



SECTION A

Swages & Bull Plugs



ISSUE-2005/10

MANUFACTURING SPECIFICATION

Kedddco Mfg. Ltd. manufacturers swage nipples and bull plugs in accordance with A234, A420, A403 and MSS-SP-95, from A-106 Grade B seamless pipe and A-1000 series, low to medium carbon, fine grain, bar stock. The chemical and physical properties of the raw material fall within the range listed below.

TRACEABILITY

All raw material purchased by Kedddco Mfg. Ltd. is fully traceable to the mill source. A heat number appears on all Kedddco products made since the institution of this program. As a result, mill test reports are now available at any time on products.

PRESSURE RATINGS

Due to the wide variation in service conditions, temperature, vibrations, etc., Kedddco Mfg. Ltd. can make no recommendations as to allowable working pressures of swage nipples and bull plugs. There are a number of working pressure formulas from which the end user may choose to determine the required wall thickness of the piping system. It is our responsibility only to furnish a fitting with end dimensions equal to those of the pipe size and schedule ordered.

MATERIAL CERTIFICATION – CARBON STEEL

Kedddco Mfg. Ltd. certifies that the material used to manufacture line pipe sizes of swage nipples and bull plugs has been processed and heat treated to comply with all requirements of ASTM A234 and the chemical and physical properties of the raw material fall within the ranges below listed.

ASTM SPEC.	MARKING SYMBOL	COMPOSITION					MINIMUM		BHN
		C	Mn	P	S	Si	Tensile	Yield	
A234	WPB	.30 MAX	0.29 - 1.06	.050 MAX	.058 MAX.	.10 MAX	60,000 PSI	35,000 PSI	197

MARKING

All Kedddco Mfg. Ltd. fittings are permanently marked as follows:

Registered Trade Mark:	K
Applicable Material Specifications	WPB WPL6 WP304 WP316 J55 etc.
Applicable Line Size	2" x 3/4"
Applicable Wall Thickness	Sch. 40 - 80 - 160 - XXH
Label Information - Oil Country Products:	Size and Wall Thickness

FINISHED PRODUCT SPECS AND CHEMICAL ANALYSIS FOR CARBON AND ALLOY STEEL FITTINGS FERRETIC ALLOY STEEL FITTINGS AUSTENTIC ALLOY STEEL FITTINGS

SPECIFICATION				ANALYSIS							
ASTM SPEC.	TITLE	GRADE	DESCRIPTION	CARBON	MANG.	PHOS. MAX	SULP. MAX	SILICON	NICKEL	CHR.	MO.
A 234	Carbon Steel	WPB		.30 Max.	.29-1.06	.050	.058	.10 Min	.40 Max	.....	.15 Max
A 420	Carbon and Alloy Steel Fittings For Low Temperature Service	WPL 6		.30 Max.	.50-1.35	.035	.040	.15-.40	.40 Max	.30 Max	.12 Max
A 234	Ferretic Alloy Steel Fittings For High Temperature Service	WP 1	Carbon Moly	.28 Max.	.30-.90	.045	.045	.10-.50	.....	.....	.44-.65
		WP 5	4-6 Chrome 1/2 Moly	.15 Max.	.30-.60	.040	.030	.50 Max	.....	4.00-6.00	.44-.65
		WP 7	6-8 Chrome 1/2 Moly	.15 Max.	.30-.60	.030	.030	.50-1.00	.....	6.00-8.00	.44-.65
		WP 9	9 Chrome 1 Moly	.15 Max.	.30-.60	.030	.030	.25-1.00	.....	8.00-10.00	.90-1.10
		WP 11	1 1/4 Chrome 1/2 Moly	.20 Max.	.30-.80	.040	.040	.5-1.00	.....	1.00-1.50	.44-.65
		WP 12	1 Chrome 1 Moly	.20 Max.	.30-.80	.045	.045	.60 Max	.....	.80-1.25	.44-.65
		WP 22	2 1/4 Chrome 1 Moly	.15 Max.	.30-.60	.040	.040	.1.00 Max	.....	1.90-2.60	.87-1.13
A 403	Austenitic Alloy Steel Fittings For Corrosive Service	WP 304	Type 304-18-8 Stainless Steel	.08 Max.	2.00 Max	.045	.030	.1.00 Max	8.00-11.00	18.0-20.0	.....
		WP 304L	Type 304 ELC-18-8 Stainless Steel	.035 Max.	2.00 Max	.045	.030	.1.00 Max	8.00-13.00	18.0-20.0	.....
		WP 316	Type 316-18-8 Mo Stainless Steel	.08 Max.	2.00 Max	.045	.030	.1.00 Max	10.00-14.00	16.00-18.00	2.00-3.00
		WP 316L	Type 316 ELC-18-8 Mo Stainless Steel	.035 Max.	2.00 Max	.045	.030	.1.00 Max	8.00-11.00	16.00-18.00	2.00-3.00
		WP 347	Type 347-18-8 cb Stainless Steel	.08 Max.	2.00 Max	.045	.030	.1.00 Max	9.00-13.00	17.00-20.00	.....
		WP 321	Type 321-18-8 Ti Stainless Steel	.08 Max.	2.00 Max	.045	.030	.1.00 Max	9.00-13.00	17.00-20.00	.....

CONCENTRIC SWAGE NIPPLES 1/4" thru 8"

SIZE, INCHES			LENGTH INCHES	STANDARD	EXTRA HEAVY	SCH 160	DBL EX HVY.
PIPE	API OR O.D.	REDUCED TO		WEIGHT EACH	WEIGHT EACH	WEIGHT EACH	WEIGHT EACH
1/4"	0.540	1/8	2 1/4		1/4	1/4	1/4
3/8"	0.675	1/8 and 1/4	2 1/2		1/4	1/4	3/8
1/2"	0.840	1/8	2 3/4		1/3	1/2	1/2
		1/4 and 3/8	2 3/4		1/3	1/2	1/2
3/4"	1.050	1/8	3		1/2	1/2	3/4
		1/4 and 3/8	3		1/2	1/2	3/4
		1/2	3		1/2	1/2	3/4
1	1.315	1/8	3 1/2		2/3	3/4	1
		1/4 and 3/8	3 1/2		2/3	3/4	1
		1/2 and 3/4	3 1/2		2/3	3/4	1
1 1/4"	1.660	1/4 and 3/8	4		1	1 1/4	1 1/2
		1/2 and 3/4	4		1	1 1/4	1 1/2
		1	4		1	1 1/4	1 1/2
1 1/2"	1.900	1/4 and 3/8	4 1/2		1 1/6	1 1/2	2
		1/2 and 3/4	4 1/2		1 1/6	1 1/2	2
		1	4 1/2		1 1/6	1 1/2	2
		1 1/4	4 1/2		1 1/6	1 1/2	2
2"	2 3/8	1/4 and 3/8	6 1/2		3	4	4 1/4
		1/2 and 3/4	6 1/2		3	4	4 1/4
		1	6 1/2	2	2 1/3	4	4 1/4
		1 1/4	6 1/2	2	2 1/3	4	4 1/4
		1 1/2	6 1/2	2	2 1/3	4	4 1/4
2 1/2"	2 7/8	1/2 and 3/4	7		3 1/2	5 1/2	8
		1	7	3	3 1/2	5 1/2	8
		1 1/4	7	3	3 1/2	5 1/2	8
		1 1/2	7	3	3 1/2	5 1/2	8
		2	7	3	3 1/2	5 1/2	8
3"	3 1/2	1/2 and 3/4	8		6	8	11
		1	8	4 1/2	6	8	11
		1 1/4	8	4 1/2	6	8	11
		1 1/2	8	4 1/2	6	8	11
		2 and 2 1/2	8	4 1/2	6	8	11
3 1/2"	4	1/2 thru 1 1/2	8	5 1/2	7 1/2	10	13 1/2
		2 thru 3	8	5 1/2	7 1/2	10	13 1/2
4"	4 1/2	1/2 and 3/4	9		10	15	18
		1	9	7 1/2	10	15	18
		1 1/4 and 1 1/2	9	7 1/2	10	15	18
		2	9	7 1/2	10	15	18
		2 1/2	9	7 1/2	10	15	18
		3 and 3 1/2	9	7 1/2	10	15	18
5"	5 9/16	1 thru 1 1/2	11	11 1/2	17	26	33
		2 and 2 1/2	11	11 1/2	17	26	33
		3 and 3 1/2	11	11 1/2	17	26	33
		4	11	11 1/2	17	26	33
6"	6 5/8	1 thru 1 1/2	12	17	25	33	46
		2 and 2 1/2	12	17	25	33	46
		3 and 3 1/2	12	17	25	33	46
		4	12	17	25	33	46
		5	12	17	25	33	46
8"	8 5/8	2 thru 3	13	29	44	62	78
		4 and 5	13	29	44	62	78
		6	13	29	44	62	78

Ends Available: TE - Threaded End

BE - Beveled End

PE - Plain End

ALL SCHEDULES ARE AVAILABLE IN ANY COMBINATION OF END TYPES

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ECCENTRIC SWAGE NIPPLES 1/4" thru 4"

SIZE, INCHES			LENGTH INCHES	STANDARD	EXTRA HEAVY	SCH 160	DBL EX HVY.
PIPE	API OR O.D.	REDUCED TO		WEIGHT EACH	WEIGHT EACH	WEIGHT EACH	WEIGHT EACH
1/4"	0.540	1/8	2 1/4			1/4	1/4
3/8"	0.675	1/8	2 1/2		1/4	1/4	3/8
		1/4	2 1/2		1/4	1/4	3/8
1/2"	0.840	1/4 and 3/8	2 3/4		1/3	1/2	1/2
3/4"	1.050	1/2	3		1/2	1/2	3/4
		1/4 and 3/8	3		1/2	1/2	3/4
1"	1.315	1/4 and 3/8	3 1/2		2/3	3/4	1
		1/2 and 3/4	3 1/2		2/3	3/4	1
1 1/4"	1.660	1/2 and 3/4	4		1	1 1/4	1 1/2
		1	4		1	1 1/4	1 1/2
1 1/2"	1.900	1/2 and 3/4	4 1/2		1 1/6	1 1/2	2
		1	4 1/2		1 1/6	1 1/2	2
		1 1/4	4 1/2		1 1/6	1 1/2	2
2"	2 3/8	1/4 and 3/8	6 1/2		3	4	4 1/4
		1/2 and 3/4	6 1/2		3	4	4 1/4
		1	6 1/2	2	2 1/3	4	4 1/4
		1 1/2	6 1/2	2	2 1/3	4	4 1/4
		1 1/2	6 1/2	2	2 1/3	4	4 1/4
2 1/2"	2 7/8	1	7		3 1/2	5 1/2	8
		1 1/4	7	3	3 1/2	5 1/2	8
		1 1/2	7	3	3 1/2	5 1/2	8
		2	7		3 1/2	5 1/2	8
3"	3 1/2	1/2 and 3/4	8		6	8	11
		1	8	4 1/2	6	8	11
		1 1/4	8	4 1/2	6	8	11
		1 1/2	8	4 1/2	6	8	11
		2 and 2 1/2	8	4 1/2	6	8	11
3 1/2"	4	1/2 - 3	8	5 1/2	7 1/2	10	13 1/2
4"	4 1/2	1	9		10	15	18
		1 1/4 and 1 1/2	9	7 1/2	10	15	18
		2	9	7 1/2	10	15	18
		2 1/2	9	7 1/2	10	15	18
		3 and 3 1/2	9	7 1/2	10	15	18

* THESE SIZES NOT MADE IN STANDARD WEIGHT

Prices shown are for API line pipe threaded ends or any combination thereof.

Ends Available: TE - Threaded End
BE - Beveled End
PE - Plain End

ALL SCHEDULES ARE AVAILABLE IN ANY COMBINATION OF END TYPES

BULL PLUGS 1/8" thru 8"

SIZE		LENGTH INCHES	STANDARD	EXTRA HEAVY	SOLID	SCH 160	DBL EX HVY.
PIPE	API OR O.D.		WEIGHT EACH	WEIGHT EACH	WEIGHT EACH	WEIGHT EACH	WEIGHT EACH
1/8"	0.405	2	....	1/10	1/5	2/5	2/5
1/4"	0.540	2	....	1/9	1/5	2/5	2/5
3/8"	0.675	2 1/4	....	1/7	1/3	2/7	2/7
1/2"	0.840	2 1/2	....	1/3	1/3	1/2	1/2
3/4"	1.050	2 3/4	....	1/2	4/5	3/4	3/4
1"	1.315	3	....	2/3	1 3/8	1	1
1 1/4"	1.660	3 1/4	....	1	2 1/4	1 1/2	1 1/2
1 1/2"	1.900	3 1/2	....	1 1/16	3	2	2
2"	2 3/8	4	2 1/4	2 1/2	5	3 1/2	4
2 1/2"	2 7/8	5	3	3 1/2	....	6	8
3"	3 1/2	6	4 1/2	6	....	9	11
3 1/2"	4	6 1/2	5 1/2	7 1/2	....	12	13 1/2
4"	4 1/2	7	7 1/2	10	....	16	18
5"	5 9/16	8 1/2	12 1/2	17	....	30	33
6"	6 5/8	10	17	25	....	40	46
8"	8 5/8	11	29	44	....	70	78

Hex Bull Plugs: Available in Extra Heavy or Solid in 1/8" thru 2" size

Tapped Bull Plugs: 1/4" thru 1" Available