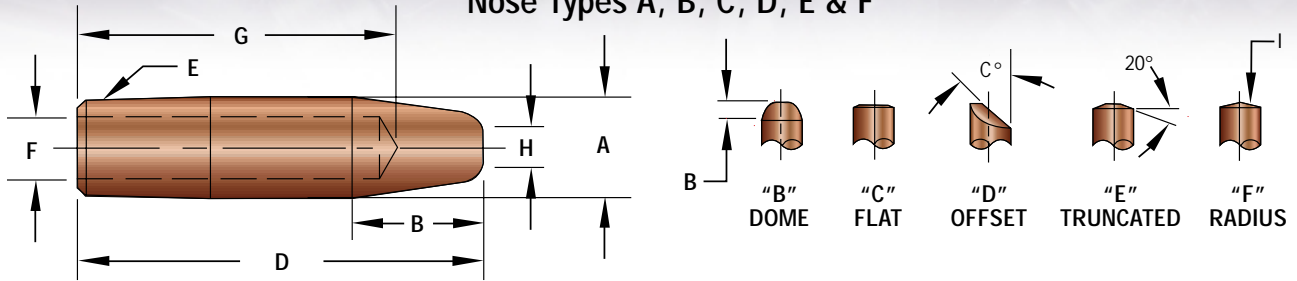


# RESISTANCE WELDING ELECTRODES

## Tips With Tapered Shanks Nose Types A, B, C, D, E & F

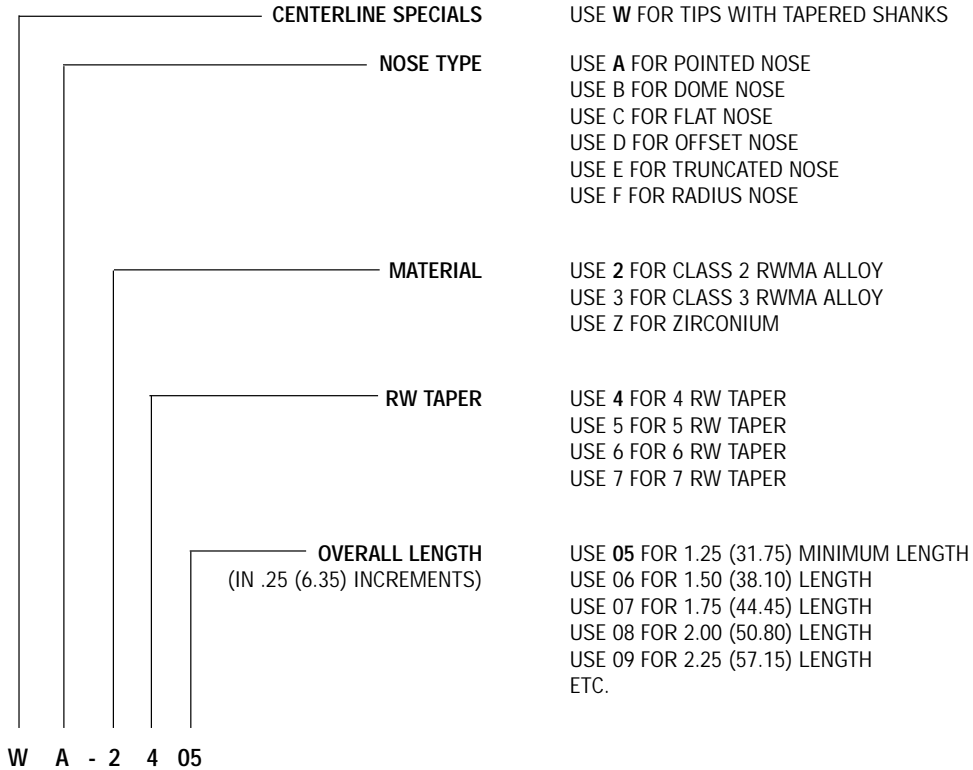


"A" POINTED

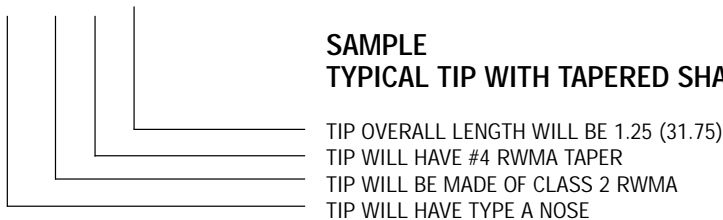
FIGURE 5-1 (Material RWMA Class 2 & 3)

• Dimensions Shown Are: inches (mm).

### EXAMPLE EXPLANATION CODING



### SAMPLE TYPICAL TIP WITH TAPERED SHANK CODING



EXAMPLE:

• **WA-2405**

• Dimensions Shown Are: inches (mm).

# RESISTANCE WELDING ELECTRODES

## Tips With Tapered Shanks Nose Types A, B, C, D, E & F

### KEY TO ITEM NUMBERS

- W - Standard Prefix
- ★ - Nose Designation (see pg. 5-1 for nose types)
- 2, 3 or Z - RWMA Alloy Class
- 4 thru 7 - RW Taper
- 05 thru 16 - Overall Length – in .25 (6.35) Increments

• Dimensions Shown Are: inches (mm).

ITEM NO.	DIMENSIONS									
	CLASS 2	A Major Diameter	B Nose Length	C Angle Offset	D Overall Length	E RW Taper	F Water Hole Diameter	G Water Hole Depth	H Weld Face Diameter	I Nose Sphere Radius
W ★ -2405			.38 (9.53)		1.25 (31.75)			.75 (19.05)		
W ★ -2406			.63 (15.88)		1.50 (38.10)			1.00 (25.40)		
W ★ -2407			.75 (19.05)		1.75 (44.45)			1.25 (31.75)		
W ★ -2408			.75 (19.05)		2.00 (50.80)			1.50 (38.10)		
W ★ -2409			.75 (19.05)		2.25 (57.15)			1.75 (44.45)		
W ★ -2410	.482 (12.24)	.75 (19.05)	30°	2.50 (63.50)	4	.28 (7.14)	2.00 (50.80)	.19 (4.76)	2	
W ★ -2411		.75 (19.05)		2.75 (69.85)			2.25 (57.15)			
W ★ -2412		.75 (19.05)		3.00 (76.20)			2.50 (63.50)			
W ★ -2413		.75 (19.05)		3.25 (82.55)			2.75 (69.85)			
W ★ -2414		.75 (19.05)		3.50 (88.90)			3.00 (76.20)			
W ★ -2415		.75 (19.05)		3.75 (92.25)			3.25 (82.55)			
W ★ -2416		.75 (19.05)		4.00 (101.60)			3.50 (88.90)			
W ★ -2505		.75 (19.05)	40°	1.25 (31.75)			.50 (12.70)			
W ★ -2506		.75 (19.05)	40°	1.50 (38.10)			.75 (19.05)			
W ★ -2507		.75 (19.05)	30°	1.75 (44.45)			1.00 (25.40)			
W ★ -2508		1.13 (28.58)	30°	2.00 (50.80)			1.25 (31.75)			
W ★ -2509		1.13 (28.58)	30°	2.25 (57.15)			1.50 (38.10)			
W ★ -2510	.625 (15.88)	1.13 (28.58)	30°	2.50 (63.50)	5	.38 (9.53)	1.75 (44.45)	.25 (6.35)	2	
W ★ -2511		1.13 (28.58)	30°	2.75 (69.85)			2.00 (50.80)			
W ★ -2512		1.13 (28.58)	30°	3.00 (76.20)			2.25 (57.15)			
W ★ -2513		1.13 (28.58)	30°	3.25 (82.55)			2.50 (63.50)			
W ★ -2514		1.13 (28.58)	30°	3.50 (88.90)			2.75 (69.85)			
W ★ -2515		1.13 (28.58)	30°	3.75 (95.25)			3.00 (76.20)			
W ★ -2516		1.13 (28.58)	30°	4.00 (101.60)			3.25 (82.55)			
W ★ -2608		1.00 (25.40)		2.00 (50.80)			1.25 (31.75)			
W ★ -2610		1.00 (25.40)		2.50 (63.50)			1.75 (44.45)			
W ★ -2612	.750 (19.05)	1.00 (25.40)	30°	3.00 (76.20)	6	.44 (11.11)	2.25 (57.15)	.28 (7.14)	4	
W ★ -2614		1.00 (25.40)		3.50 (88.90)			2.75 (69.85)			
W ★ -2616		1.00 (25.40)		4.00 (101.60)			3.25 (82.55)			
W ★ -2708		.75 (19.05)	40°	2.00 (50.80)			1.25 (31.75)			
W ★ -2710		1.13 (28.58)	30°	2.50 (63.50)			1.75 (44.45)			
W ★ -2712	.875 (22.23)	1.13 (28.58)	30°	3.00 (76.20)	7	.50 (12.70)	2.25 (57.15)	.31 (7.94)	6	
W ★ -2714		1.13 (28.58)	30°	3.50 (88.90)			2.75 (69.85)			
W ★ -2716		1.13 (28.58)	30°	4.00 (101.60)			3.25 (82.55)			

Replace ★ with nose type A, B, C, D, E, or F.

# RESISTANCE WELDING ELECTRODES

## Double Bend Offset Electrodes

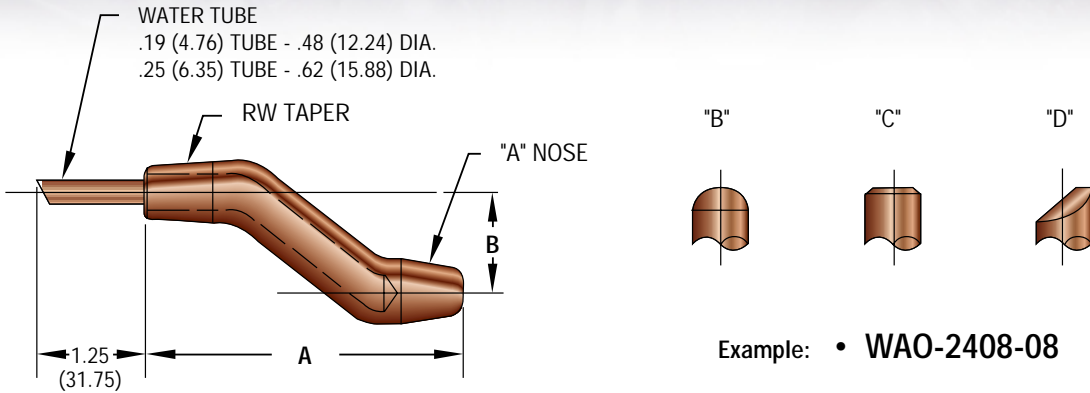
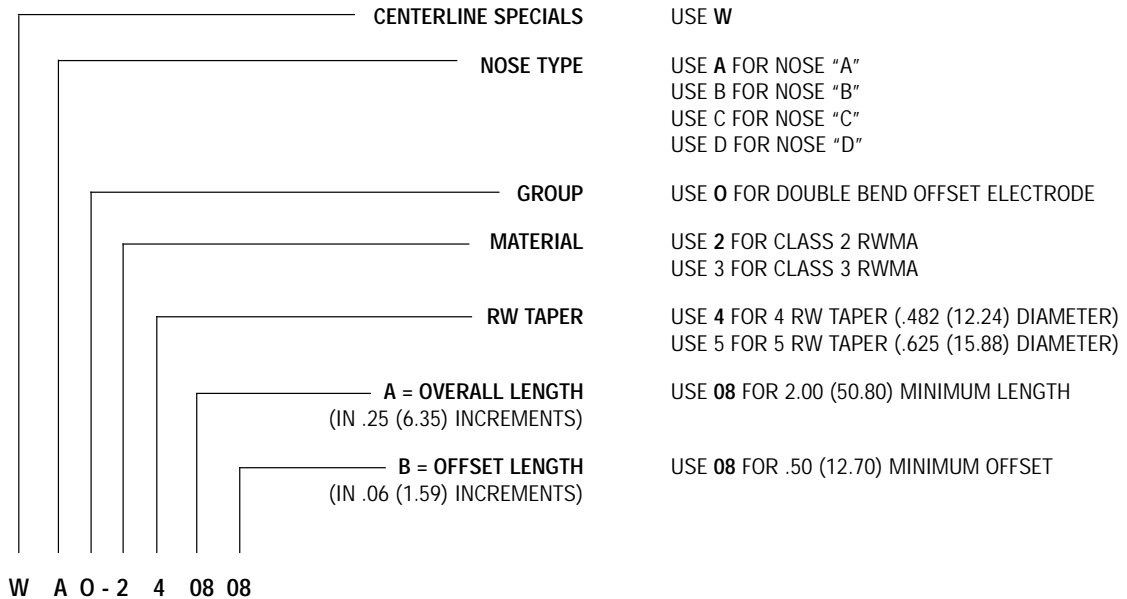
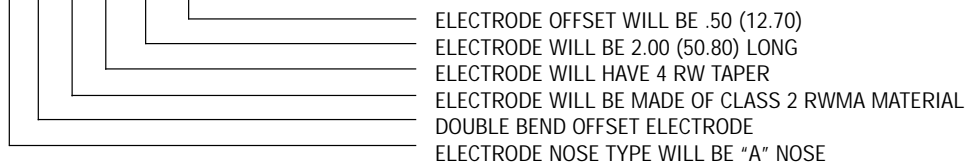


FIGURE 5-2 (Material RWMA Class 2 & 3)

### EXAMPLE EXPLANATION CODING



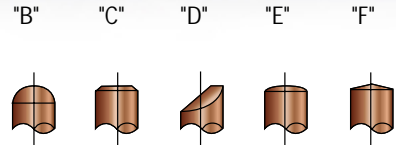
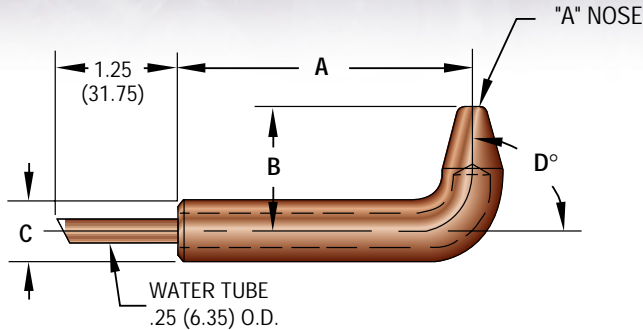
### SAMPLE TYPICAL DOUBLE BEND OFFSET CODING



• Dimensions Shown Are: inches (mm).

# RESISTANCE WELDING ELECTRODES

## Single Bend Electrodes



Example: • **CLLA-25-10690**

FIGURE 5-3 (Material RWMA Class 2, 3 & Zirconium)

### EXAMPLE EXPLANATION CODING

CENTERLINE SPECIALS	USE CL
GROUP	USE L FOR SINGLE BEND ELECTRODE
NOSE TYPE	USE A FOR NOSE "A" USE B FOR NOSE "B" USE C FOR NOSE "C" USE D FOR NOSE "D" USE E FOR NOSE "E" USE F FOR NOSE "F"
MATERIAL	USE 2 FOR CLASS 2 RWMA USE 3 FOR CLASS 3 RWMA USE Z FOR ZIRCONIUM
C = ADAPTER DIAMETER (IN .125 (3.18) INCREMENTS)	USE 5 FOR .62 (15.88) NOMINAL DIAMETER STRAIGHT SHANK USE 6 FOR .75 (19.05) NOMINAL DIAMETER STRAIGHT SHANK USE 7 FOR .88 (22.35) NOMINAL DIAMETER STRAIGHT SHANK USE 5E FOR .62 (15.88) NOMINAL DIAMETER ELECTRODE TAPER SHANK USE 6E FOR .75 (19.05) NOMINAL DIAMETER ELECTRODE TAPER SHANK USE 7E FOR .88 (22.35) NOMINAL DIAMETER ELECTRODE TAPER SHANK
A = OVERALL LENGTH (IN .25 (6.35) INCREMENTS)	USE 10 FOR 2.5 (63.50) MINIMUM LENGTH
B = OFFSET LENGTH (IN .125 (3.18) INCREMENTS)	USE 6 FOR .75 (19.05) MINIMUM OFFSET
D = OFFSET ANGLE	USE 30 FOR 30° OFFSET USE 45 FOR 45° OFFSET USE 60 FOR 60° OFFSET USE 75 FOR 75° OFFSET USE 90 FOR 90° OFFSET

CL L A - 2 5 10 6 90

### SAMPLE TYPICAL ELECTRODE CODING

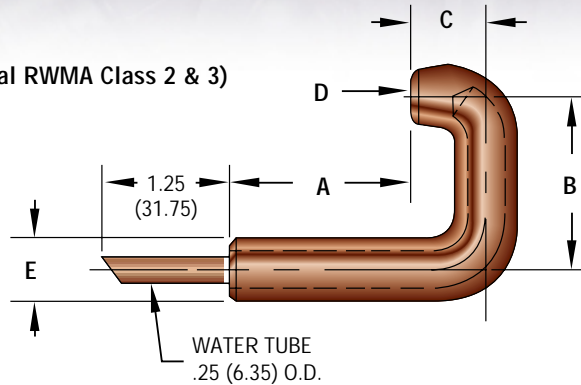
CL	ELECTRODE OFFSET ANGLE WILL BE 90°
L	ELECTRODE OFFSET WILL BE .75 (19.05) LONG
A - 2	ELECTRODE WILL BE 2.50 (63.50) LONG
5	ELECTRODE WILL HAVE .62 (15.88) DIAMETER
10	ELECTRODE WILL BE MADE OF CLASS 2 RWMA MATERIAL
6	ELECTRODE NOSE TYPE WILL BE TYPE "A"
90	SINGLE BEND ELECTRODE

• Dimensions Shown Are: inches (mm).

# RESISTANCE WELDING ELECTRODES

## J Shape Electrodes

FIGURE 5-4 (Material RWMA Class 2 & 3)



Example: • CLJE1-25-10166

### EXAMPLE EXPLANATION CODING

CENTERLINE SPECIALS	USE CL
GROUP	USE JE FOR "J" SHAPE ELECTRODE
D = NOSE TYPE	USE 1 FOR NOSE - .62 (15.88) DIAMETER "A" NOSE USE 2 FOR NOSE - .75 (19.05) DIAMETER "A" NOSE USE 3 FOR NOSE - .88 (22.23) DIAMETER "A" NOSE
MATERIAL	USE 2 FOR CLASS 2 RWMA USE 3 FOR CLASS 3 RWMA
E = ADAPTER DIAMETER (IN .125 (3.18) INCREMENTS)	USE 5 FOR .62 (15.88) NOMINAL DIAMETER USE 6 FOR .75 (19.05) NOMINAL DIAMETER USE 7 FOR .88 (22.23) NOMINAL DIAMETER
A = OVERALL LENGTH (IN .25 (6.35) INCREMENTS)	USE 10 FOR 2.50 (63.50) MINIMUM LENGTH
B = OFFSET LENGTH (IN .125 (3.18) INCREMENTS)	USE 16 FOR 2.00 (50.80) MINIMUM OFFSET
C = NOSE HEIGHT (IN .125 (3.18) INCREMENTS)	USE 6 FOR .75 (19.05) MINIMUM HEIGHT

CL JE 1 - 2 5 - 10 16 6

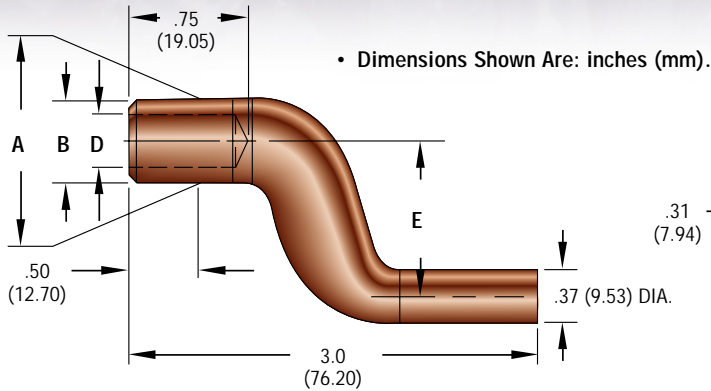
### SAMPLE TYPICAL J SHAPE ELECTRODE CODING

ELECTRODE NOSE WILL BE .75 (19.05) HIGH  
ELECTRODE OFFSET WILL BE 2.00 (50.80) LONG  
ELECTRODE WILL BE 2.50 (63.50) LONG  
ELECTRODE WILL HAVE .62 (15.88) DIAMETER  
ELECTRODE WILL BE MADE OF CLASS 2 RWMA MATERIAL  
ELECTRODE NOSE TYPE WILL BE .62 (15.88) DIAMETER  
J SHAPE ELECTRODE

• Dimensions Shown Are: inches (mm).

# RESISTANCE WELDING ELECTRODES

## Irregular-Offset Electrodes With Taper Shanks



• WEF-SERIES FIGURE 5-5 (Material RWMA Class 2)

ITEM NO.	DIMENSIONS				
CLASS 2	A Major Taper Diameter	B Minor Taper Diameter	C RW Taper	D Water Hole Diameter	E Offset Distance
WEF-2412	.463 (11.76)	.438 (11.13)	4	.281 (7.14)	1.125 (28.58)
WEF-2512	.613 (15.57)	.588 (14.94)	5	.375 (9.53)	1.125 (28.58)

## Spade Electrodes

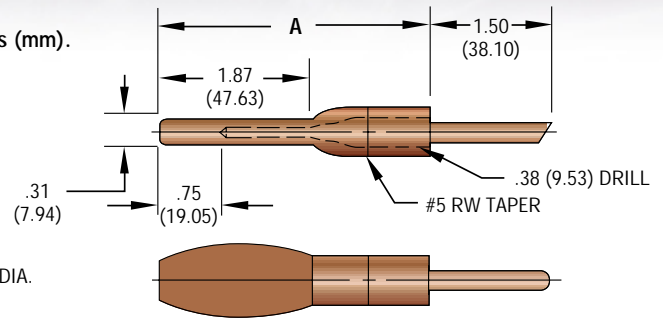


FIGURE 5-6 (Material RWMA Class 2)

ITEM NO.	"A" O.A.L.
WEM100-1	3.31 (84.14)
WEM100-2	3.56 (90.49)
WEM100-3	3.81 (96.84)
WEM100-4	4.06 (103.19)

• Dimensions Shown Are: inches (mm).

## 1.25 (31.75) Irregular-Offset Electrodes With Taper Shanks

• WFA-SERIES

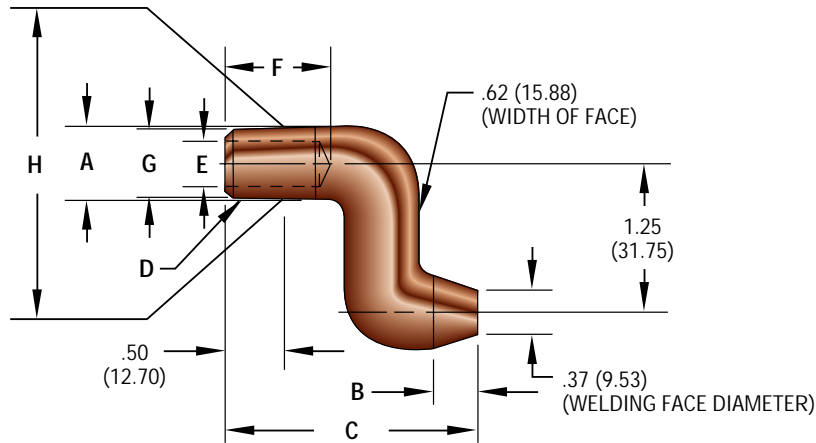


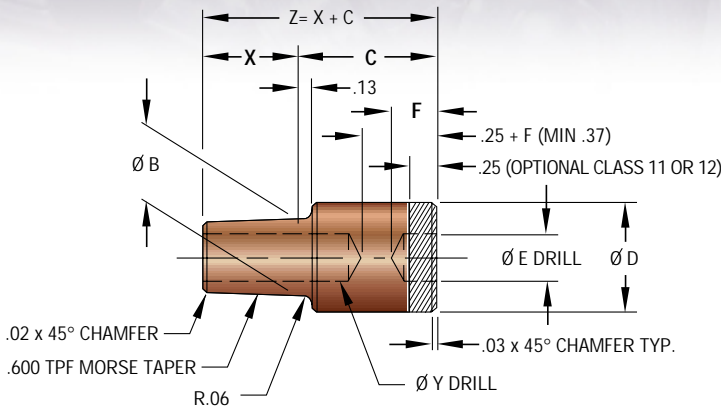
FIGURE 5-7 (Material RWMA Class 2)

• Dimensions Shown Are: inches (mm).

ITEM NO.	DIMENSIONS							
CLASS 2	A Major Diameter	B Nose Length	C Overall Length	D RW Taper	E Water Hole Diameter	F Water Hole Depth	G Minor Taper Diameter	H Taper Diameter
WFA-2408	.50 (12.70)	.38 (9.53)	2.00 (50.80)	4	.281 (7.14)	.88 (22.23)	.438 (11.13)	.463 (11.76)
WFA-2409	.50 (12.70)	.75 (19.05)	2.38 (60.33)	4	.281 (7.14)	.88 (22.23)	.438 (11.13)	.463 (11.76)
WFA-2508	.62 (15.88)	.38 (9.53)	2.12 (53.98)	5	.375 (9.53)	.75 (19.05)	.588 (14.94)	.613 (15.58)
WFA-2509	.62 (15.88)	.75 (19.05)	2.50 (63.50)	5	.375 (9.53)	.75 (19.05)	.588 (14.94)	.613 (15.58)

# RESISTANCE WELDING ELECTRODES

## Backup Electrodes



RWMA TAPER	B	X	Y
3E	.375 (9.52)	.500 (12.70)	9/32
4E	.463 (11.76)	.500 (12.70)	9/32
5E	.625 (15.88)	.750 (19.05)	3/8
6E	.750 (19.05)	.875 (22.23)	7/16
7E	.875 (22.23)	1.125 (28.57)	1/2
4C	.375 (9.52)	.285 (2.86)	9/32
5C	.415 (10.52)	.390 (9.52)	5/16
6C	.501 (12.70)	.500 (12.70)	3/8
7C	.613 (15.57)	.500 (12.70)	1/2

FIGURE 5-8 (Material RWMA Class 2&3)

### EXAMPLE EXPLANATION CODING

