Supplementary Information

The following information is associated with Network Rail Standard:
NR CIV/SD/660 Rev A

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CAD Drawing

- CIV/SD/660

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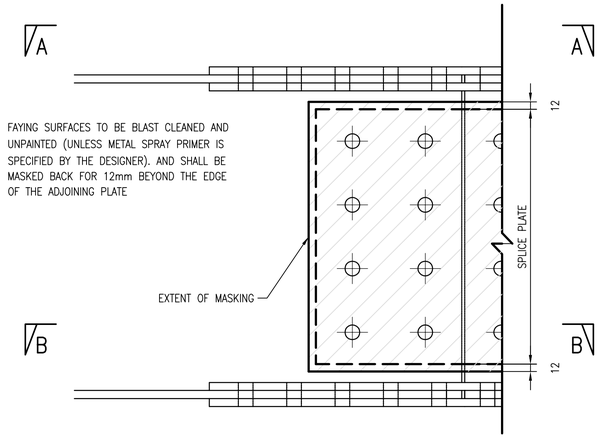
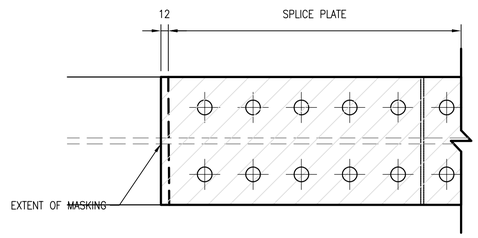
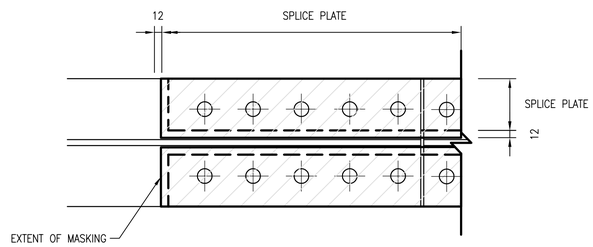


REFER TO CLAUSE 9.7.2. OF NR/GN/CIV/002 FOR GUIDANCE ON THE PREPARATION OF FAYING SURFACES



SECTION A–A

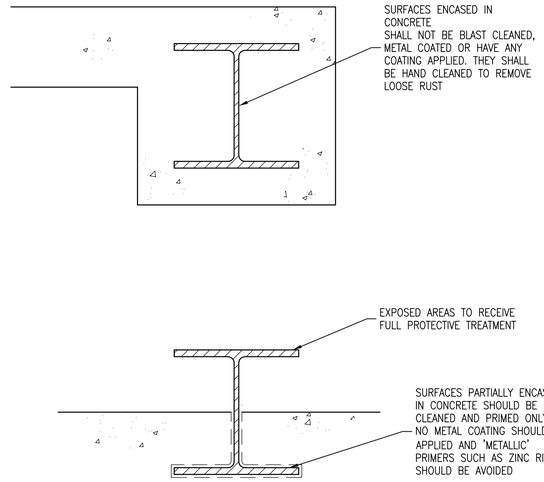
REFER TO CLAUSE 9.7.2. OF NR/GN/CIV/002 FOR GUIDANCE ON THE PREPARATION OF FAYING SURFACES

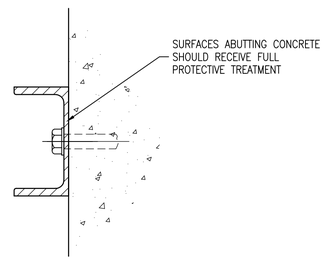


SECTION B–B

TYPICAL PROTECTIVE TREATMENT AT H.S.F.G. BOLTED CONNECTION

SCALE 1:5



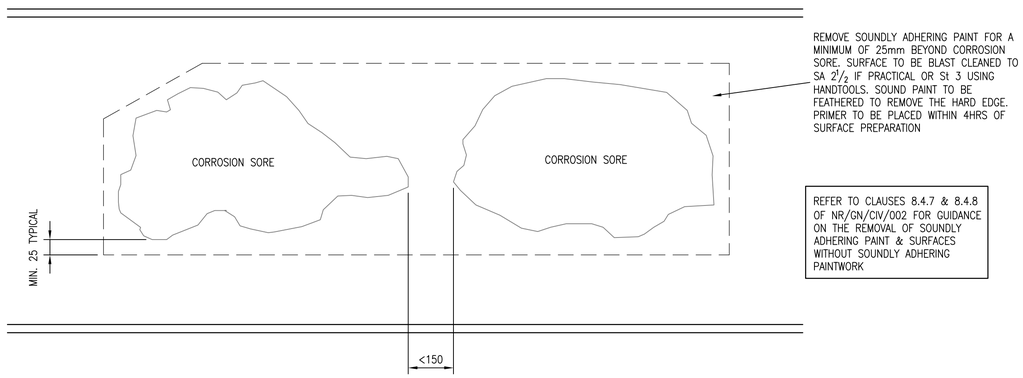


TYPICAL PROTECTIVE TREATMENT AT CONCRETE INTERFACES

SCALE 1:5

KEY

= AREA OF SURFACE PREPARATION



REFER TO CLAUSES 8.4.7 & 8.4.8 OF NR/GN/CIV/002 FOR GUIDANCE ON THE REMOVAL OF SOUNDLY ADHERING PAINT & SURFACES WITHOUT SOUNDLY ADHERING PAINTWORK

TYPICAL PATCH REPAIR

SCALE 1:5

SAFETY, HEALTH & ENVIRONMENT RISK ASSESSMENT

DESIGNER'S NOTE – CDM REG. 13(2)(b)

THE FOLLOWING ARE SIGNIFICANT HAZARDS WHICH MIGHT AFFECT THE HEALTH AND SAFETY OF THOSE UNDERTAKING THE WORKS OUTLINED IN THIS SET OF DRAWINGS ON RAILWAY STRUCTURES OR THOSE AFFECTED BY THESE ACTIVITIES. A SITE SPECIFIC RISK ASSESSMENT SHALL ALWAYS BE UNDERTAKEN PRIOR TO COMMENCING ANY OF THE WORKS DESCRIBED ON SITE.

IT IS ASSUMED THAT A COMPETENT CONTRACTOR IS AWARE OF THE RISKS ASSOCIATED WITH GENERAL CONSTRUCTION ACTIVITIES UNDERTAKEN IN THE RAILWAY ENVIRONMENT.

RISK	STAGE	MITIGATING MEASURES
REMOVAL OF EXISTING PAINT	D/C	ALL COATINGS PRIOR TO 1970 MAY CONTAIN LEAD. WORK TO BE CARRIED OUT IN ACCORDANCE WITH HSE ACOP COP2 'CONTROL OF LEAD AT WORK'. REFER TO CLAUSE 8.4.4. OF NR/GN/CIV/002. ALWAYS TEST FOR HEAVY METAL CONTENT PRIOR TO PREPARING SPECIFICATION.
USE OF VOLATILE ORGANIC COMPOUNDS (VOC)	C	ONLY PROTECTIVE COATINGS THAT COMPLY WITH THE VOC' IN PAINT, VARNISHES AND VEHICLE REFINISHING REGULATIONS 2005 SHALL BE USED. CONTRACTORS SHALL PROVIDE APPROPRIATELY RATED RESPIRATOR MASKS IN ACCORDANCE WITH THE PAINT MANUFACTURER'S INSTRUCTIONS. VOC's SHOULD NOT EXCEED LIMITS WHERE POSSIBLE NOTING THAT IT IS PERMISSIBLE TO EXCEED LIMITS FOR PATCH REPAIRS.
BLAST CLEANING	C	DUST FROM BLAST CLEANING NEEDS TO BE CONTROLLED. CONSIDER ALTERNATIVES AND COMPARE RISKS ASSOCIATED WITH USING WATER JETTING.
CONFINED SPACES	C	REMOVAL AND REPAINTING MAY BE NECESSARY IN CONFINED SPACES. STANDARD CONFINED SPACE PRECAUTIONS MAY NEED TO BE ENHANCED DUE TO BLAST CLEANING AND/OR WATER JETTING OPERATIONS AND THE BUILD OF VOC'S AND HARMFUL GASES OR FUMES.
DEBRIS	D/C	STRUCTURES TO BE REPAINTED MAY CONTAIN DEBRIS SUCH AS ANIMAL WASTE ETC. SURVEY IS REQUIRED BEFORE PREPARING METHOD STATEMENT.

NOTE: C = CONSTRUCTION, D = DESIGN, O = OPERATION.

B2b	THE PROTECTIVE SYSTEM SHALL BE IN ACCORDANCE WITH NR/SP/CIV/039 (REFERRED TO AS RT98) "SPECIFICATION R.T.98 – PROTECTIVE TREATMENTS FOR RAILTRACK INFRASTRUCTURE".
B2c	UNLESS SPECIFIED BY THE DESIGNER, ALL FAYING SURFACES FOR HSFG BOLTS SHALL BE SHOP BLAST CLEANED TO SA2½ INCLUDING A PERIPHERAL AREA EXTENDING 12MM BEYOND THESE JOINTS AND MASKED IN ACCORDANCE WITH CLAUSE 9.7.2 OF NR/GN/CIV/002. (SEE DETAIL ON THIS DRAWING).
B2d	THE SPECIFICATION FOR PROTECTIVE TREATMENT IS ALSO NOTED IN NR/GN/CIV/008 "SPECIFICATION FOR CIVIL ENGINEERING WORKS" SECTION 170 "GENERAL REQUIREMENTS FOR PROTECTIVE TREATMENT", SECTION 171 "MAINTENANCE PAINTING GENERALLY" AND SECTION 173 "MAINTENANCE PAINTING OF IRON AND STEEL STRUCTURES". REFERENCES IN THIS SPECIFICATION TO RT95 SHALL BE SUBSTITUTED BY RT98. WHERE THERE IS A CONFLICT BETWEEN NR/GN/CIV/008 AND NR/GN/CIV/002, THE LATTER SHALL TAKE PRECEDENCE BEING THE MORE RECENT STANDARD.
B2g	REFER TO NR/GN/CIV/002 FOR THE FULL SPECIFICATION.
B2f	FLAKE TESTS SHALL BE CARRIED OUT TO ENSURE NEW PAINT SYSTEMS ARE COMPATIBLE WITH THE EXISTING.
B2g	THE TOP COAT COLOUR SHALL BE AGREED WITH NETWORK RAIL AND SHALL NOT HAVE ANY DETRIMENTAL EFFECT ON THE VISIBILITY OF SIGNALS THAT MAY BE IN PROXIMITY TO THE WORKS IN ACCORDANCE WITH RAILWAY GROUP STANDARD GE/RT8034.
C	DESIGN ASSUMPTIONS
C1	NONE.
D	INSTALLATION GUIDANCE
D1	SURFACE PREPARATION SHALL BE IN ACCORDANCE WITH NR/GN/CIV/002. THIS STANDARD PROVIDES COMPREHENSIVE GUIDANCE ON SURFACE PREPARATION AND APPLICATION OF PAINTING SYSTEMS.
D2	DESIGNER'S MAY CONSIDER WATER JETTING AS AN ALTERNATIVE TO BLAST CLEANING OR HAND CLEANING FOR THE PREPARATION OF METALLIC ELEMENTS TO RECEIVE PROTECTIVE TREATMENTS.

DRAWING No. NR/CIV/SD/660

NOTES	
A	GENERAL
A1	THIS DRAWING SHOWS THE SCHEMATIC DETAILS AND A SPECIFICATION FOR THE PAINTING OF NEW METALLIC OR THE REPAINTING OF EXISTING METALLIC STRUCTURAL COMPONENTS ON NETWORK RAIL'S INFRASTRUCTURE.
B	SPECIFICATION
B1	NEW METAL
B1a	ALL NEW METAL SHALL BE PREPARED AND PROTECTED IN ACCORDANCE WITH NR/GN/CIV/002 "APPLICATION AND REAPPLICATION OF PROTECTIVE TREATMENT TO RAILTRACK INFRASTRUCTURE". THE SYSTEM REFERENCE THAT SHALL BE SPECIFIED ON THE DRAWINGS SHALL BE ONE OF THE REFERENCES (N1–N15) LISTED IN TABLE 4 OF THIS STANDARD. IN GENERAL UNLESS OTHERWISE SPECIFIED BY THE NETWORK RAIL REMIT, SYSTEM N1 SHALL USED FOR ALL NEW STEELWORK ELEMENTS USED FOR BRIDGES EXCEPT AS NOTED IN TABLE 5 OF THE STANDARD.
B1b	THE PROTECTIVE SYSTEM SHALL BE IN ACCORDANCE WITH NR/SP/CIV/039 (REFERRED TO AS RT98) "SPECIFICATION R.T.98 – PROTECTIVE TREATMENTS FOR RAILTRACK INFRASTRUCTURE".
B1c	FAYING SURFACES FOR HSFG BOLTS SHALL BE SHOP BLAST CLEANED TO SA2½ INCLUDING A PERIPHERAL AREA EXTENDING 12MM BEYOND THESE JOINTS AND MASKED IN ACCORDANCE WITH CLAUSE 9.7.2 OF NR/GN/CIV/002. (SEE DETAIL ON THIS DRAWING).
B1d	SURFACES FULLY ENCASED IN CONCRETE SHOULD NOT BE BLAST CLEANED, METAL COATED OR HAVE ANY COATING APPLIED. SURFACES PARTIALLY ENCASED IN CONCRETE SHOULD BE BLAST CLEANED AND PRIMED ONLY. NO METAL COATING SHOULD BE APPLIED AND "METALLIC" PRIMERS SUCH AS ZINC RICH SHOULD BE AVOIDED ALL IN ACCORDANCE WITH CLAUSE 9.6.6 OF NR/GN/CIV/002 (SEE DETAILS ON THIS DRAWING).
B1e	THE SPECIFICATION FOR PROTECTIVE TREATMENT IS ALSO NOTED IN NR/GN/CIV/008 "SPECIFICATION FOR CIVIL ENGINEERING WORKS" SECTION 170 "GENERAL REQUIREMENTS FOR PROTECTIVE TREATMENT" AND SECTION 172 "PROTECTIVE TREATMENT FOR NEW STEELWORK". REFERENCES IN THIS SPECIFICATION TO RT95 SHALL BE SUBSTITUTED BY RT98. WHERE THERE IS A CONFLICT BETWEEN NR/GN/CIV/008 AND NR/GN/CIV/002, THE LATTER SHALL TAKE PRECEDENCE BEING THE MORE RECENT STANDARD.
B1f	REFER TO NR/GN/CIV/002 FOR THE FULL SPECIFICATION.
B2	EXISTING METAL
B2a	ALL EXISTING METAL SHALL BE PREPARED AND PROTECTED IN ACCORDANCE WITH NR/GN/CIV/002 "APPLICATION AND REAPPLICATION OF PROTECTIVE TREATMENT TO RAILTRACK INFRASTRUCTURE". THE SYSTEM REFERENCE THAT SHALL BE SPECIFIED ON THE DRAWINGS SHALL BE ONE OF THE REFERENCES (M20–M33) LISTED IN TABLE 9 OF THIS STANDARD. IN GENERAL UNLESS OTHERWISE SPECIFIED BY THE NETWORK RAIL REMIT, SYSTEM M20 SHALL USED FOR ALL SITUATIONS WHERE TOTAL REMOVAL OF EXISITNG COATINGS AND REPAINTING IS SPECIFIED FOR BRIDGES.

Rev	Date	Description of revision	Design'd	C'kd
A	04.04.08	FIRST ISSUE	GPR	NGAY
P2	20.03.08	FORM B APPROVAL	GPR	NGAY
P1	18.04.06	FORM A APPROVAL	NGAY	NGAY

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Master copy with original signatures held by Network Rail HQ
CIVIL ENGINEERING STANDARD DESIGN

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MISCELLANEOUS & ANCILLARY STRUCTURES

PAINT DETAILS FOR CONCRETE ENCASED METALLIC ELEMENTS & PATCH REPAIRS TO EXISTING METALLIC STRUCTURES

Scale	AS SHOWN
Drawing Number	NR/CIV/SD/660 A

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2009-04-01 09:00:00 +0000