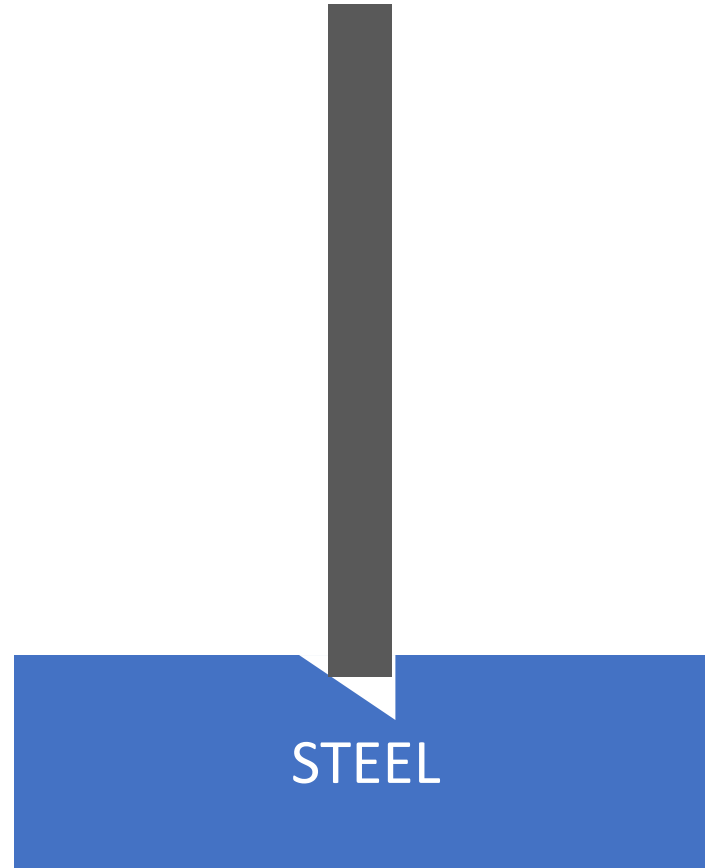
**BURR EDGES
WILL
JEOPARDIZE
THE CUT EDGE
PROTECTION**



SIDE VIEW



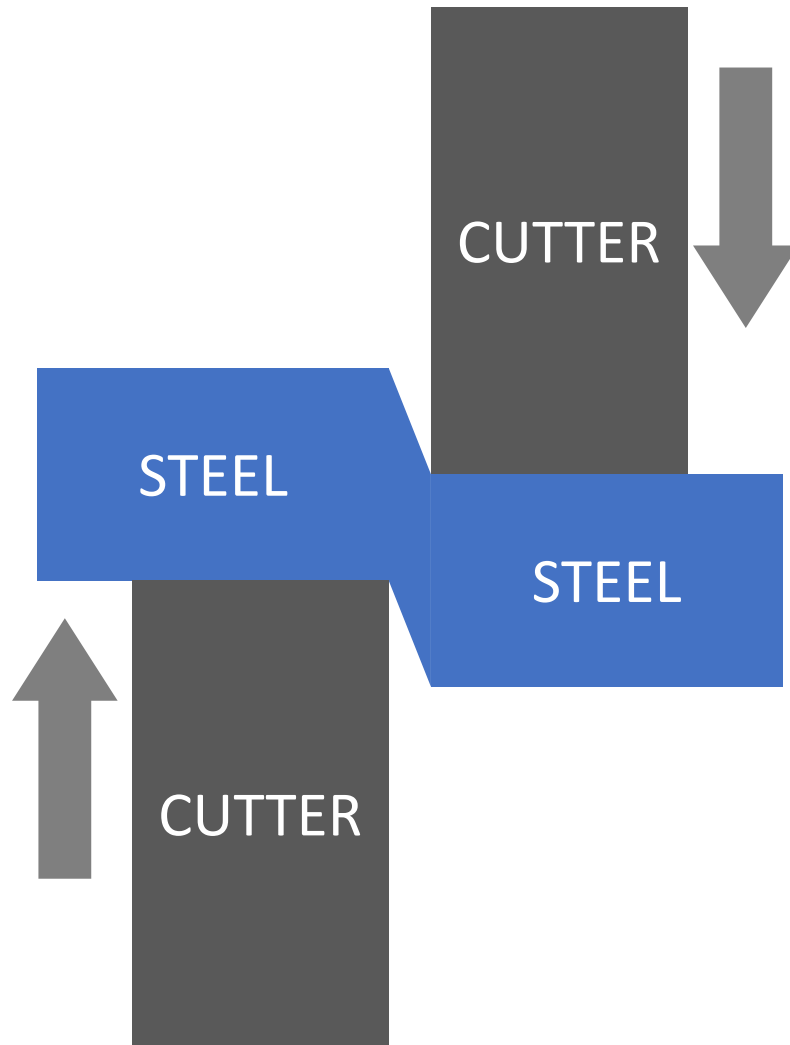
FRONT VIEW



② CUTTING SHEETS ON-SITE

TYPES OF CUTTING MOTIONS – CIRCULAR MOTION

FRONT VIEW



TYPES OF
CUTTING
MOTIONS

—

SHEAR
MOTION

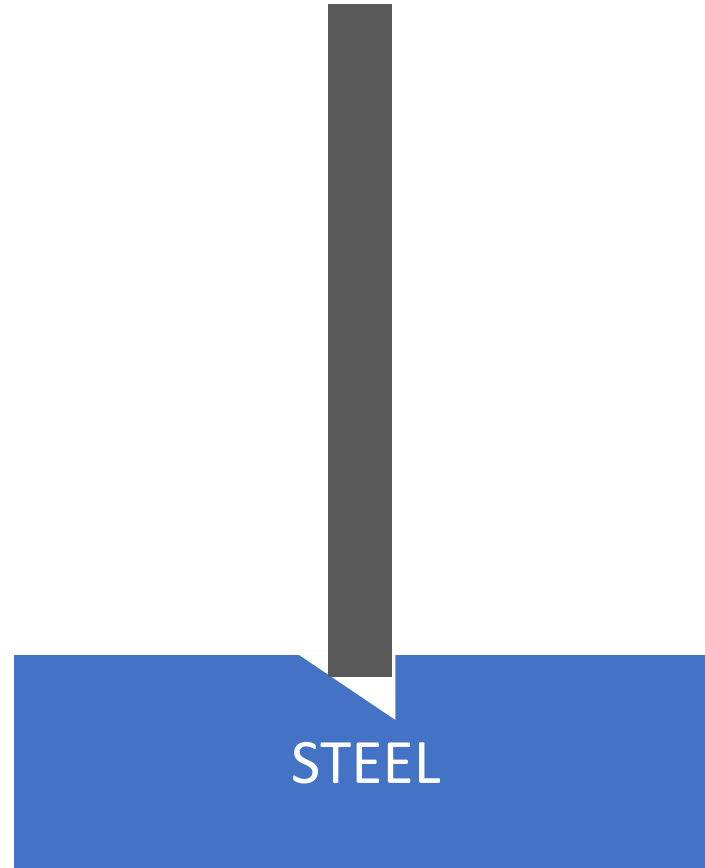
CUTTING TOOL	SUITABILITY
ANGLE GRINDER	??
COLD CUT SAW	??
SINGLE CUT SHEARS	??
DOUBLE CUT SHEARS	??
NIBBLER	??

TYPES OF CUTTING TOOLS

SIDE VIEW



FRONT VIEW



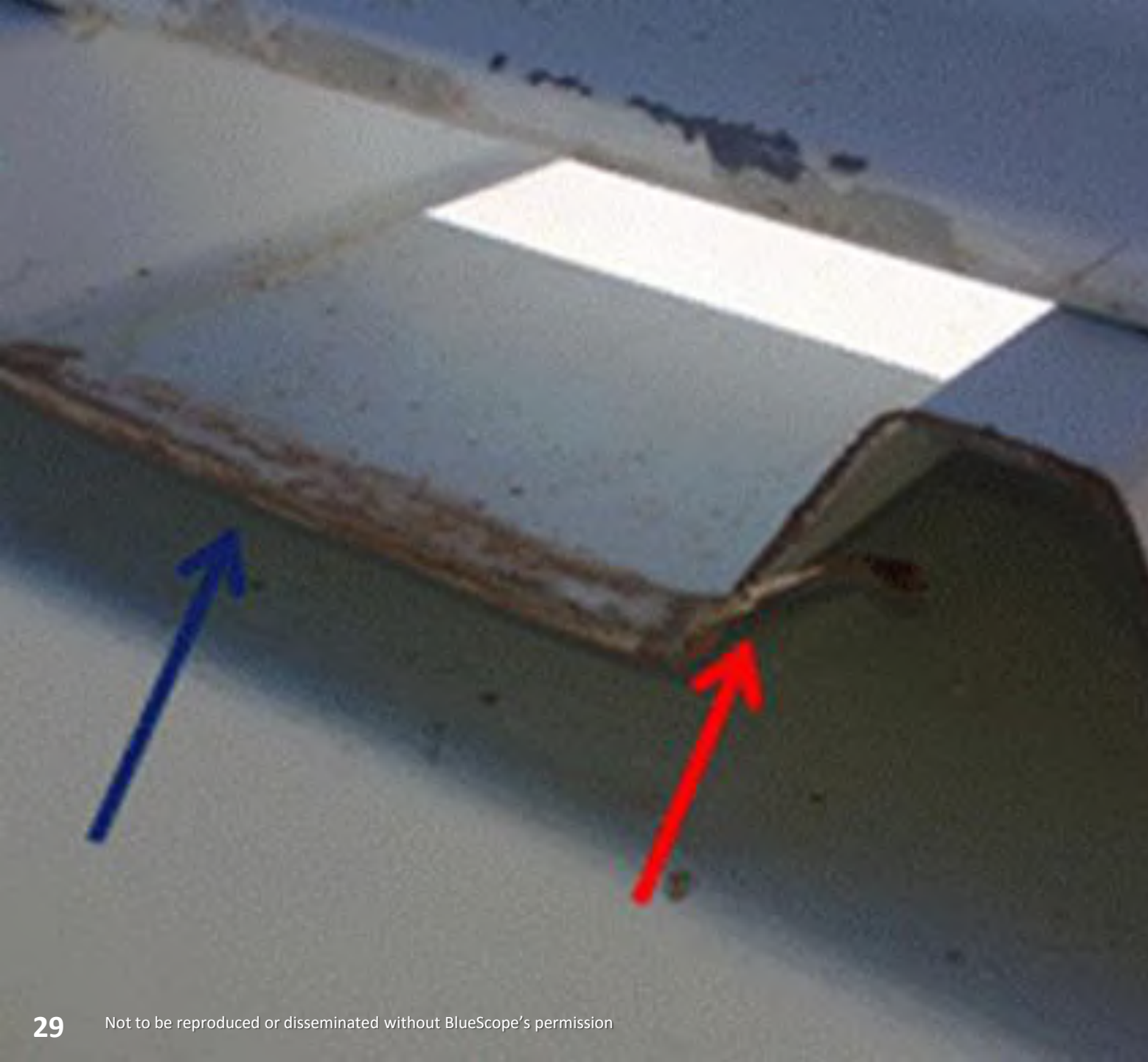
② CUTTING SHEETS ON-SITE

TYPES OF
CUTTING
MOTIONS
–
CIRCULAR
MOTION

② CUTTING SHEETS ON-SITE

**CUTTING
TOOL
—
ANGLE
GRINDER**

**CUT EDGES
WILL LEAVE
BURRS**



**CUT EDGES
WILL LEAVE
BURRS**



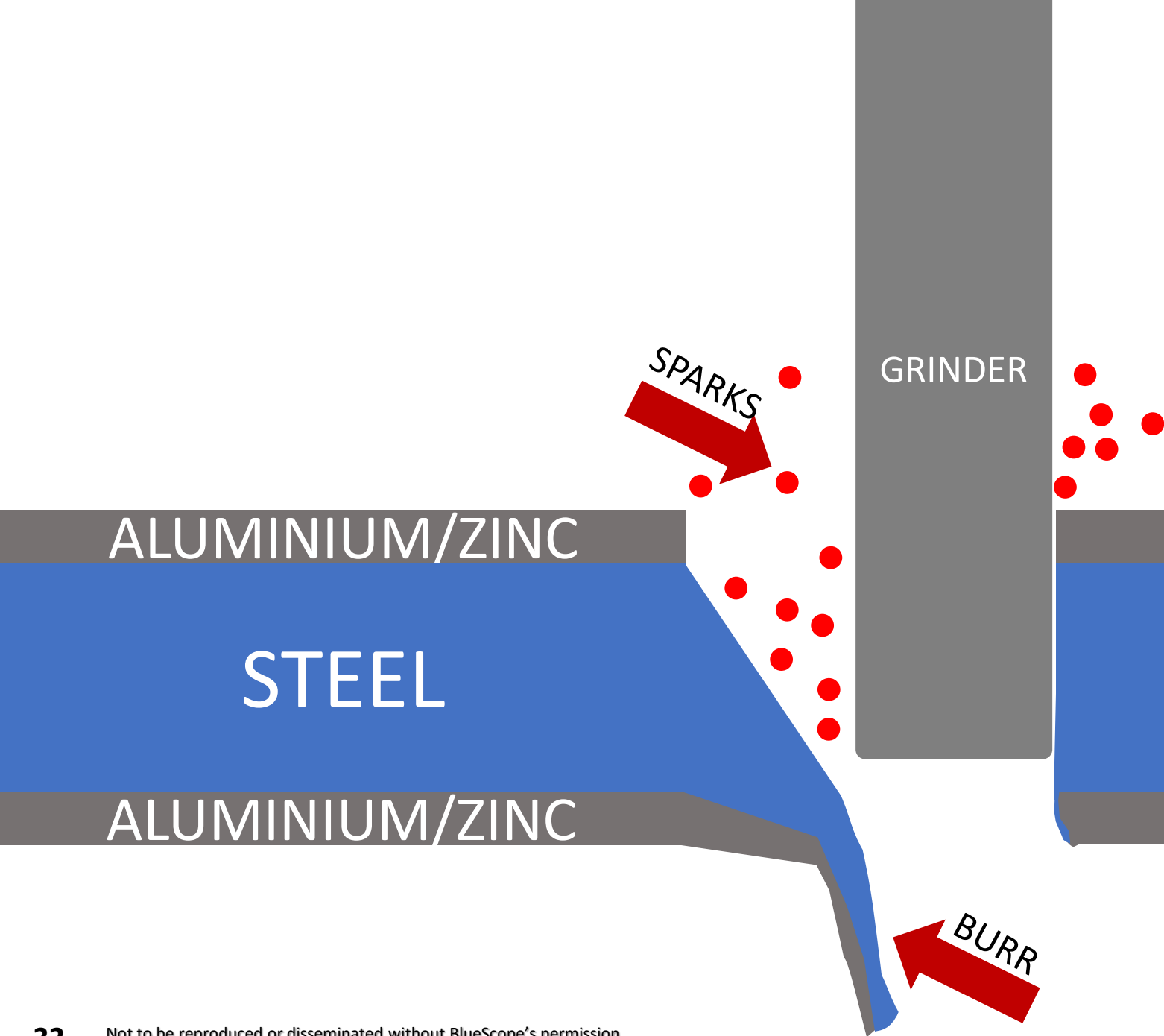
GRINDER

ALUMINIUM/ZINC

STEEL

ALUMINIUM/ZINC

ANGLE GRINDER CUTTING



ANGLE GRINDER CUTTING

**BURR CUT
EDGES SHOW
SIGNIFICANT
SIGN OF RUST**

② CUTTING SHEETS ON-SITE

**TYPICALLY
SEEN ON
TRUSS
MEMBERS CUT
ON-SITE**



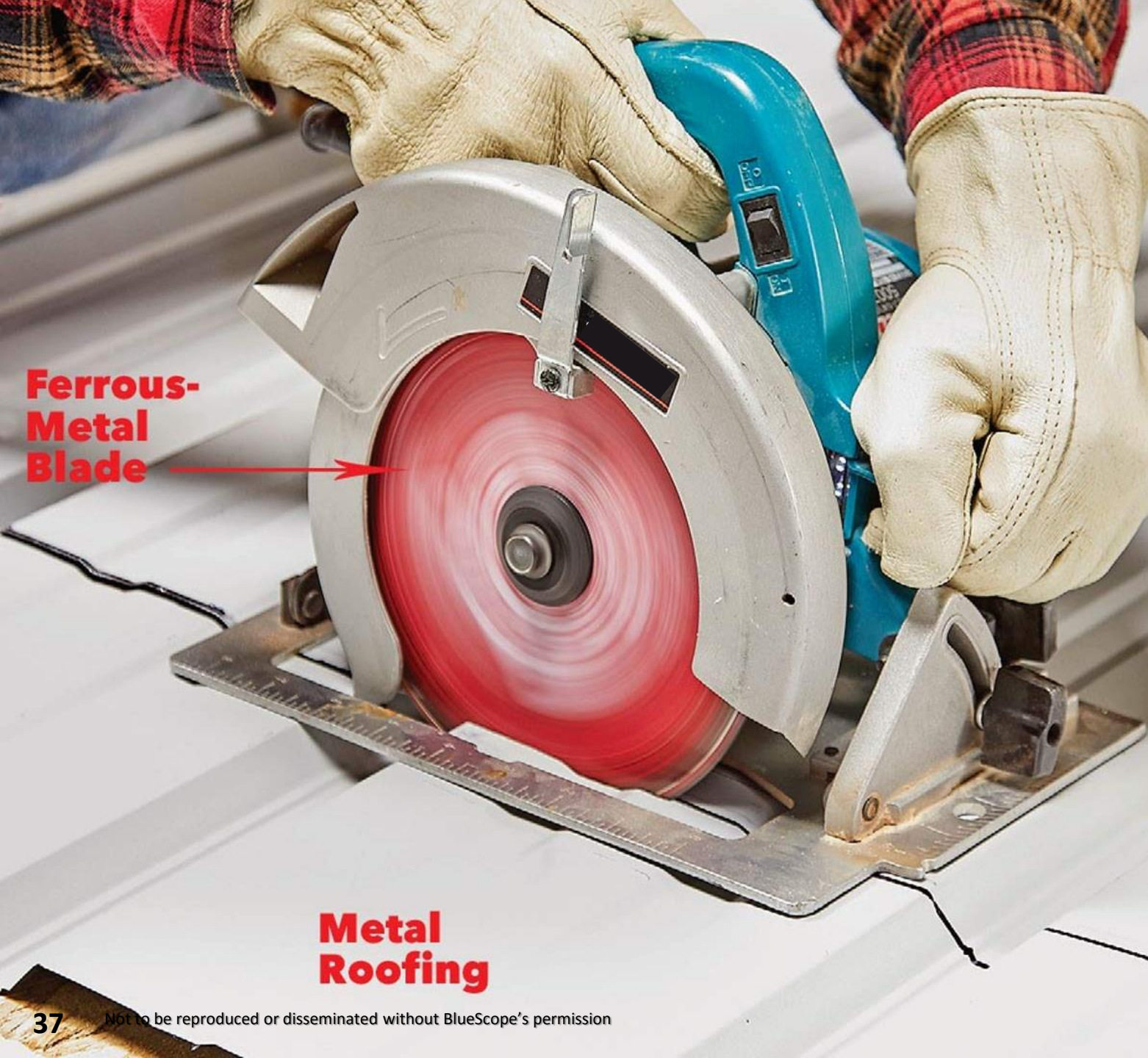


**CUTTING
TOOL
–
COLD CUT
SAW**



② CUTTING SHEETS ON-SITE

**COLD CUT
SAW DOES
NOT
GENERATE
SPARKS**

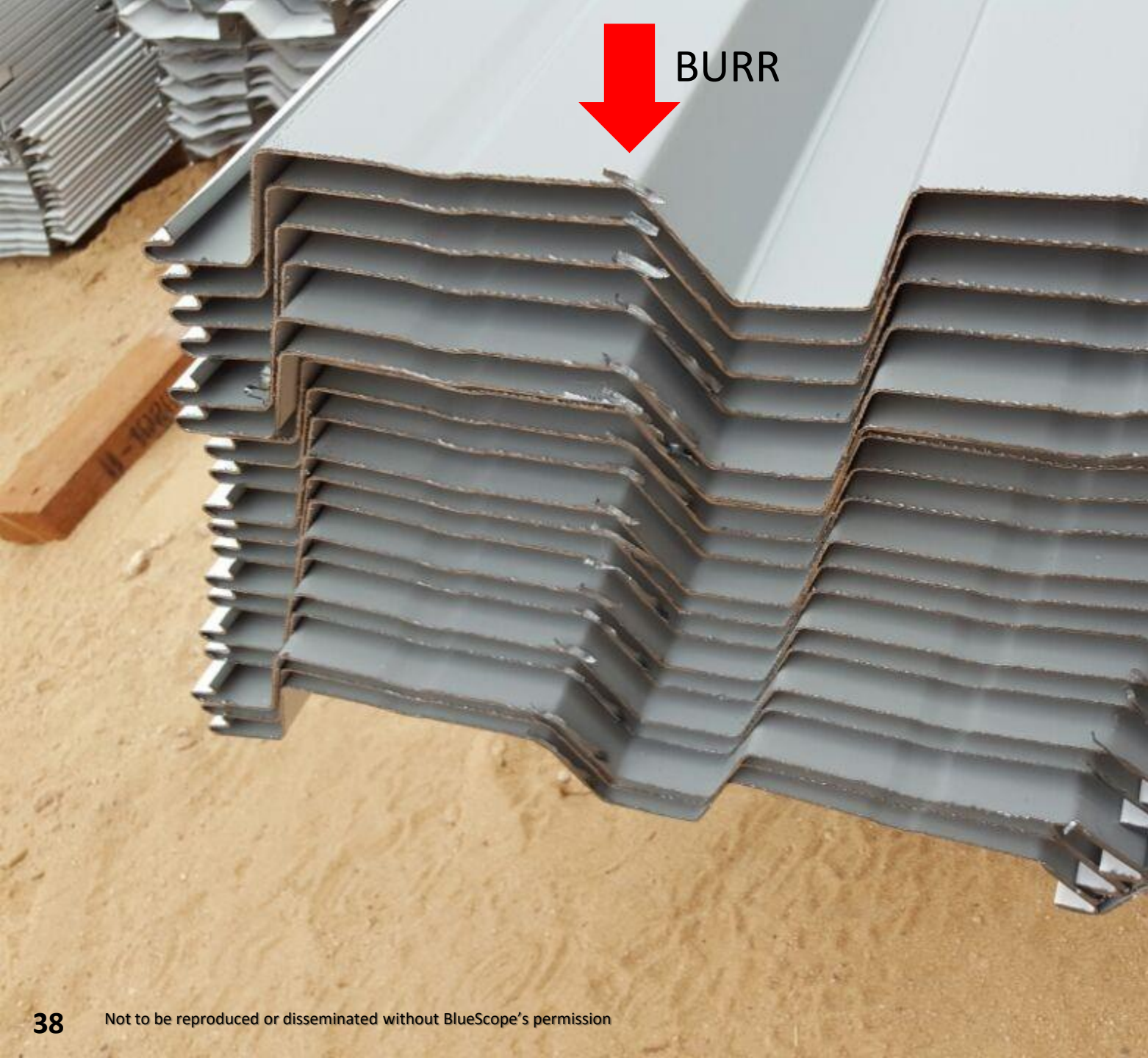


Ferrous-Metal Blade

Metal Roofing

② CUTTING SHEETS ON-SITE

PROVIDE STRAIGHT AND RELATIVELY CLEANER CUT EDGES



BURR


② CUTTING SHEETS ON-SITE

**DEPENDS
HEAVILY ON
THE TYPES OF
BLADE USED**

CERMET TIPPED BLADE
FOR MILD STEEL
No.B-04628 185x1.9x20mm 36T
MAX. SPEED 5800 min⁻¹

**RECOMMEND
BLADE FOR
CUTTING
STEEL SHEETS**

RECOMMEND BLADE FOR CUTTING STEEL SHEETS

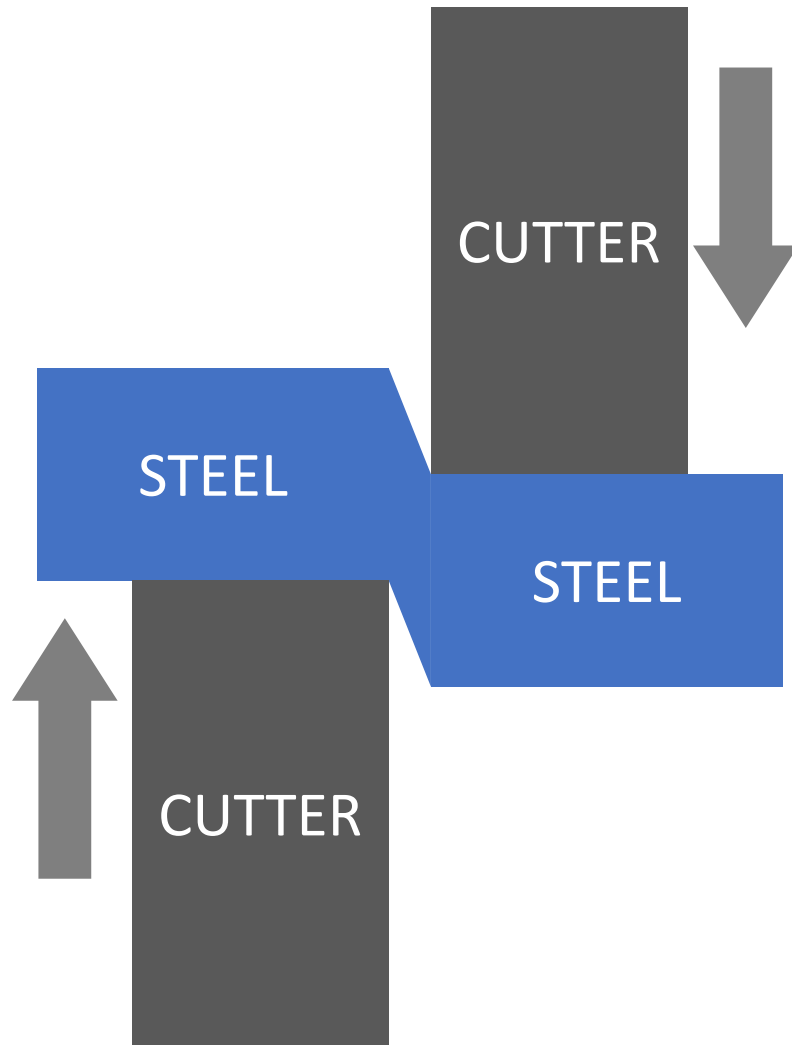


CARBIDE TIPPED BLADE
FOR FERROUS METALS
HW No. B-46216 150x1, 5x20mm 32T
MAY SPEED 4680 min⁻¹

**RESULT CUT
EDGES
DEPENDS ON
WORKER
SKILLFULNESS**



FRONT VIEW



TYPES OF
CUTTING
MOTION

—

SHEAR
MOTION



**CUTTING
TOOL
—
TIN SNIPS**

② CUTTING SHEETS ON-SITE

SINGLE CUT SHEARS





DOUBLE CUT SHEARS

DOUBLE CUT SHEARS



② CUTTING SHEETS ON-SITE



=

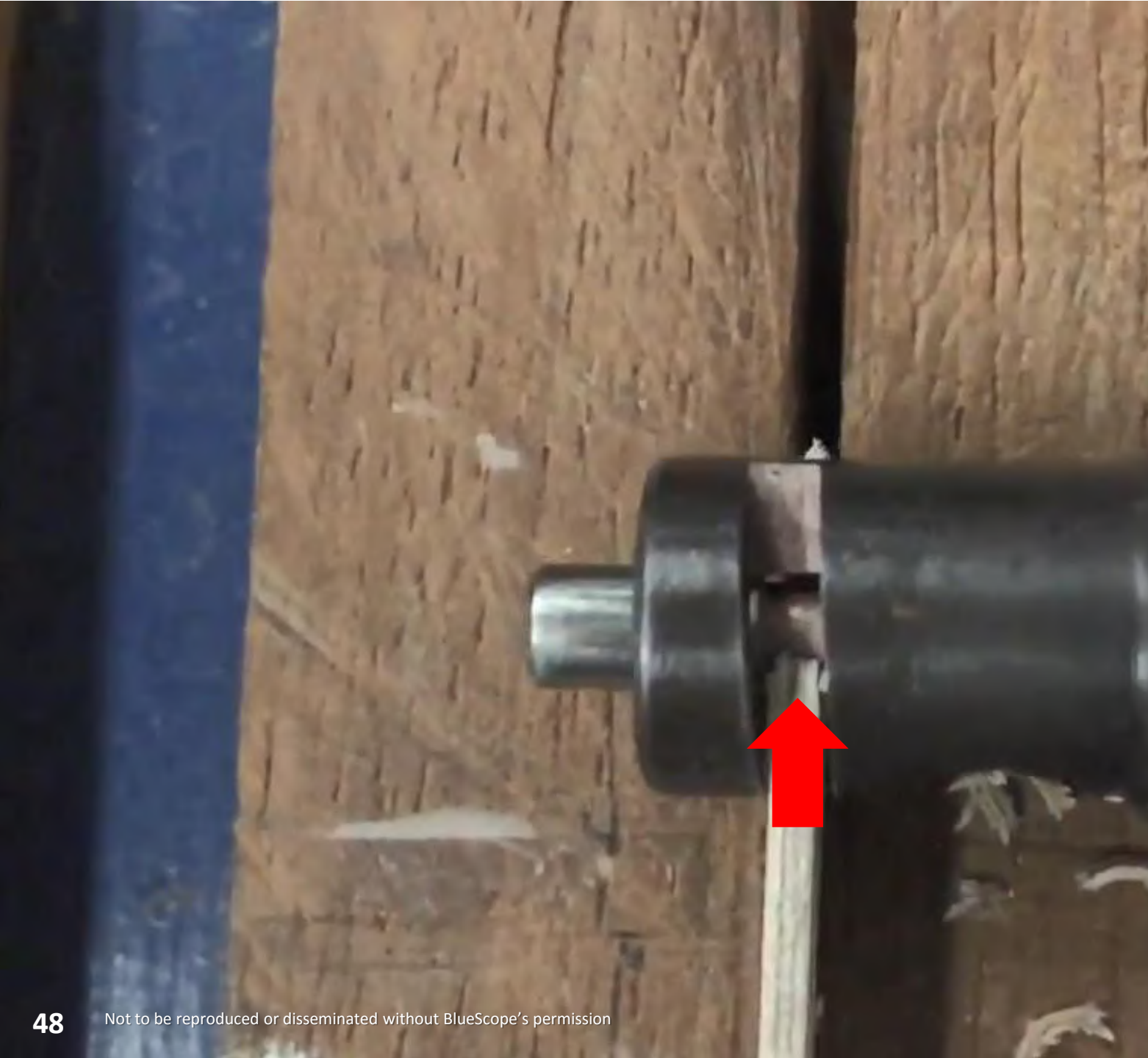


CUTTING TOOL

—

NIBBLER

HOW NIBBLER WORKS





SERRATED CUT EDGES

CUTTING TOOL	SUITABILITY
ANGLE GRINDER	NO
COLD CUT SAW	MAYBE
SINGLE CUT SHEAR	YES
DOUBLE CUT SHEARS	YES
NIBBLER	YES

**SUITABILITY
OF DIFFERENT
TYPES OF
CUTTING
TOOLS ON
SHEET METAL**



② CUTTING SHEETS ON-SITE

DESIGN & PLANNING STAGE

—

CUT TO LENGTH OR JUST ROLL ON-SITE

**DOUBLE CUT
SHEARS
GENERATES
STRIPS OFF-
CUTS**



NIBBLER GENERATES STEEL SWARF



ANGLE GRINDER GENERATES FINE STEEL SWARF





3

SWARF REMOVAL

RUST STAINS ONTO THE ADJACENT SURFACE



**RUST STAINS
CAN BE
OBSERVED ON
RUSTED STEEL
COMPONENTS
LEFT ON ANY
SURFACES**



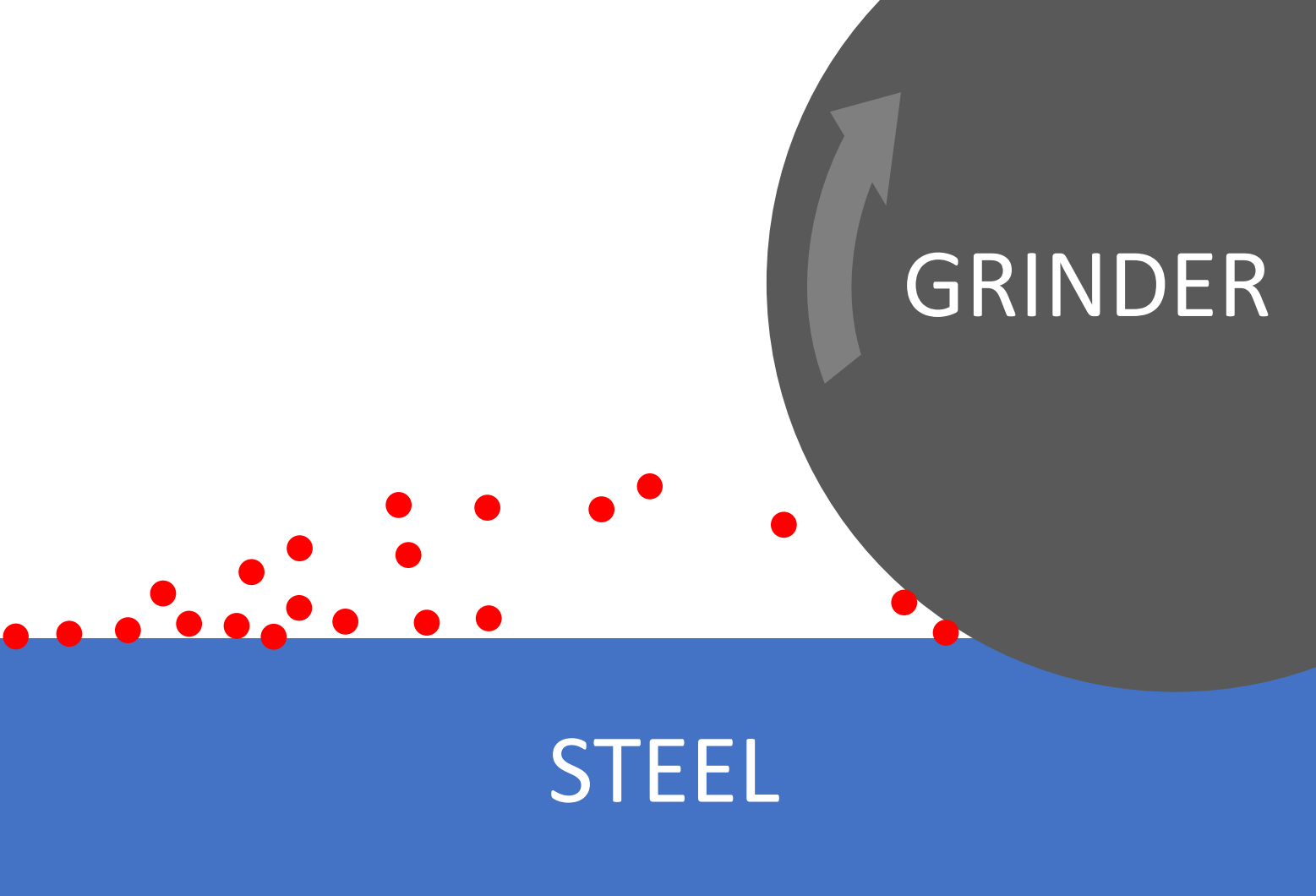
WHAT ARE THE RUSTED DOTS?



③ SWARF REMOVAL

**HOT SWARF
PARTICLES
GENERATED
FROM
ABRASIVE
CUTTING**

③ SWARF REMOVAL



**HOT SWARF
ADHERES
ONTO THE
SURFACE
INSTANTLY**

3 SWARF REMOVAL

**SWARF
PARTICLES
MIGHT NOT BE
DETECTED
INITIALLY**

SWARF PARTICLES WILL RUST



**SWARF
ADHERES
ONTO THE
GALVANIC
COATING**



ACCELERATES
GALVANIC
REACTION OF
ALUMINIUM /
ZINC

3 SWARF REMOVAL



**CAN LEAD TO
RUSTING OF
BASE STEEL**



3 SWARF REMOVAL

**SWARF
PARTICLES
CAN BE
REMOVED AT
EARLY STAGE**

**ON THE LATER
STAGE, IT'LL
BE HARDER TO
REMOVE**

A close-up photograph showing a person's hand using a green scrubber to clean a green stain on a light-colored tiled floor. The scrubber is being moved across the stain, and the hand is positioned above it. The background is slightly blurred, showing more of the tiled floor.

3 SWARF REMOVAL

**POSSIBLE TO
REMOVE THE
SWARF
PARTICLES BY
WASHING**



+



SCRUB
SPONGE
+
MILD
HOUSEHOLD
DETERGENT

**MINOR
SWARFS
(AFTER >10
YEARS)**

**REMOVED
AFTER
WASHING
WITH SPONGE
& DETERGENT**

**MINOR
SWARFS
(AFTER >10
YEARS)**

**NOT
COMPLETELY
REMOVED**

3 SWARF REMOVAL



**DO NOT USE
ABRASIVE
CLEANING
METHODS**



4

SCRATCH PREVENTION

**NORMAL
SAFETY
BOOTS SOLE
COULD
EASILY TRAP
PEBBLES**





**FLAT RUBBER
SHOES HAS
FLATTER SOLE**



**UNLIKELY TO
CARRY
PEBBLES
BETWEEN THE
GROOVES**

TO PREVENT SCRATCH WHEN WORKING ON METAL ROOF

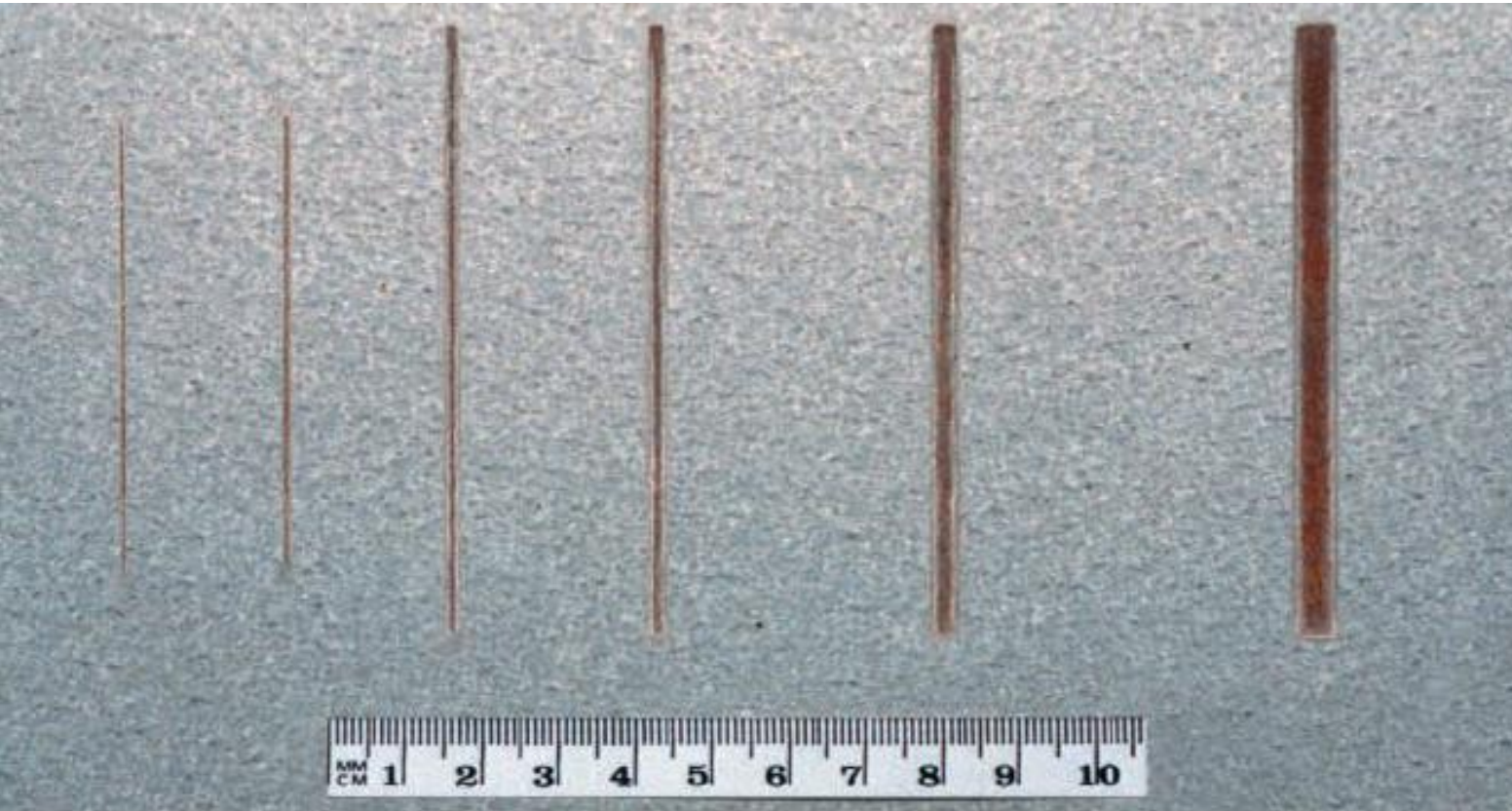


**NO
DRAGGING
OF ITEMS ON
ROOF**

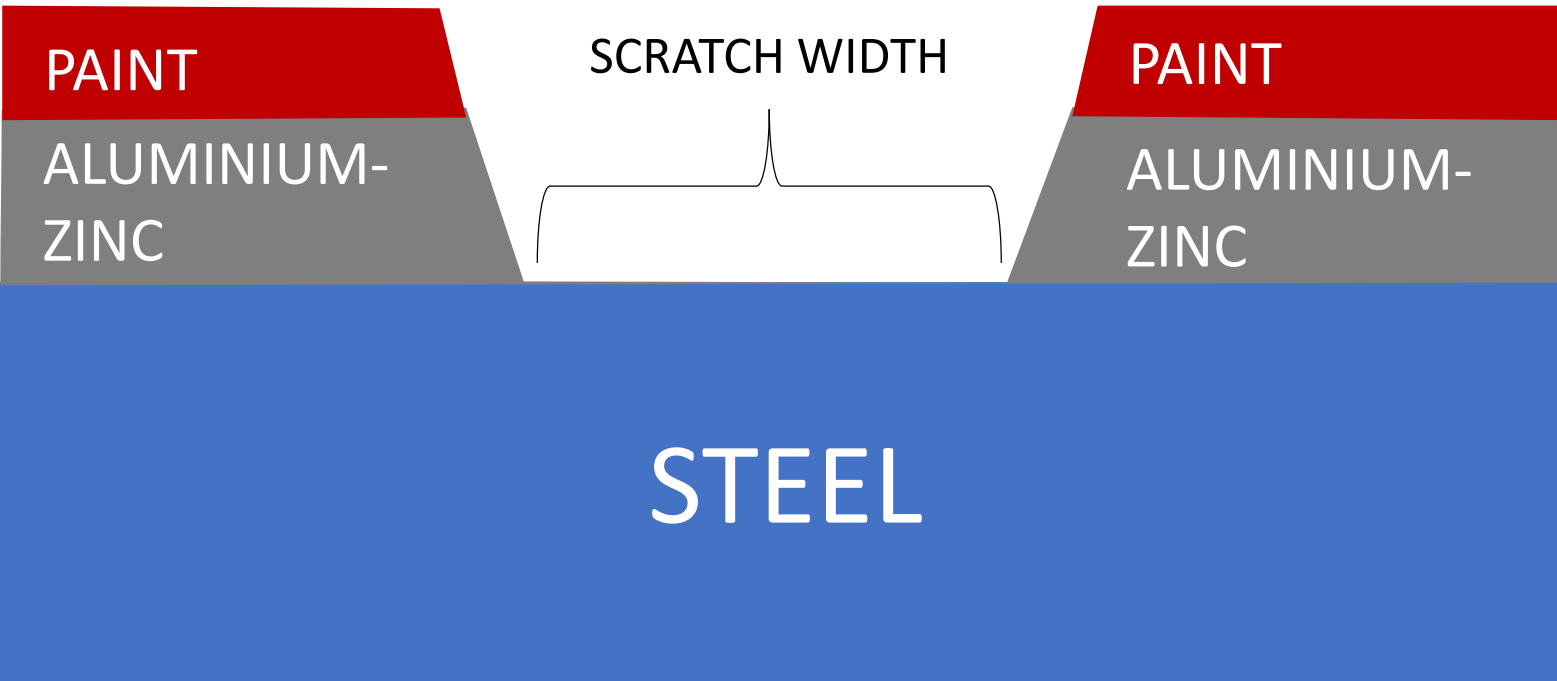
**NO
DRAGGING
OF ITEMS ON
ROOF**

④ SCRATCH PREVENTION

**IF YOU SEE
SCRATCH,
DON'T
PANIC!!**



**RULE OF
THUMB,
SCRATCH
WIDTH >2MM
WOULD SHOW
RUST**



**SCRATCH
WIDTH**

ASSESS THE SCRATCHED AREA

**ANY SIGN OF
RUST ON THE
SCRATCHED
AREA**

A close-up photograph of a cylindrical metal rod, possibly a rebar, showing significant surface wear. The rod is covered in numerous fine scratches and larger, irregular scuffs that have removed the top layer of the metal, revealing a darker, oxidized interior. The rod is positioned diagonally across the frame, with a bright light source from the upper left creating a strong highlight and casting a soft shadow to the right. The background is a plain, light-colored surface.

4 SCRATCH PREVENTION

**SCRATCHES
THAT ARE
MINOR
SHOULD BE
LEFT
UNTOUCHED**

**HERE'S A
STUDY OF
>25 YEAR OLD
ROOF WITH
MINOR
SCRATCHES**

4 SCRATCH PREVENTION

DO YOU SEE
THE MINOR
SCRATCHES
FROM HERE?

**EITHER
REPLACE THE
SHEET OR
TOUCH-UP
PAINTING**

**DO NOT
OVERPAINT ON
MINOR
SCRATCH AREA**

**MINOR
SCRATCHES
LESS VISIBLE
THAN TOUCH-
UP PAINT**



④ SCRATCH PREVENTION

**TOUCH-UP
PAINTS /
OVERPAINTING
WILL
GUARANTEE
COLOUR
DIFFERENCES**

**CAN YOU SEE
THE COLOUR
DIFFERENCE?**



4 SCRATCH PREVENTION

MORE FACTORS TO CONSIDER IF TOUCH-UP PAINT



5

FOLLOWING TRADES

TAKE PHOTO
FOR RECORD
PURPOSES



5 FOLLOWING TRADES

NEGLIGENCE OF FOLLOWING TRADES

MORTAR STAINS

**MORTAR
STAINS FORM
STRONG
BOND WITH
SURFACE
ONCE CURED**



Before cleaning



After cleaning

EXAMPLE OF ATTEMPT TO REMOVE MORTAR STAINS

FOOT TRAFFICS



**BEWARE TO
PREVENT
DENTING
FROM FOOT
TRAFFICS**



5 FOLLOWING TRADES

POTENTIALLY
COULD
CAUSE
PONDING
WATER



DESIGN TO INCLUDE WALKING PLATFORM



SUMMARY

**1. STORAGE ON-SITE &
HANDLING**

2. CUTTING SHEETS ON-SITE

3. SWarf REMOVAL

4. SCRATCH PREVENTION

5. FOLLOWING TRADES



QUESTION & ANSWER SESSION



steel CONNECT

Colorbond®

Zincalume®

TrueCore®

VERMOE™



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BlueScope
Malaysia



NS BlueScope
Malaysia