Capsule N Lower Shell Forging D (Tangential)

CVGraph 6.02: Hyperbolic Tangent Curve Printed on 7/12/2022 6:48 AM

A = 50.00 B = 50.00 C = 56.75 T0 = 198.68 D = 0.00

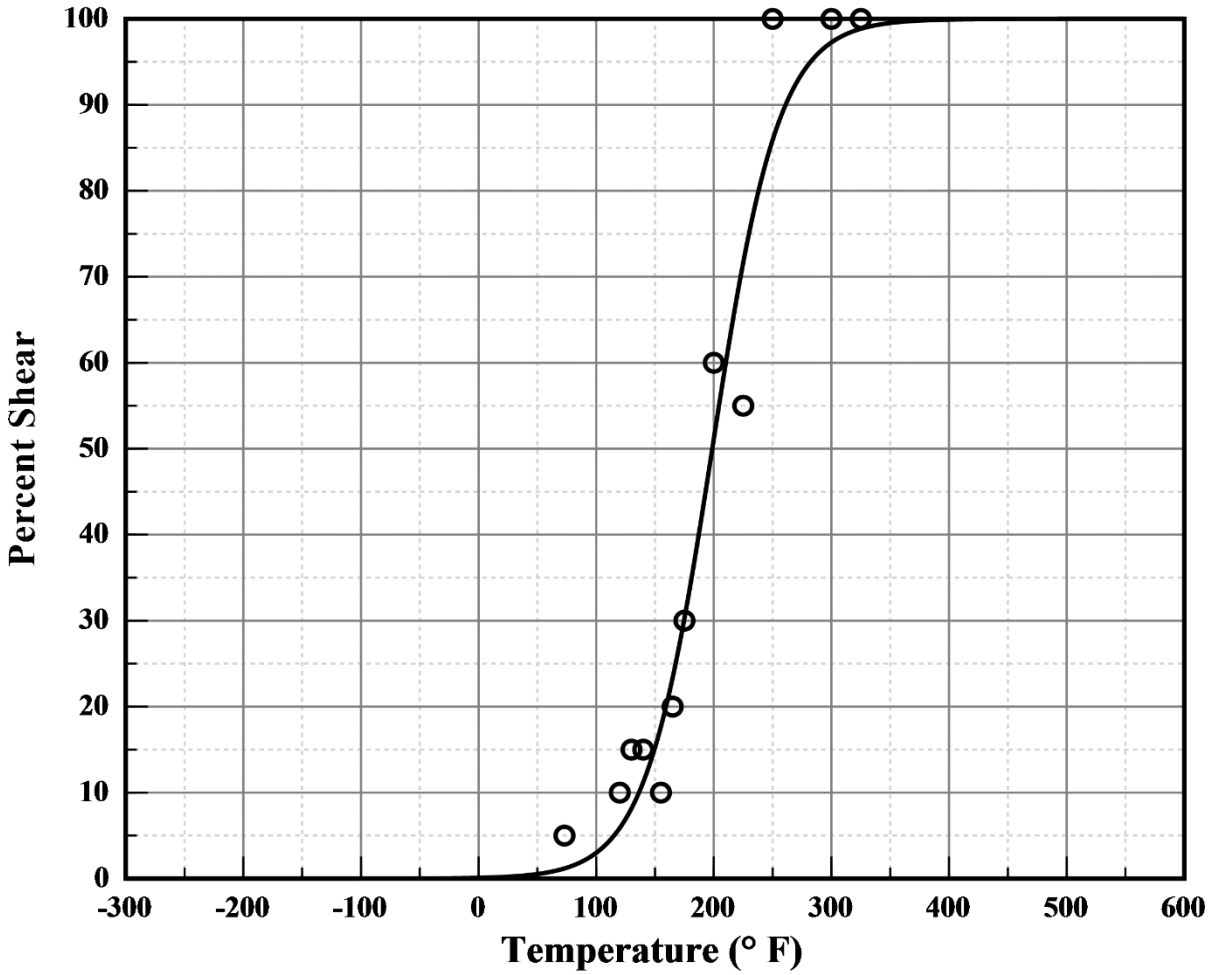
Correlation Coefficient = 0.978

Equation is A + B * [Tanh((T-T0)/(C+DT))]

Upper Shelf %Shear = 100.00 (Fixed) Lower Shelf %Shear = 0.00 (Fixed)

Temperature at 50% Shear = 198.70

Plant: **Prairie Island 2** Material: **SA508CL3** Heat: **22642**
Orientation: **Tangential** Capsule: **N** Fluence: **8.41E+019 n/cm²**



CVGraph 6.02 07/12/2022 Page 1/2

Plant: **Prairie Island 2** Material: **SA508CL3** Heat: **22642**
Orientation: **Tangential** Capsule: **N** Fluence: **8.41E+019 n/cm²**

Capsule N Lower Shell Forging D (Tangential)

Charpy V-Notch Data

Temperature (° F)	Input %Shear	Computed %Shear	Differential
73	5.0	1.2	3.82
120	10.0	5.9	4.12
130	15.0	8.2	6.84
140	15.0	11.2	3.78
155	10.0	17.7	-7.66
165	20.0	23.4	-3.38
175	30.0	30.3	-0.27
200	60.0	51.2	8.84
225	55.0	71.7	-16.66
250	100.0	85.9	14.08
300	100.0	97.3	2.74
325	100.0	98.8	1.15

CVGraph 6.02 07/12/2022 Page 2/2

Unirradiated Lower Shell Forging D (Axial)

CVGraph 6.02: Hyperbolic Tangent Curve Printed on 5/25/2022 5:39 AM

A = 54.20 B = 52.00 C = 84.63 T0 = 41.39 D = 0.00

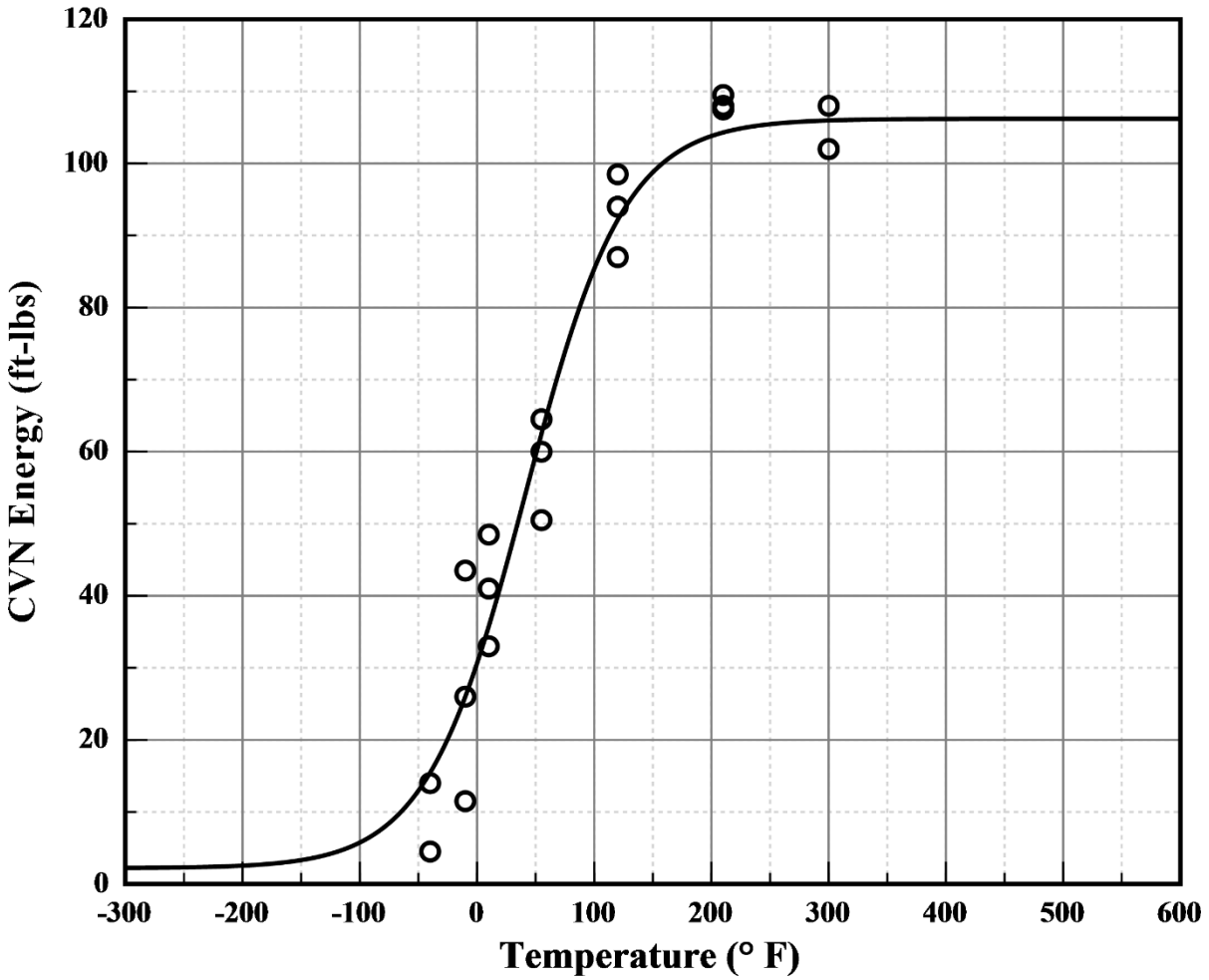
Correlation Coefficient = 0.978

Equation is A + B * [Tanh((T-T0)/(C+DT))]

Upper Shelf Energy = 106.20 (Fixed) Lower Shelf Energy = 2.20 (Fixed)

Temp@30 ft-lbs= -1.20° F Temp@35 ft-lbs= 8.60° F Temp@50 ft-lbs= 34.60° F

Plant: **Prairie Island 2** Material: **SA508CL3** Heat: **22642**
Orientation: **Axial** Capsule: **Unirrad** Fluence: **0.00E+000 n/cm²**



CVGraph 6.02 05/25/2022 Page 1/2

Plant: **Prairie Island 2** Material: **SA508CL3** Heat: **22642**
Orientation: **Axial** Capsule: **Unirrad** Fluence: **0.00E+000 n/cm²**

Unirradiated Lower Shell Forging D (Axial)

Charpy V-Notch Data

Temperature (° F)	Input CVN	Computed CVN	Differential
-40	14.0	15.5	-1.46
-40	4.5	15.5	-10.96
-10	11.5	26.0	-14.50
-10	26.0	26.0	0.00
-10	43.5	26.0	17.50
10	41.0	35.7	5.25
10	33.0	35.7	-2.75
10	48.5	35.7	12.75
55	60.0	62.5	-2.49
55	50.5	62.5	-11.99
55	64.5	62.5	2.01
120	98.5	92.2	6.34
120	94.0	92.2	1.84
120	87.0	92.2	-5.16
210	107.5	104.3	3.20
210	109.5	104.3	5.20
210	108.0	104.3	3.70
300	108.0	106.0	2.03
300	102.0	106.0	-3.97
300	102.0	106.0	-3.97

CVGraph 6.02 05/25/2022 Page 2/2

Capsule V Lower Shell Forging D (Axial)

CVGraph 6.02: Hyperbolic Tangent Curve Printed on 5/25/2022 7:59 AM

A = 58.75 B = 56.55 C = 86.79 T0 = 82.40 D = 0.00

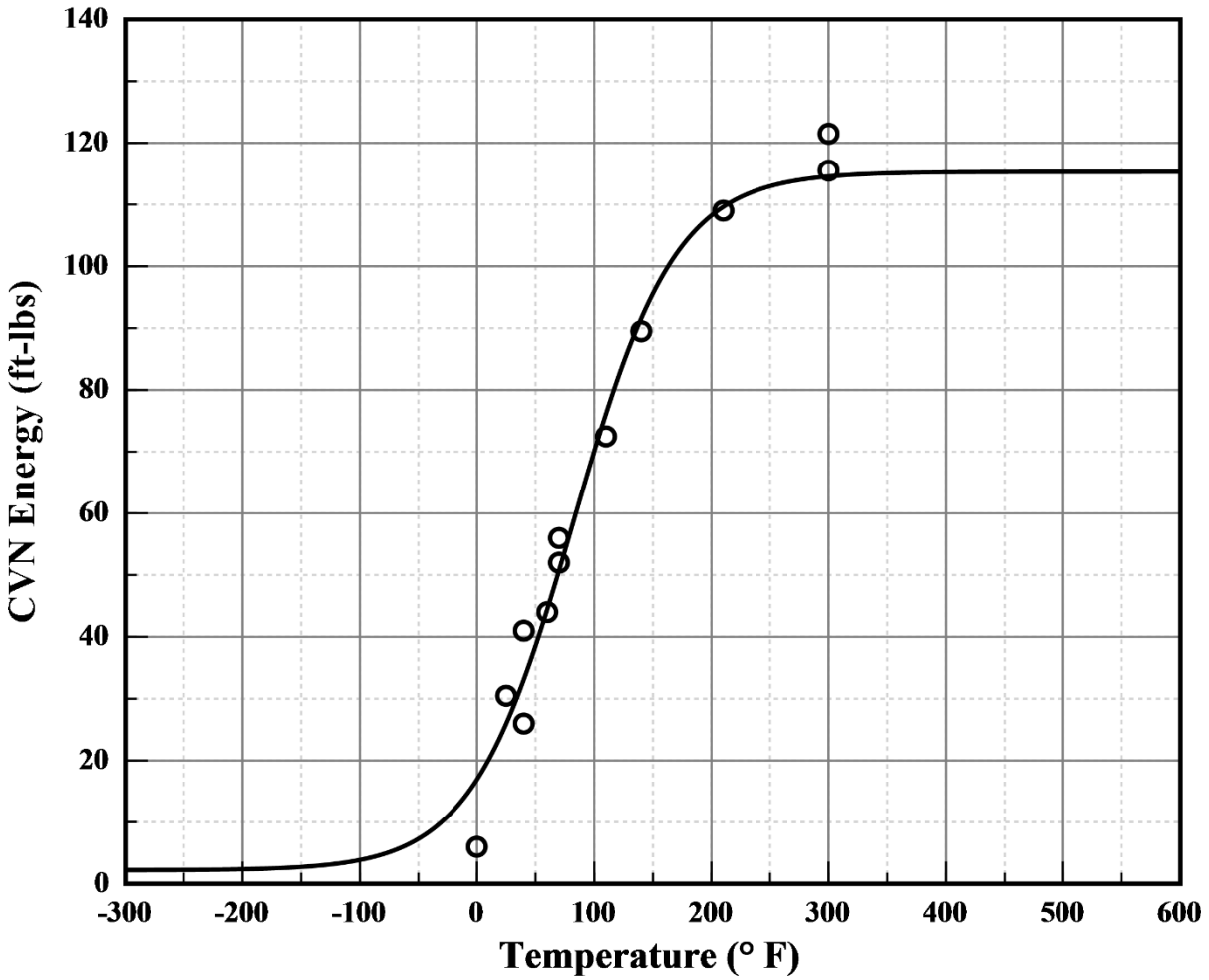
Correlation Coefficient = 0.989

Equation is A + B * [Tanh((T-T0)/(C+DT))]

Upper Shelf Energy = 115.30 (Fixed) Lower Shelf Energy = 2.20 (Fixed)

Temp@30 ft-lbs= 33.80° F Temp@35 ft-lbs= 43.60° F Temp@50 ft-lbs= 68.90° F

Plant: **Prairie Island 2** Material: **SA508CL3** Heat: **22642**
Orientation: **Axial** Capsule: **V** Fluence: **5.98E+018 n/cm²**



CVGraph 6.02 05/25/2022 Page 1/2

Plant: **Prairie Island 2** Material: **SA508CL3** Heat: **22642**
Orientation: **Axial** Capsule: **V** Fluence: **5.98E+018 n/cm²**

Capsule V Lower Shell Forging D (Axial)

Charpy V-Notch Data

Temperature (° F)	Input CVN	Computed CVN	Differential
0	6.0	16.9	-10.93
25	30.5	26.0	4.51
40	41.0	33.1	7.87
40	26.0	33.1	-7.13
60	44.0	44.5	-0.47
70	52.0	50.7	1.27
70	56.0	50.7	5.27
110	72.5	76.2	-3.65
140	89.5	91.6	-2.10
210	109.0	109.6	-0.62
300	115.5	114.6	0.95
300	121.5	114.6	6.95

CVGraph 6.02 05/25/2022 Page 2/2

Capsule T Lower Shell Forging D (Axial)

CVGraph 6.02: Hyperbolic Tangent Curve Printed on 9/21/2022 7:02 PM

A = 47.50 B = 45.30 C = 150.97 T0 = 88.13 D = 0.00

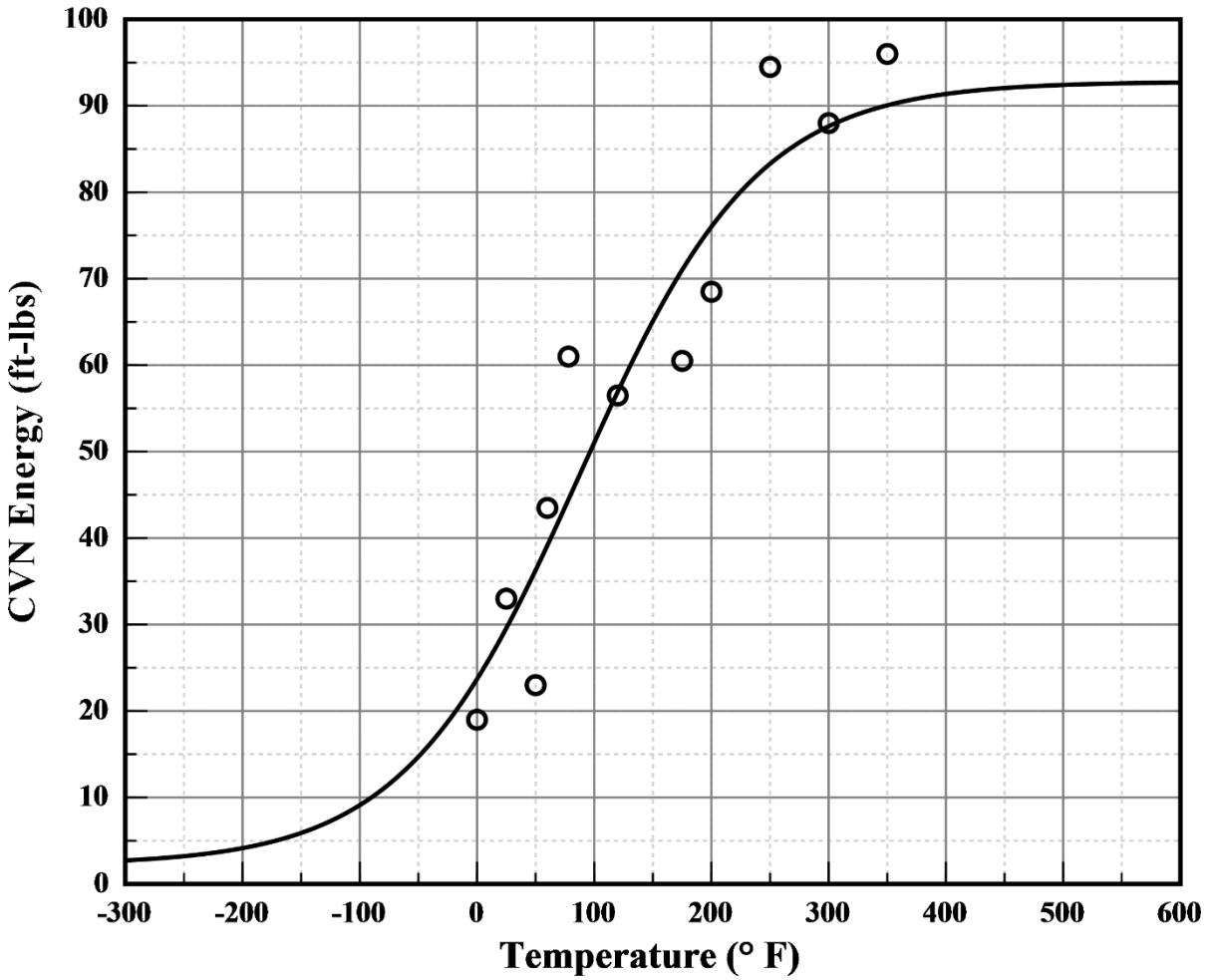
Correlation Coefficient = 0.943

Equation is A + B * [Tanh((T-T0)/(C+DT))]

Upper Shelf Energy = 92.80 (Fixed) Lower Shelf Energy = 2.20 (Fixed)

Temp@30 ft-lbs= 26.70° F Temp@35 ft-lbs= 45.40° F Temp@50 ft-lbs= 96.50° F

Plant: **Prairie Island 2** Material: **SA508CL3** Heat: **22642**
Orientation: **Axial** Capsule: **T** Fluence: **1.10E+019 n/cm²**



CVGraph 6.02 09/21/2022 Page 1/2

Plant: **Prairie Island 2** Material: **SA508CL3** Heat: **22642**
Orientation: **Axial** Capsule: **T** Fluence: **1.10E+019 n/cm²**

Capsule T Lower Shell Forging D (Axial)

Charpy V-Notch Data

Temperature (° F)	Input CVN	Computed CVN	Differential
0	19.0	23.7	-4.70
25	33.0	29.6	3.41
50	23.0	36.3	-13.30
60	43.5	39.2	4.35
78	61.0	44.5	16.54
120	56.5	56.9	-0.42
175	60.5	71.0	-10.52
200	68.5	76.0	-7.53
250	94.5	83.3	11.20
300	88.0	87.6	0.36
350	96.0	90.1	5.94

CVGraph 6.02 09/21/2022 Page 2/2

Capsule R Lower Shell Forging D (Axial)

CVGraph 6.02: Hyperbolic Tangent Curve Printed on 5/31/2022 6:17 AM

A = 50.35 B = 48.15 C = 114.54 T0 = 134.68 D = 0.00

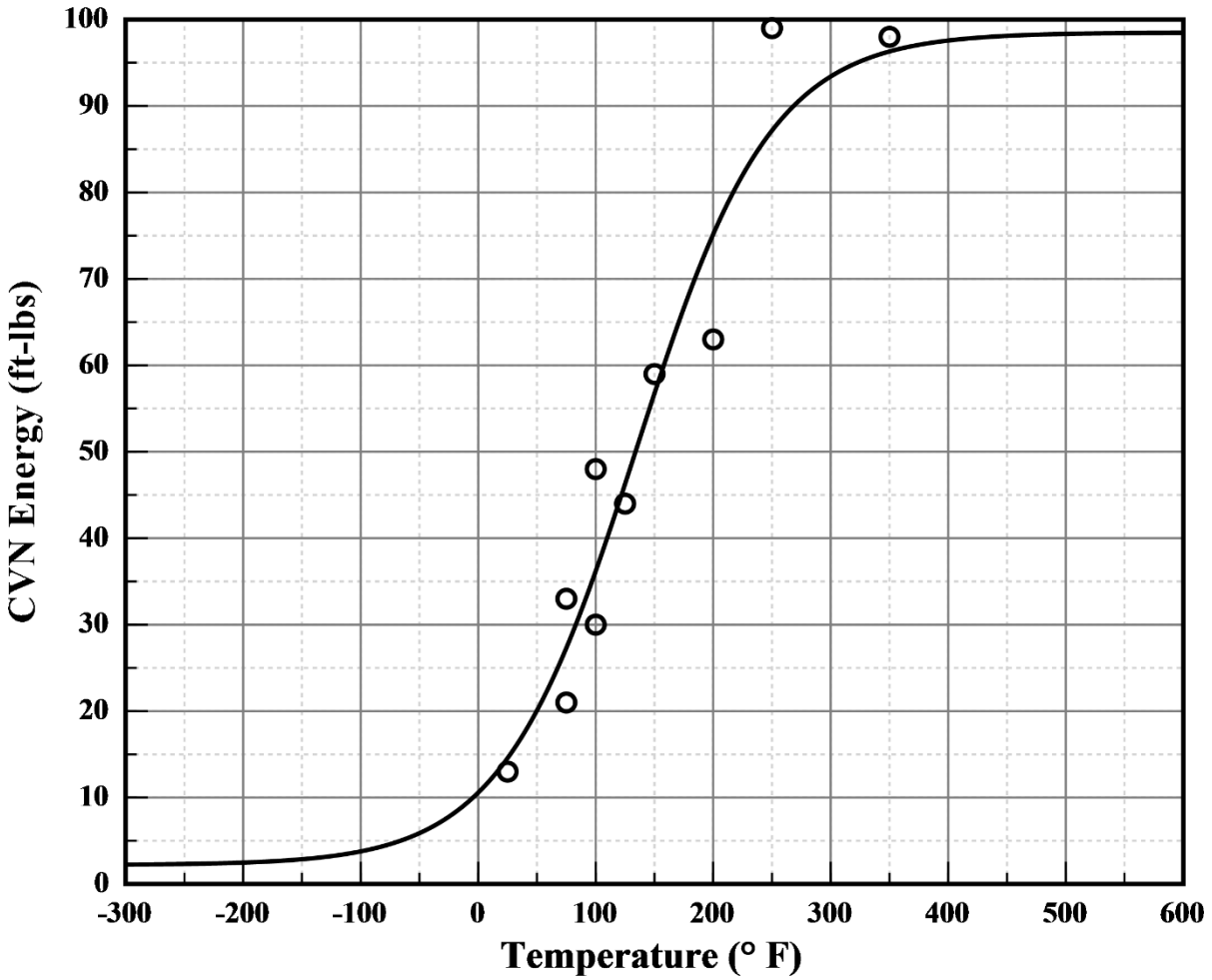
Correlation Coefficient = 0.965

Equation is A + B * [Tanh((T-T0)/(C+DT))]

Upper Shelf Energy = 98.50 (Fixed) Lower Shelf Energy = 2.20 (Fixed)

Temp@30 ft-lbs= 83.10° F Temp@35 ft-lbs= 96.90° F Temp@50 ft-lbs=133.90° F

Plant: **Prairie Island 2** Material: **SA508CL3** Heat: **22642**
Orientation: **Axial** Capsule: **R** Fluence: **4.11E+019 n/cm²**



CVGraph 6.02 05/31/2022 Page 1/2

Plant: **Prairie Island 2** Material: **SA508CL3** Heat: **22642**
Orientation: **Axial** Capsule: **R** Fluence: **4.11E+019 n/cm²**

Capsule R Lower Shell Forging D (Axial)

Charpy V-Notch Data

Temperature (° F)	Input CVN	Computed CVN	Differential
25	13.0	14.6	-1.57
75	33.0	27.3	5.69
75	21.0	27.3	-6.31
100	48.0	36.2	11.80
100	30.0	36.2	-6.20
125	44.0	46.3	-2.29
150	59.0	56.8	2.25
200	63.0	75.2	-12.17
250	99.0	87.2	11.84
350	98.0	96.3	1.69

CVGraph 6.02 05/31/2022 Page 2/2

Capsule P Lower Shell Forging D (Axial)

CVGraph 6.02: Hyperbolic Tangent Curve Printed on 5/31/2022 10:04 AM

A = 48.25 B = 46.05 C = 107.61 T0 = 147.40 D = 0.00

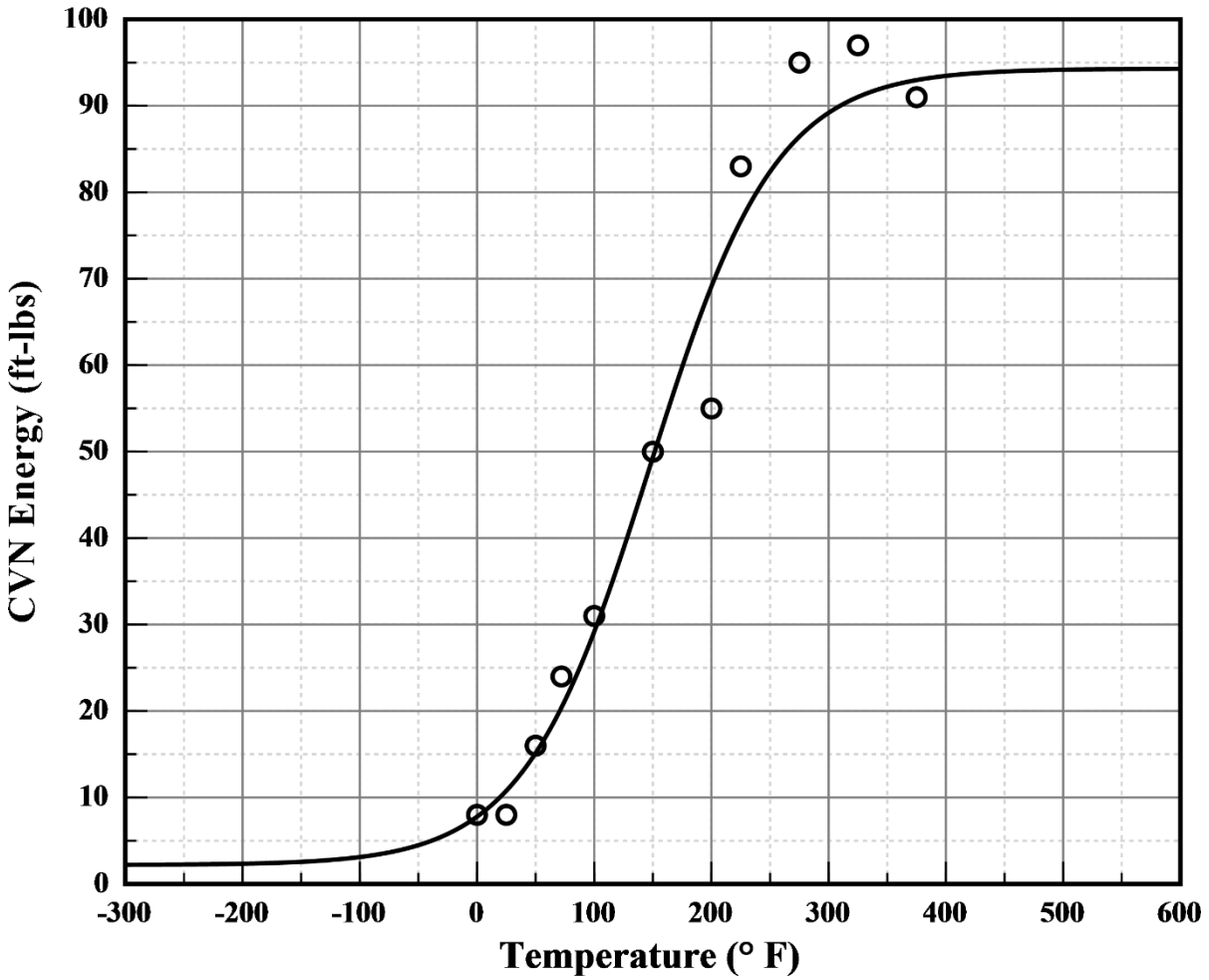
Correlation Coefficient = 0.986

Equation is A + B * [Tanh((T-T0)/(C+DT))]

Upper Shelf Energy = 94.30 (Fixed) Lower Shelf Energy = 2.20 (Fixed)

Temp@30 ft-lbs=102.30° F Temp@35 ft-lbs=115.60° F Temp@50 ft-lbs=151.50° F

Plant: **Prairie Island 2** Material: **SA508CL3** Heat: **22642**
Orientation: **Axial** Capsule: **P** Fluence: **4.27E+019 n/cm²**



CVGraph 6.02 05/31/2022 Page 1/2

Plant: **Prairie Island 2** Material: **SA508CL3** Heat: **22642**
Orientation: **Axial** Capsule: **P** Fluence: **4.27E+019 n/cm²**

Capsule P Lower Shell Forging D (Axial)

Charpy V-Notch Data

Temperature (° F)	Input CVN	Computed CVN	Differential
0	8.0	7.8	0.21
25	8.0	10.8	-2.79
50	16.0	15.2	0.85
72	24.0	20.4	3.60
100	31.0	29.2	1.82
150	50.0	49.4	0.64
200	55.0	69.1	-14.12
225	83.0	76.7	6.31
275	95.0	86.4	8.56
325	97.0	91.0	5.97
375	91.0	93.0	-1.98

CVGraph 6.02 05/31/2022 Page 2/2

Capsule N Lower Shell Forging D (Axial)

CVGraph 6.02: Hyperbolic Tangent Curve Printed on 7/12/2022 6:51 AM

A = 45.60 B = 43.40 C = 66.65 T0 = 177.88 D = 0.00

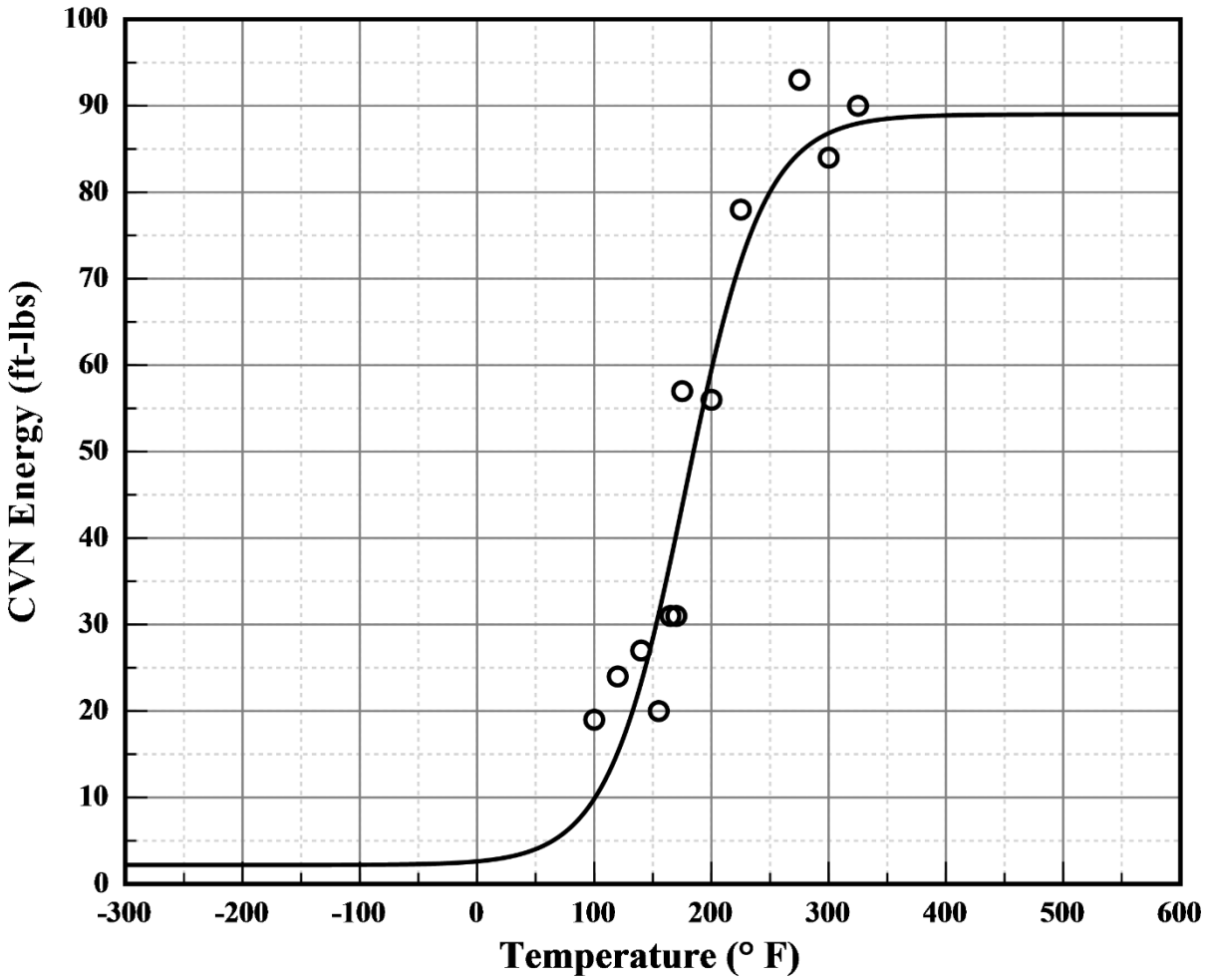
Correlation Coefficient = 0.961

Equation is A + B * [Tanh((T-T0)/(C+DT))]

Upper Shelf Energy = 89.00 (Fixed) Lower Shelf Energy = 2.20 (Fixed)

Temp@30 ft-lbs=152.90° F Temp@35 ft-lbs=161.30° F Temp@50 ft-lbs=184.70° F

Plant: **Prairie Island 2** Material: **SA508CL3** Heat: **22642**
Orientation: **Axial** Capsule: **N** Fluence: **8.41E+019 n/cm²**



CVGraph 6.02 07/12/2022 Page 1/2

Plant: **Prairie Island 2** Material: **SA508CL3** Heat: **22642**
Orientation: **Axial** Capsule: **N** Fluence: **8.41E+019 n/cm²**

Capsule N Lower Shell Forging D (Axial)

Charpy V-Notch Data

Temperature (° F)	Input CVN	Computed CVN	Differential
100	19.0	9.8	9.15
120	24.0	15.2	8.80
140	27.0	23.3	3.71
155	20.0	31.3	-11.26
165	31.0	37.3	-6.32
170	31.0	40.5	-9.50
175	57.0	43.7	13.27
200	56.0	59.5	-3.50
225	78.0	72.0	5.98
275	93.0	84.5	8.46
300	84.0	86.8	-2.83
325	90.0	88.0	2.04

CVGraph 6.02 07/12/2022 Page 2/2

Unirradiated Lower Shell Forging D (Axial)

CVGraph 6.02: Hyperbolic Tangent Curve Printed on 5/24/2022 4:38 PM

A = 39.88 B = 38.88 C = 75.66 T0 = 32.49 D = 0.00

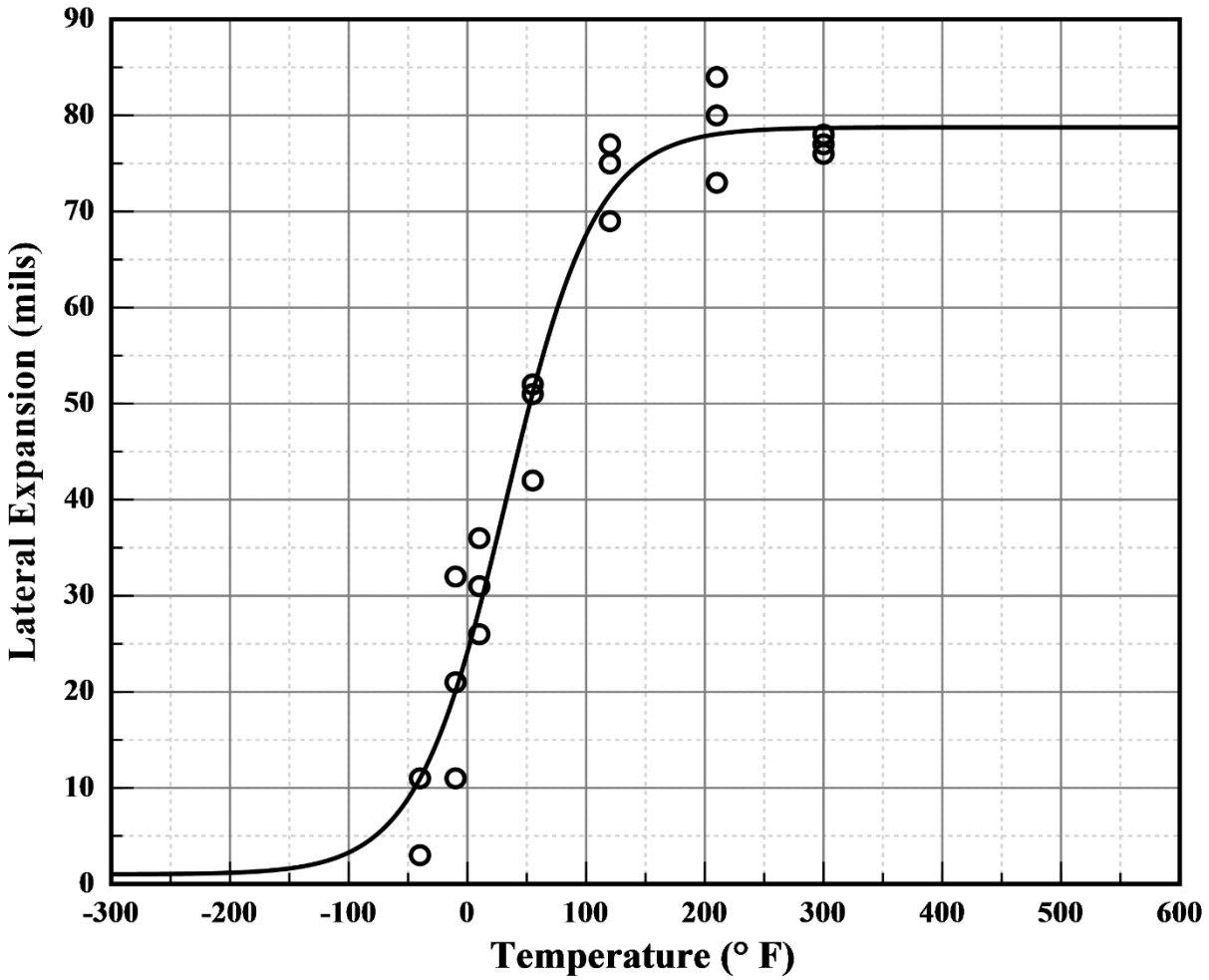
Correlation Coefficient = 0.980

Equation is A + B * [Tanh((T-T0)/(C+DT))]

Upper Shelf L.E. = 78.76 Lower Shelf L.E. = 1.00 (Fixed)

Temp@35 mils= 23.00° F

Plant: **Prairie Island 2** Material: **SA508CL3** Heat: **22642**
Orientation: **Axial** Capsule: **Unirrad** Fluence: **0.00E+000 n/cm²**



CVGraph 6.02 05/24/2022 Page 1/2

Plant: **Prairie Island 2** Material: **SA508CL3** Heat: **22642**
Orientation: **Axial** Capsule: **Unirrad** Fluence: **0.00E+000 n/cm²**

Unirradiated Lower Shell Forging D (Axial)

Charpy V-Notch Data

Temperature (° F)	Input L. E.	Computed L. E.	Differential
-40	11.0	11.0	0.03
-40	3.0	11.0	-7.97
-10	11.0	20.1	-9.08
-10	21.0	20.1	0.92
-10	32.0	20.1	11.92
10	31.0	28.7	2.35
10	26.0	28.7	-2.65
10	36.0	28.7	7.35
55	51.0	51.1	-0.11
55	42.0	51.1	-9.11
55	52.0	51.1	0.89
120	77.0	71.8	5.24
120	75.0	71.8	3.24
120	69.0	71.8	-2.76
210	73.0	78.1	-5.05
210	84.0	78.1	5.95
210	80.0	78.1	1.95
300	76.0	78.7	-2.69
300	77.0	78.7	-1.69
300	78.0	78.7	-0.69

CVGraph 6.02 05/24/2022 Page 2/2

Capsule V Lower Shell Forging D (Axial)

CVGraph 6.02: Hyperbolic Tangent Curve Printed on 5/25/2022 8:01 AM

A = 38.91 B = 37.91 C = 79.54 T0 = 71.37 D = 0.00

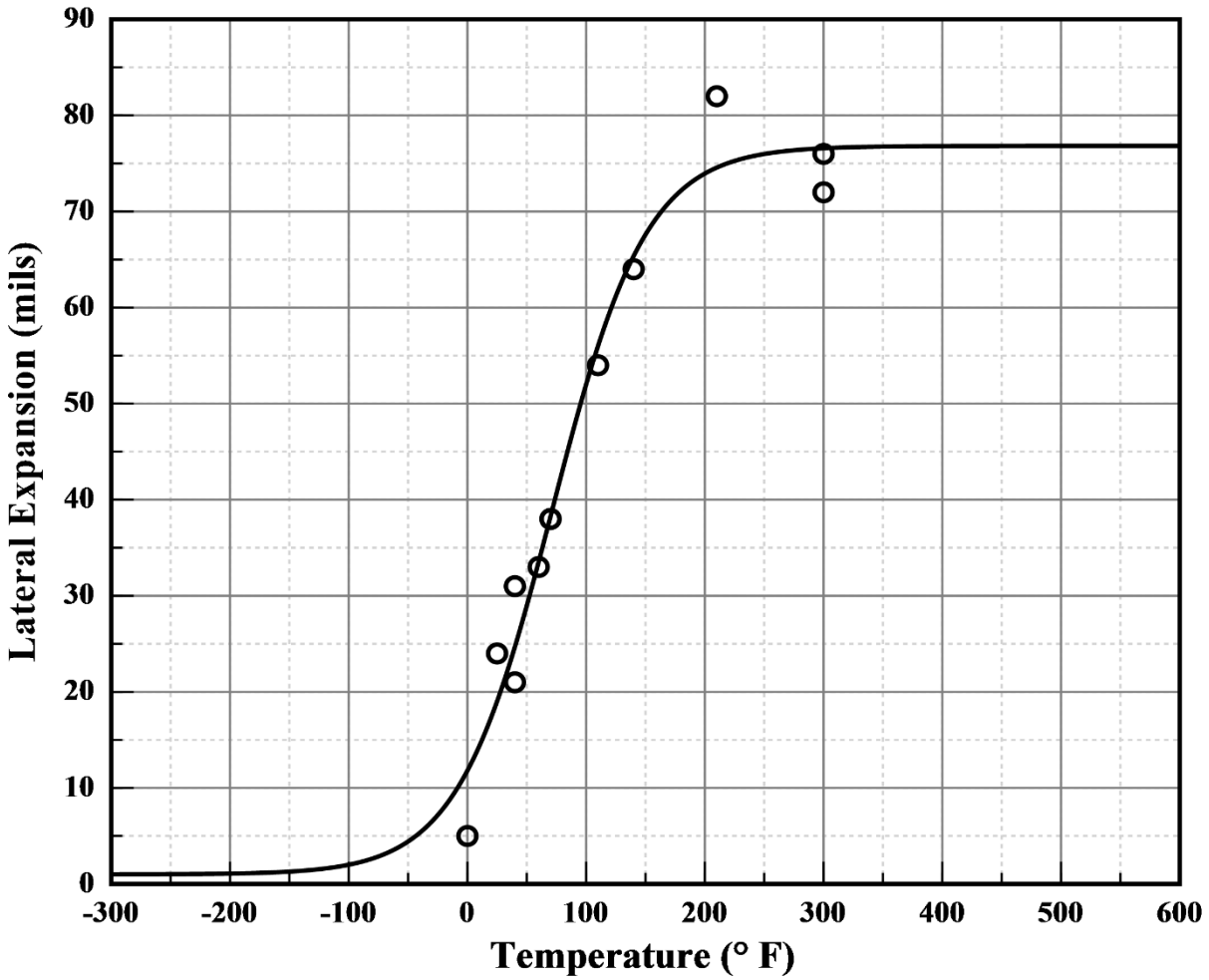
Correlation Coefficient = 0.984

Equation is A + B * [Tanh((T-T0)/(C+DT))]

Upper Shelf L.E. = 76.82 Lower Shelf L.E. = 1.00 (Fixed)

Temp@35 mils= 63.20° F

Plant: **Prairie Island 2** Material: **SA508CL3** Heat: **22642**
Orientation: **Axial** Capsule: **V** Fluence: **5.98E+018 n/cm²**



CVGraph 6.02 05/25/2022 Page 1/2

Plant: **Prairie Island 2** Material: **SA508CL3** Heat: **22642**
Orientation: **Axial** Capsule: **V** Fluence: **5.98E+018 n/cm²**

Capsule V Lower Shell Forging D (Axial)

Charpy V-Notch Data

Temperature (° F)	Input L. E.	Computed L. E.	Differential
0	5.0	11.8	-6.81
25	24.0	19.0	4.99
40	31.0	24.7	6.31
40	21.0	24.7	-3.69
60	33.0	33.5	-0.53
70	38.0	38.3	-0.26
70	38.0	38.3	-0.26
110	54.0	56.0	-2.00
140	64.0	65.4	-1.36
210	82.0	74.6	7.43
300	76.0	76.6	-0.58
300	72.0	76.6	-4.58

CVGraph 6.02 05/25/2022 Page 2/2

Capsule T Lower Shell Forging D (Axial)

CVGraph 6.02: Hyperbolic Tangent Curve Printed on 5/25/2022 9:10 AM

A = 37.29 B = 36.29 C = 118.96 T0 = 68.97 D = 0.00

Correlation Coefficient = 0.977

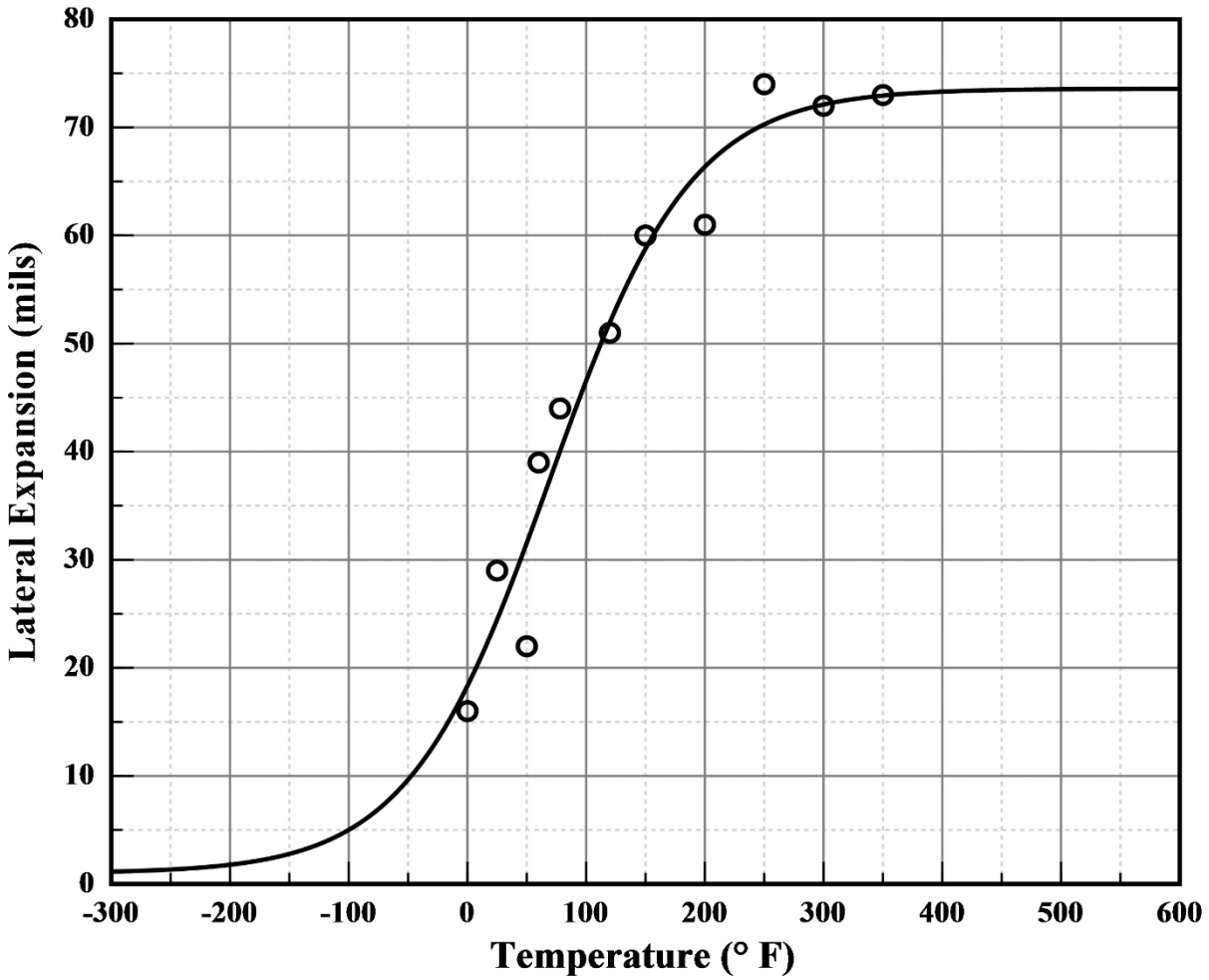
Equation is A + B * [Tanh((T-T0)/(C+DT))]

Upper Shelf L.E. = 73.59 Lower Shelf L.E. = 1.00 (Fixed)

Temp@35 mils= 61.50° F

Plant: **Prairie Island 2** Material: **SA508CL3** Heat: **22642**

Orientation: **Axial** Capsule: **T** Fluence: **1.10E+019 n/cm²**



CVGraph 6.02 05/25/2022 Page 1/2

Plant: **Prairie Island 2** Material: **SA508CL3** Heat: **22642**
Orientation: **Axial** Capsule: **T** Fluence: **1.10E+019 n/cm²**

Capsule T Lower Shell Forging D (Axial)

Charpy V-Notch Data

Temperature (° F)	Input L. E.	Computed L. E.	Differential
0	16.0	18.3	-2.33
25	29.0	24.5	4.54
50	22.0	31.6	-9.55
60	39.0	34.6	4.44
78	44.0	40.0	3.96
120	51.0	52.0	-0.97
150	60.0	58.8	1.21
200	61.0	66.4	-5.36
250	74.0	70.3	3.72
300	72.0	72.1	-0.12
350	73.0	72.9	0.05

CVGraph 6.02 05/25/2022 Page 2/2

Capsule R Lower Shell Forging D (Axial)

CVGraph 6.02: Hyperbolic Tangent Curve Printed on 5/31/2022 6:21 AM

A = 39.78 B = 38.78 C = 127.59 T0 = 127.89 D = 0.00

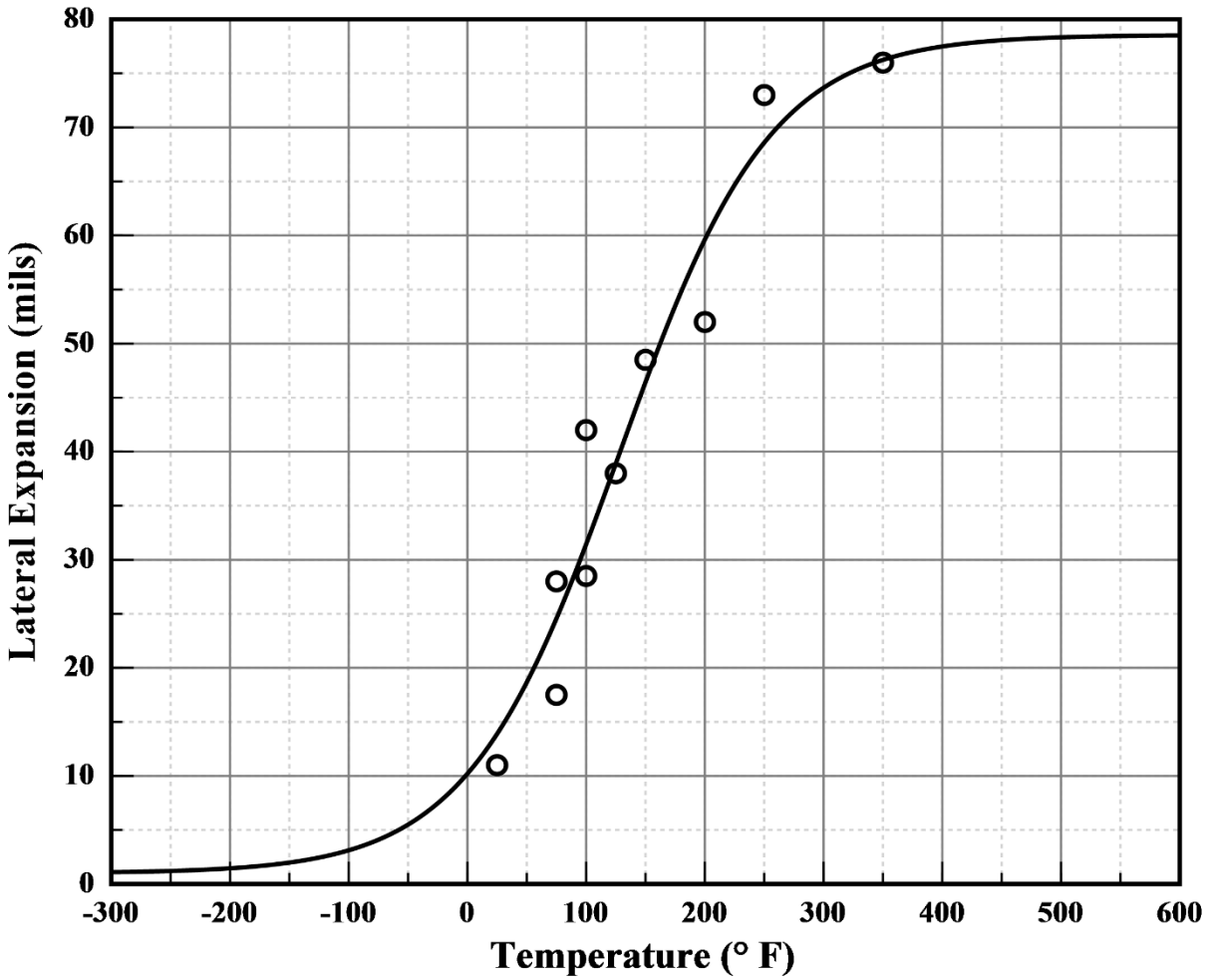
Correlation Coefficient = 0.967

Equation is A + B * [Tanh((T-T0)/(C+DT))]

Upper Shelf L.E. = 78.56 Lower Shelf L.E. = 1.00 (Fixed)

Temp@35 mils=112.10° F

Plant: **Prairie Island 2** Material: **SA508CL3** Heat: **22642**
Orientation: **Axial** Capsule: **R** Fluence: **4.11E+019 n/cm²**



CVGraph 6.02 05/31/2022 Page 1/2

Plant: **Prairie Island 2** Material: **SA508CL3** Heat: **22642**
Orientation: **Axial** Capsule: **R** Fluence: **4.11E+019 n/cm²**

Capsule R Lower Shell Forging D (Axial)

Charpy V-Notch Data

Temperature (° F)	Input L. E.	Computed L. E.	Differential
25	11.0	13.9	-2.89
75	28.0	24.6	3.43
75	17.5	24.6	-7.07
100	42.0	31.4	10.56
100	28.5	31.4	-2.94
125	38.0	38.9	-0.90
150	48.5	46.4	2.06
200	52.0	59.6	-7.63
250	73.0	68.6	4.40
350	76.0	76.3	-0.25

CVGraph 6.02 05/31/2022 Page 2/2

Capsule P Lower Shell Forging D (Axial)

CVGraph 6.02: Hyperbolic Tangent Curve Printed on 5/31/2022 10:07 AM

A = 36.92 B = 35.92 C = 111.55 T0 = 142.74 D = 0.00

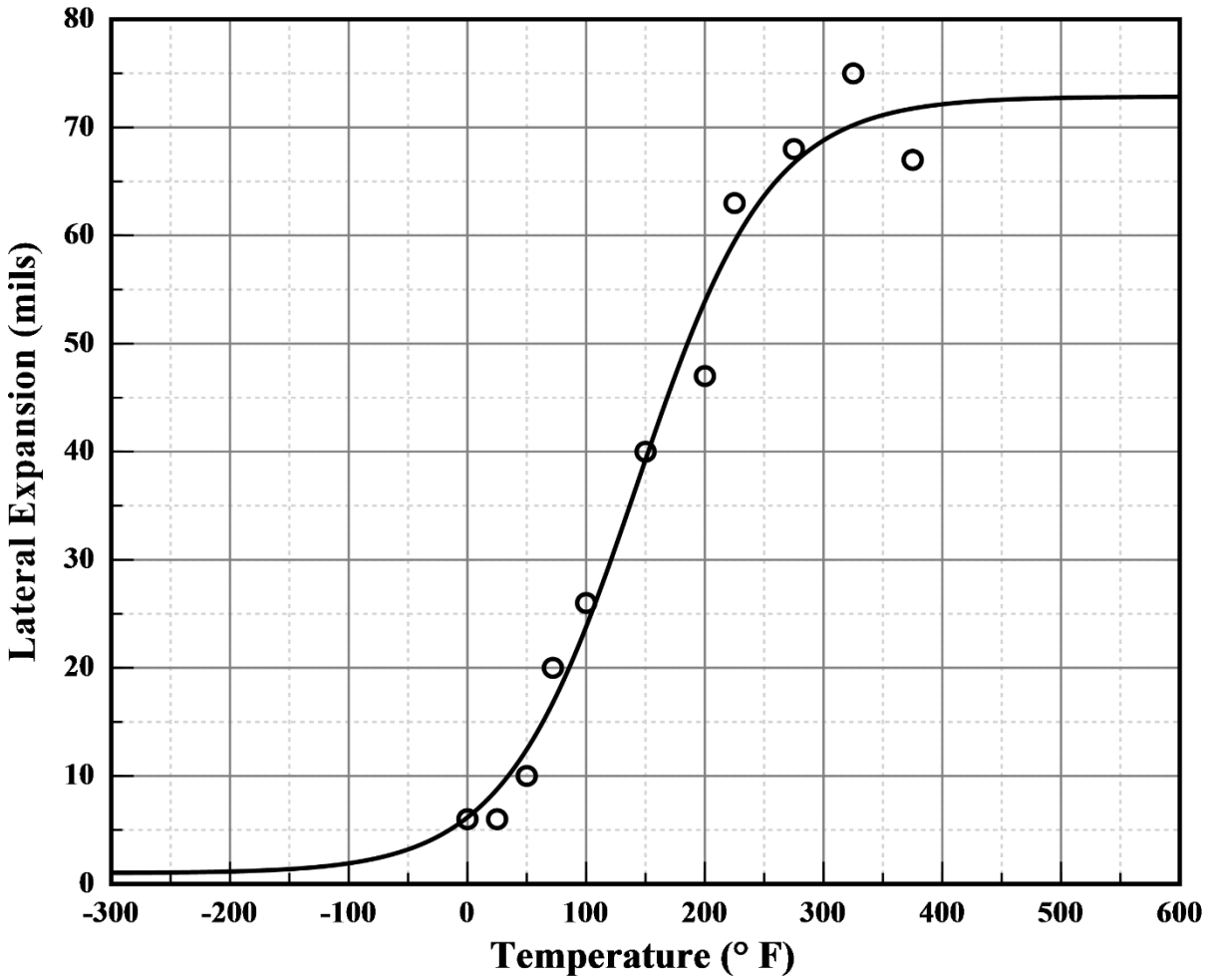
Correlation Coefficient = 0.990

Equation is A + B * [Tanh((T-T0)/(C+DT))]

Upper Shelf L.E. = 72.85 Lower Shelf L.E. = 1.00 (Fixed)

Temp@35 mils=136.80° F

Plant: **Prairie Island 2** Material: **SA508CL3** Heat: **22642**
Orientation: **Axial** Capsule: **P** Fluence: **4.27E+019 n/cm²**



CVGraph 6.02 05/31/2022 Page 1/2

Plant: **Prairie Island 2** Material: **SA508CL3** Heat: **22642**
Orientation: **Axial** Capsule: **P** Fluence: **4.27E+019 n/cm²**

Capsule P Lower Shell Forging D (Axial)

Charpy V-Notch Data

Temperature (° F)	Input L. E.	Computed L. E.	Differential
0	6.0	6.2	-0.16
25	6.0	8.8	-2.76
50	10.0	12.5	-2.45
72	20.0	16.8	3.22
100	26.0	23.8	2.20
150	40.0	39.3	0.74
200	47.0	53.9	-6.90
225	63.0	59.5	3.53
275	68.0	66.7	1.29
325	75.0	70.2	4.79
375	67.0	71.7	-4.75

CVGraph 6.02 05/31/2022 Page 2/2

Capsule N Lower Shell Forging D (Axial)

CVGraph 6.02: Hyperbolic Tangent Curve Printed on 7/12/2022 6:58 AM

A = 34.44 B = 33.44 C = 84.52 T0 = 179.79 D = 0.00

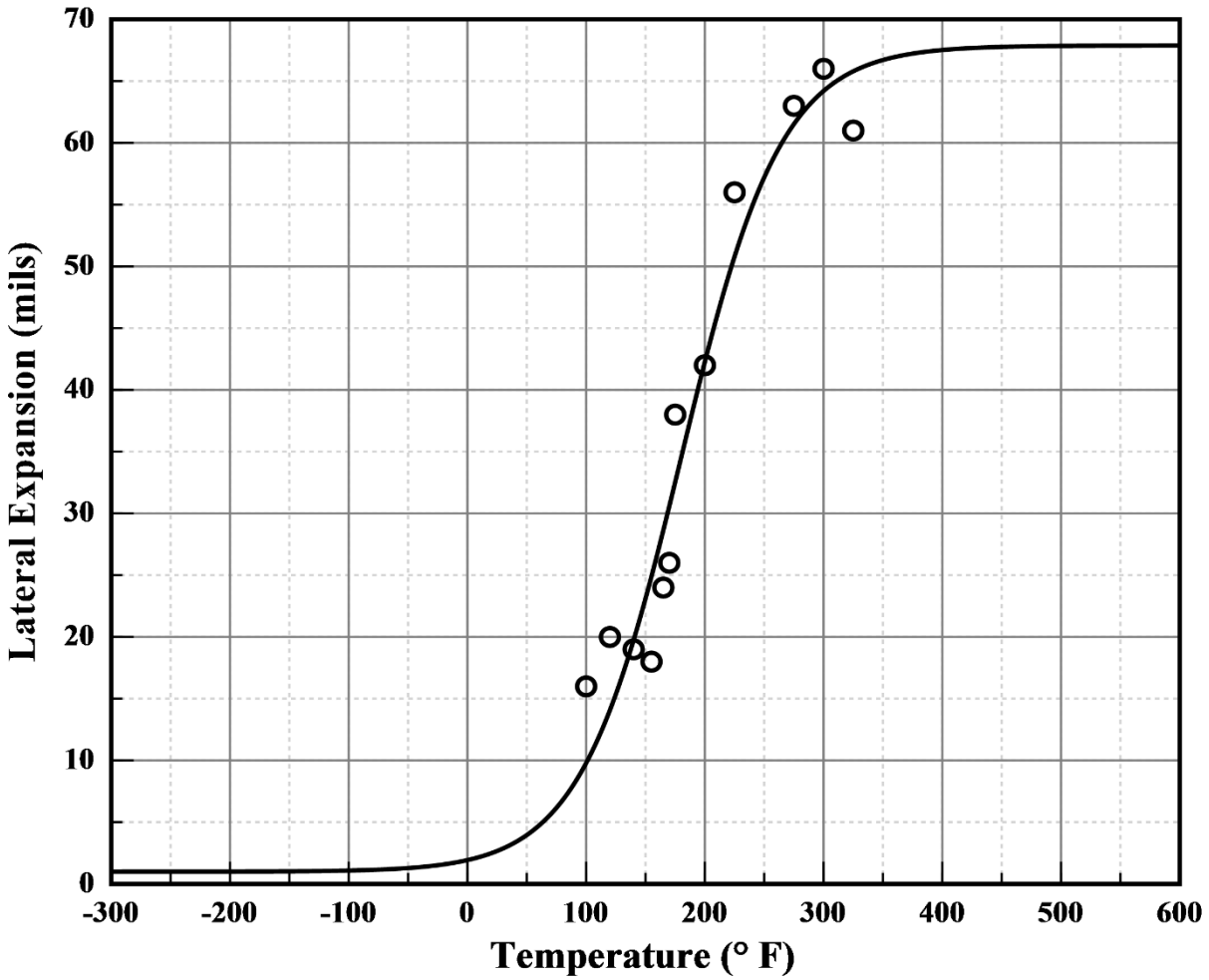
Correlation Coefficient = 0.970

Equation is A + B * [Tanh((T-T0)/(C+DT))]

Upper Shelf L.E. = 67.88 Lower Shelf L.E. = 1.00 (Fixed)

Temp@35 mils=181.30° F

Plant: **Prairie Island 2** Material: **SA508CL3** Heat: **22642**
Orientation: **Axial** Capsule: **N** Fluence: **8.41E+019 n/cm²**



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Plant: **Prairie Island 2** Material: **SA508CL3** Heat: **22642**
Orientation: **Axial** Capsule: **N** Fluence: **8.41E+019 n/cm²**

Capsule N Lower Shell Forging D (Axial)

Charpy V-Notch Data

Temperature (° F)	Input L. E.	Computed L. E.	Differential
100	16.0	9.8	6.21
120	20.0	14.1	5.93
140	19.0	19.8	-0.76
155	18.0	24.9	-6.90
165	24.0	28.6	-4.65
170	26.0	30.6	-4.58
175	38.0	32.5	5.45
200	42.0	42.3	-0.29
225	56.0	50.8	5.20
275	63.0	61.5	1.48
300	66.0	64.2	1.79
325	61.0	65.8	-4.80

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Unirradiated Lower Shell Forging D (Axial)

CVGraph 6.02: Hyperbolic Tangent Curve Printed on 5/24/2022 4:36 PM

A = 50.00 B = 50.00 C = 88.39 T0 = 64.68 D = 0.00

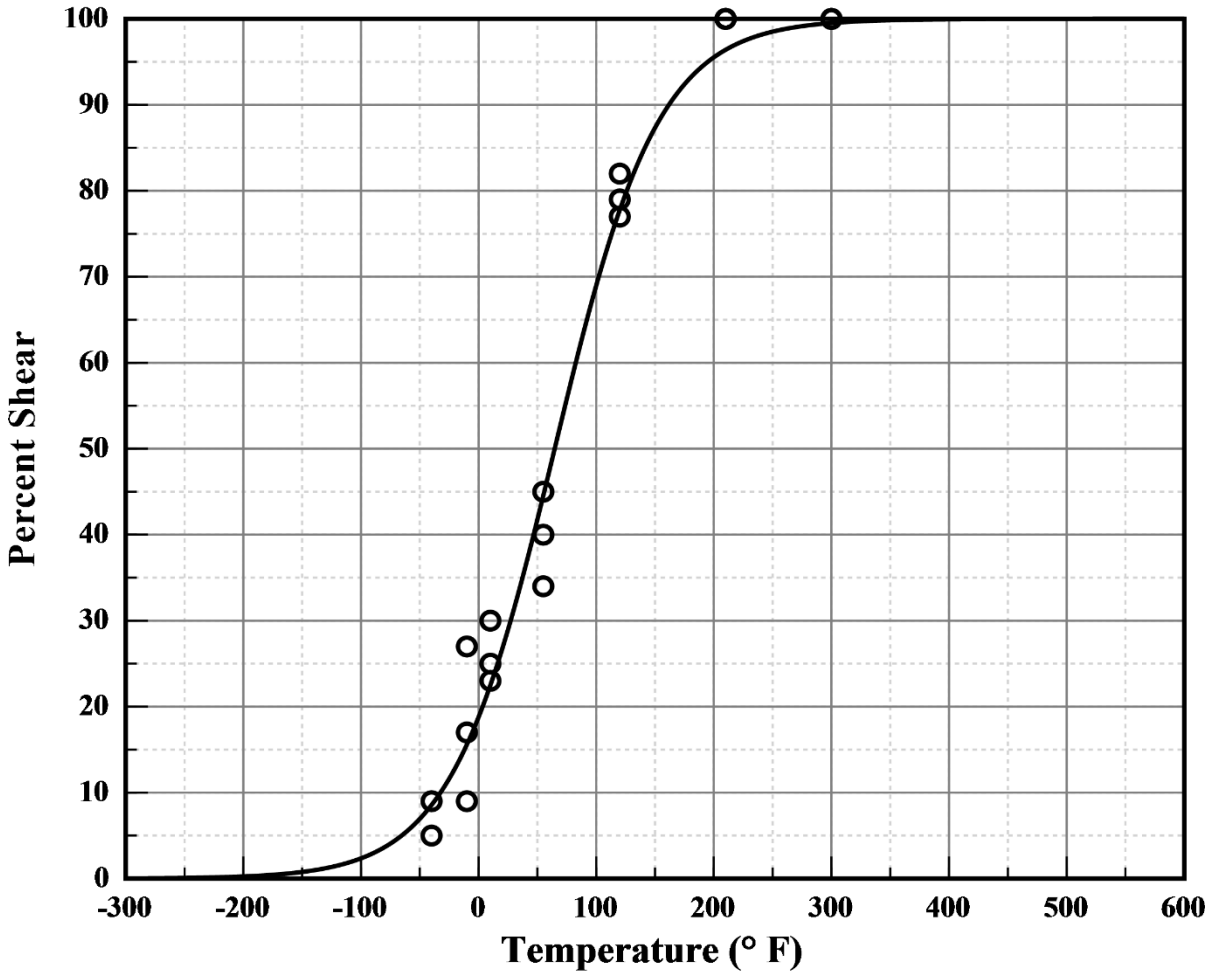
Correlation Coefficient = 0.992

Equation is A + B * [Tanh((T-T0)/(C+DT))]

Upper Shelf %Shear = 100.00 (Fixed) Lower Shelf %Shear = 0.00 (Fixed)

Temperature at 50% Shear = 64.70

Plant: **Prairie Island 2** Material: **SA508CL3** Heat: **22642**
Orientation: **Axial** Capsule: **Unirrad** Fluence: **0.00E+000 n/cm²**



CVGraph 6.02 05/24/2022 Page 1/2

Plant: **Prairie Island 2** Material: **SA508CL3** Heat: **22642**
Orientation: **Axial** Capsule: **Unirrad** Fluence: **0.00E+000 n/cm²**

Unirradiated Lower Shell Forging D (Axial)

Charpy V-Notch Data

Temperature (° F)	Input %Shear	Computed %Shear	Differential
-40	9.0	8.6	0.44
-40	5.0	8.6	-3.56
-10	9.0	15.6	-6.58
-10	17.0	15.6	1.42
-10	27.0	15.6	11.42
10	25.0	22.5	2.51
10	23.0	22.5	0.51
10	30.0	22.5	7.51
55	40.0	44.5	-4.54
55	34.0	44.5	-10.54
55	45.0	44.5	0.46
120	82.0	77.8	4.24
120	79.0	77.8	1.24
120	77.0	77.8	-0.76
210	100.0	96.4	3.60
210	100.0	96.4	3.60
210	100.0	96.4	3.60
300	100.0	99.5	0.48
300	100.0	99.5	0.48
300	100.0	99.5	0.48

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Capsule V Lower Shell Forging D (Axial)

CVGraph 6.02: Hyperbolic Tangent Curve Printed on 5/25/2022 8:00 AM

A = 50.00 B = 50.00 C = 78.27 T0 = 99.42 D = 0.00

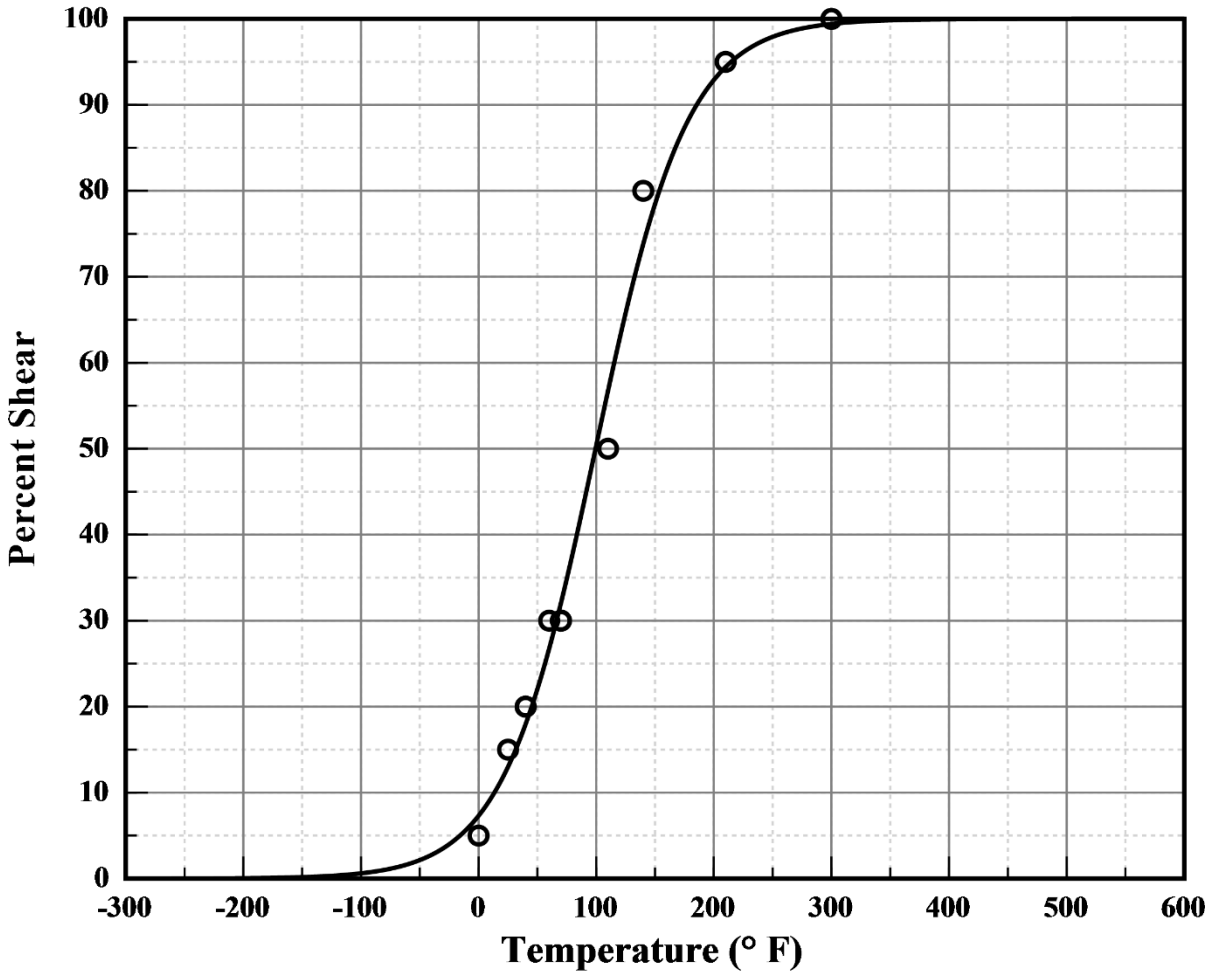
Correlation Coefficient = 0.996

Equation is A + B * [Tanh((T-T0)/(C+DT))]

Upper Shelf %Shear = 100.00 (Fixed) Lower Shelf %Shear = 0.00 (Fixed)

Temperature at 50% Shear = 99.50

Plant: **Prairie Island 2** Material: **SA508CL3** Heat: **22642**
Orientation: **Axial** Capsule: **V** Fluence: **5.98E+018 n/cm²**



CVGraph 6.02 05/25/2022 Page 1/2

Plant: **Prairie Island 2** Material: **SA508CL3** Heat: **22642**
Orientation: **Axial** Capsule: **V** Fluence: **5.98E+018 n/cm²**

Capsule V Lower Shell Forging D (Axial)

Charpy V-Notch Data

Temperature (° F)	Input %Shear	Computed %Shear	Differential
0	5.0	7.3	-2.31
25	15.0	13.0	2.01
40	20.0	18.0	2.03
40	20.0	18.0	2.03
60	30.0	26.8	3.25
70	30.0	32.0	-2.04
70	30.0	32.0	-2.04
110	50.0	56.7	-6.72
140	80.0	73.8	6.18
210	95.0	94.4	0.60
300	100.0	99.4	0.59
300	100.0	99.4	0.59

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Capsule T Lower Shell Forging D (Axial)

CVGraph 6.02: Hyperbolic Tangent Curve Printed on 5/25/2022 9:09 AM

A = 50.00 B = 50.00 C = 115.50 T0 = 136.91 D = 0.00

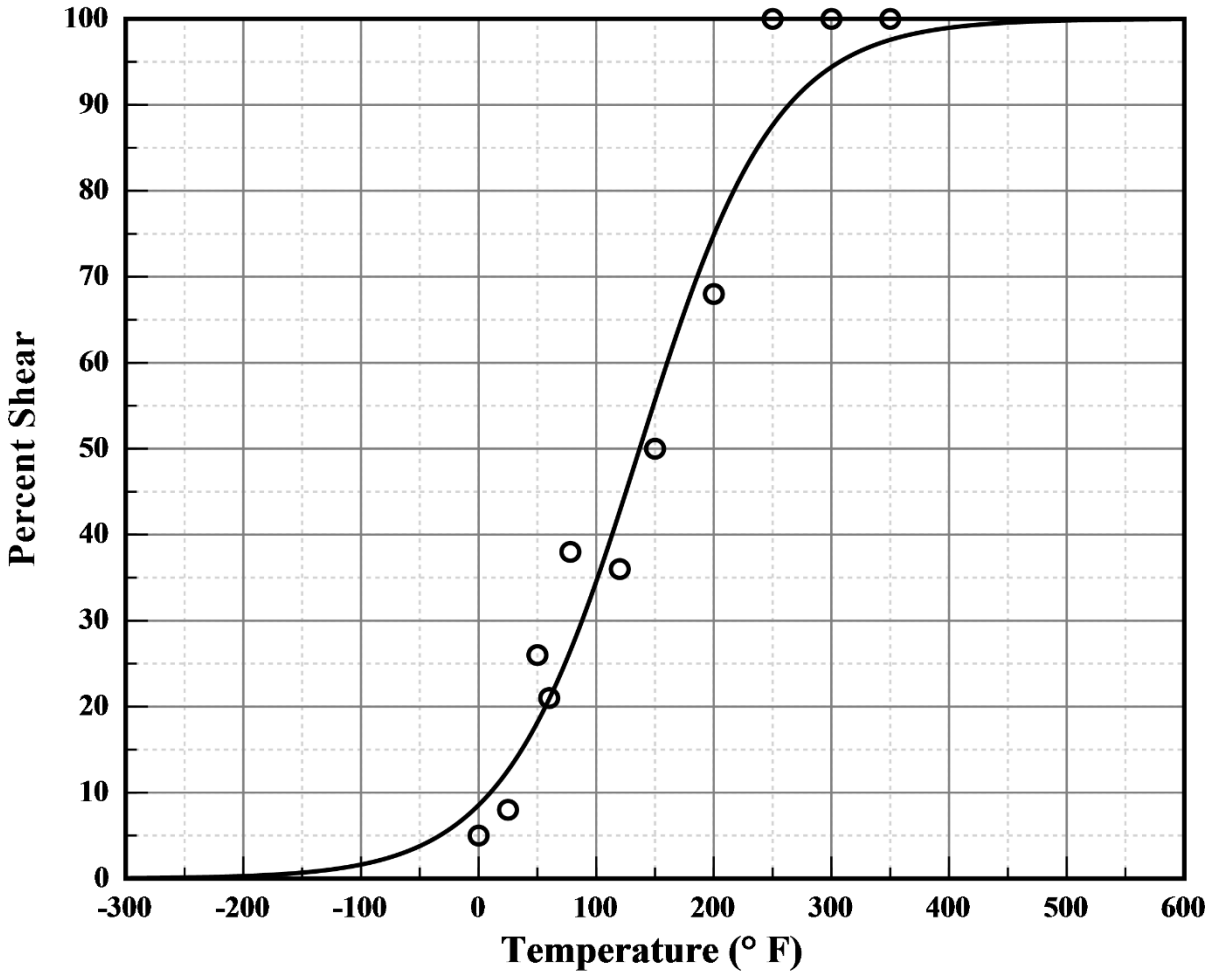
Correlation Coefficient = 0.981

Equation is A + B * [Tanh((T-T0)/(C+DT))]

Upper Shelf %Shear = 100.00 (Fixed) Lower Shelf %Shear = 0.00 (Fixed)

Temperature at 50% Shear = 137.00

Plant: **Prairie Island 2** Material: **SA508CL3** Heat: **22642**
Orientation: **Axial** Capsule: **T** Fluence: **1.10E+019 n/cm²**



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Plant: **Prairie Island 2** Material: **SA508CL3** Heat: **22642**
Orientation: **Axial** Capsule: **T** Fluence: **1.10E+019 n/cm²**

Capsule T Lower Shell Forging D (Axial)

Charpy V-Notch Data

Temperature (° F)	Input %Shear	Computed %Shear	Differential
0	5.0	8.5	-3.54
25	8.0	12.6	-4.59
50	26.0	18.2	7.83
60	21.0	20.9	0.11
78	38.0	26.5	11.50
120	36.0	42.7	-6.73
150	50.0	55.6	-5.64
200	68.0	74.9	-6.88
250	100.0	87.6	12.37
300	100.0	94.4	5.60
350	100.0	97.6	2.44

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Capsule R Lower Shell Forging D (Axial)

CVGraph 6.02: Hyperbolic Tangent Curve Printed on 5/31/2022 6:20 AM

A = 50.00 B = 50.00 C = 91.22 T0 = 162.34 D = 0.00

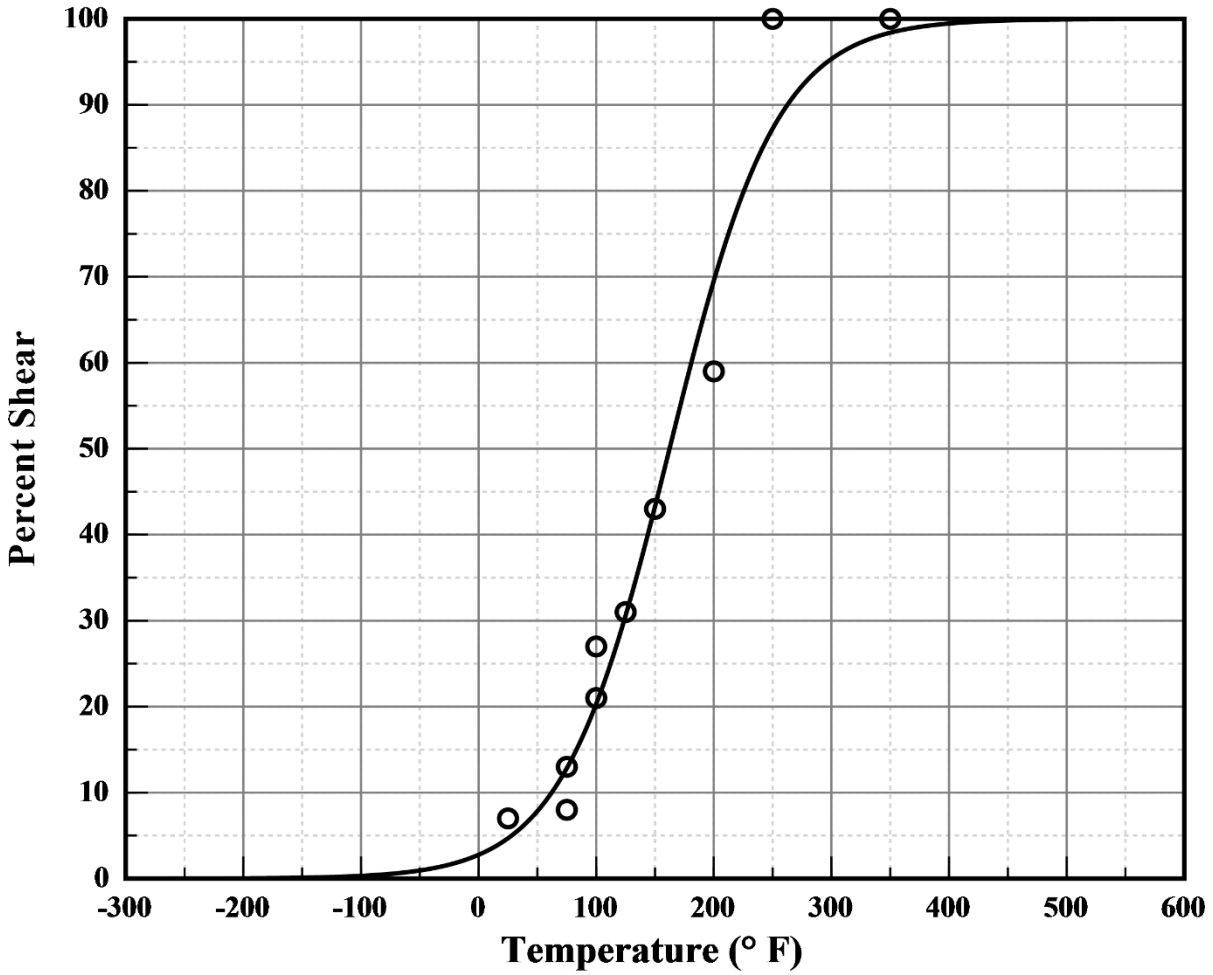
Correlation Coefficient = 0.985

Equation is A + B * [Tanh((T-T0)/(C+DT))]

Upper Shelf %Shear = 100.00 (Fixed) Lower Shelf %Shear = 0.00 (Fixed)

Temperature at 50% Shear = 162.40

Plant: **Prairie Island 2** Material: **SA508CL3** Heat: **22642**
Orientation: **Axial** Capsule: **R** Fluence: **4.11E+019 n/cm²**



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Plant: **Prairie Island 2** Material: **SA508CL3** Heat: **22642**
Orientation: **Axial** Capsule: **R** Fluence: **4.11E+019 n/cm²**

Capsule R Lower Shell Forging D (Axial)

Charpy V-Notch Data

Temperature (° F)	Input %Shear	Computed %Shear	Differential
25	7.0	4.7	2.31
75	13.0	12.8	0.16
75	8.0	12.8	-4.84
100	27.0	20.3	6.69
100	21.0	20.3	0.69
125	31.0	30.6	0.40
150	43.0	43.3	-0.28
200	59.0	69.5	-10.55
250	100.0	87.2	12.76
350	100.0	98.4	1.61

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Capsule P Lower Shell Forging D (Axial)

CVGraph 6.02: Hyperbolic Tangent Curve Printed on 5/31/2022 10:05 AM

A = 50.00 B = 50.00 C = 77.55 T0 = 196.48 D = 0.00

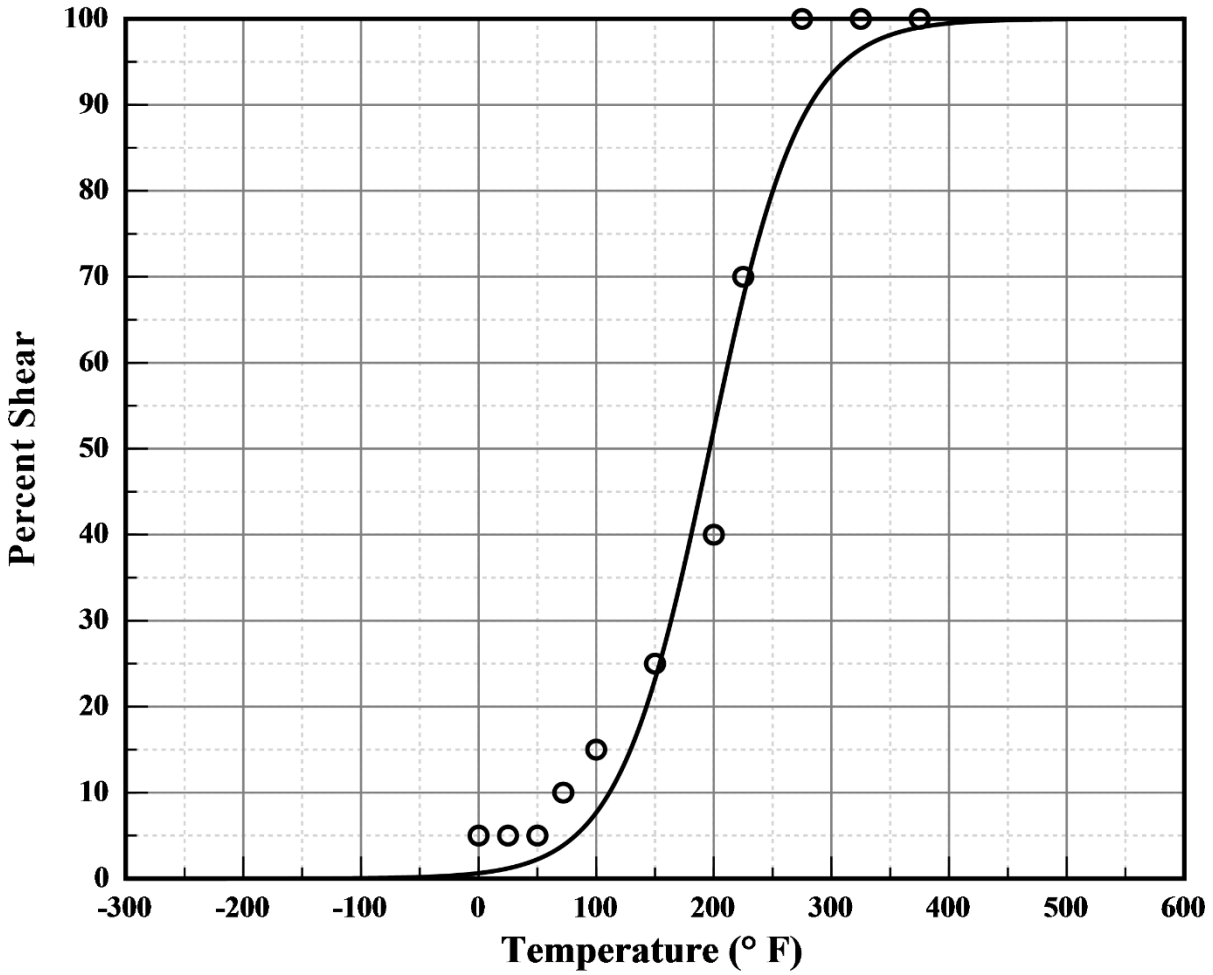
Correlation Coefficient = 0.990

Equation is A + B * [Tanh((T-T0)/(C+DT))]

Upper Shelf %Shear = 100.00 (Fixed) Lower Shelf %Shear = 0.00 (Fixed)

Temperature at 50% Shear = 196.50

Plant: **Prairie Island 2** Material: **SA508CL3** Heat: **22642**
Orientation: **Axial** Capsule: **P** Fluence: **4.27E+019 n/cm²**



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Plant: **Prairie Island 2** Material: **SA508CL3** Heat: **22642**
Orientation: **Axial** Capsule: **P** Fluence: **4.27E+019 n/cm²**

Capsule P Lower Shell Forging D (Axial)

Charpy V-Notch Data

Temperature (° F)	Input %Shear	Computed %Shear	Differential
0	5.0	0.6	4.37
25	5.0	1.2	3.81
50	5.0	2.2	2.76
72	10.0	3.9	6.12
100	15.0	7.7	7.33
150	25.0	23.2	1.83
200	40.0	52.3	-12.27
225	70.0	67.6	2.40
275	100.0	88.3	11.66
325	100.0	96.5	3.51
375	100.0	99.0	0.99

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Capsule N Lower Shell Forging D (Axial)

CVGraph 6.02: Hyperbolic Tangent Curve Printed on 9/27/2022 5:26 AM

A = 50.00 B = 50.00 C = 56.94 T0 = 206.92 D = 0.00

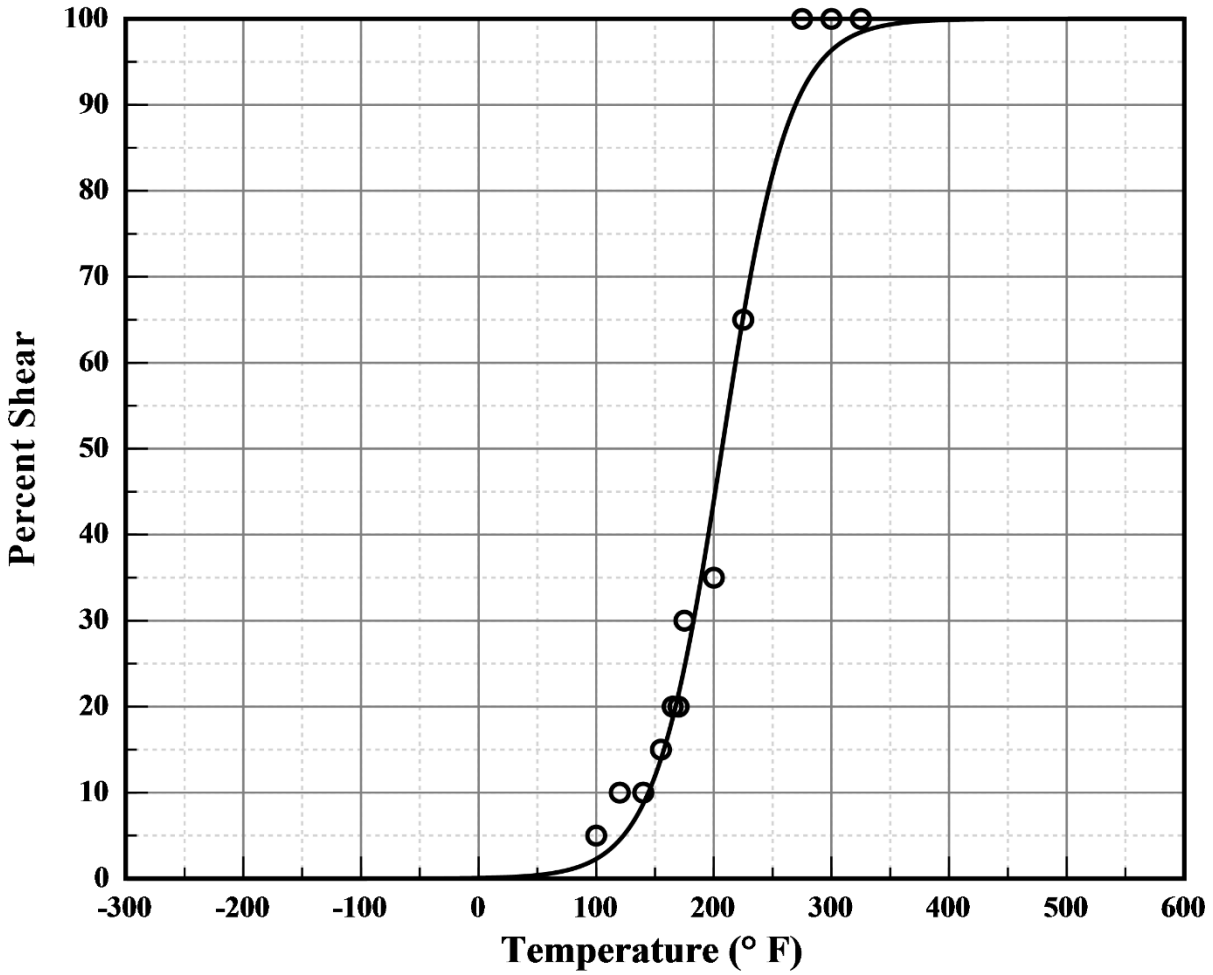
Correlation Coefficient = 0.994

Equation is A + B * [Tanh((T-T0)/(C+DT))]

Upper Shelf %Shear = 100.00 (Fixed) Lower Shelf %Shear = 0.00 (Fixed)

Temperature at 50% Shear = 207.00

Plant: **Prairie Island 2** Material: **SA508CL3** Heat: **22642**
Orientation: **Axial** Capsule: **N** Fluence: **8.41E+019 n/cm²**



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