

CONVERSION OF SPECIFIED REINFORCING TO DEFORMED STRUCTURAL WELDED WIRE REINFORCEMENT (SWWR) “CAGES” FOR PILASTER TIES IN PRECAST WALL PANELS:

CONVERSION:

- Specified reinforcement (rebar): Grade 60 #4 ties @ Specified Spacing.
 $A_{\#4} = 0.20 \text{ in}^2$

- Equal A_s using GRADE 60 SWWR :

$$\therefore A_{\text{SWWR}} = 0.20 \text{ in}^2 \rightarrow \text{D20 wire}$$

**USE D20 Grade 60 wire @ Specified Spacing
with 2-D7 “Holding” wires per sheet**

NOTE: Sheet designs will match spacing as specified and all sheets will have 135 degree hooks at ends.

NOTE: Please reference following standard pilaster detail sheet that follows.

COMMENTARY:

- Deformed SWWR that conforms to ASTM A 497 is defined in Uniform Building Code (UBC) Section 1903.5.3.6 (ACI 318-99 Section 3.5.3.6) as an approved material for steel reinforcement of concrete.
- Deformed SWWR of equivalent area to specified reinforcing is permitted for use as lateral ties for all nonprestressed bars in compression members per UBC Section 1907.10.5.1 (ACI 318-99 Section 7.10.5.1).
- Designs for concrete reinforcements may be based on yield strengths up to 80,000 psi (Grade 80) per UBC Section 1909.4 (ACI 318-99 Section 9.4) provided that the design yield stress shall correspond to a strain of 0.35 % (vs. 0.5 % for design yield stresses of 60,000 psi).
- SWWR material produced at CRI conforms to ASTM A 497, which covers the deformed welded wire sheets, and ASTM A 496, which covers the wire used in the sheets. Supplement S1 of A 496 for “High Strength Wire” covers the use of deformed wires with yield strengths up to 80,000 psi (Grade 80).
- Please feel free to contact CRI with any questions or comments.

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CONVERSION:

- Specified reinforcement (rebar): Grade 60 #3 ties @ 4” & 24” o.c.
 $A_{\#3} = 0.11 \text{ in}^2$

- Equal A_s using GRADE 60 SWWR :

$$\therefore A_{\text{SWWR}} = 0.11 \text{ in}^2 \rightarrow \text{D11 wire}$$

USE D11 Grade 60 wire @ 4” & 24” o.c. as specified in plans with 2-D5 “Holding” wires per sheet

NOTE: Sheet designs will match spacing as specified and all sheets will have 135 degree hooks at ends.

NOTE: Please reference following standard pilaster detail sheet that follows.

COMMENTARY:

- Deformed SWWR that conforms to ASTM A 497 is defined in Uniform Building Code (UBC) Section 1903.5.3.6 (ACI 318-99 Section 3.5.3.6) as an approved material for steel reinforcement of concrete.
- Deformed SWWR of equivalent area to specified reinforcing is permitted for use as lateral ties for all nonprestressed bars in compression members per UBC Section 1907.10.5.1 (ACI 318-99 Section 7.10.5.1).
- Designs for concrete reinforcements may be based on yield strengths up to 80,000 psi (Grade 80) per UBC Section 1909.4 (ACI 318-99 Section 9.4) provided that the design yield stress shall correspond to a strain of 0.35 % (vs. 0.5 % for design yield stresses of 60,000 psi).
- SWWR material produced at CRI conforms to ASTM A 497, which covers the deformed welded wire sheets, and ASTM A 496, which covers the wire used in the sheets. Supplement S1 of A 496 for “High Strength Wire” covers the use of deformed wires with yield strengths up to 80,000 psi (Grade 80).
- Please feel free to contact CRI with any questions or comments.