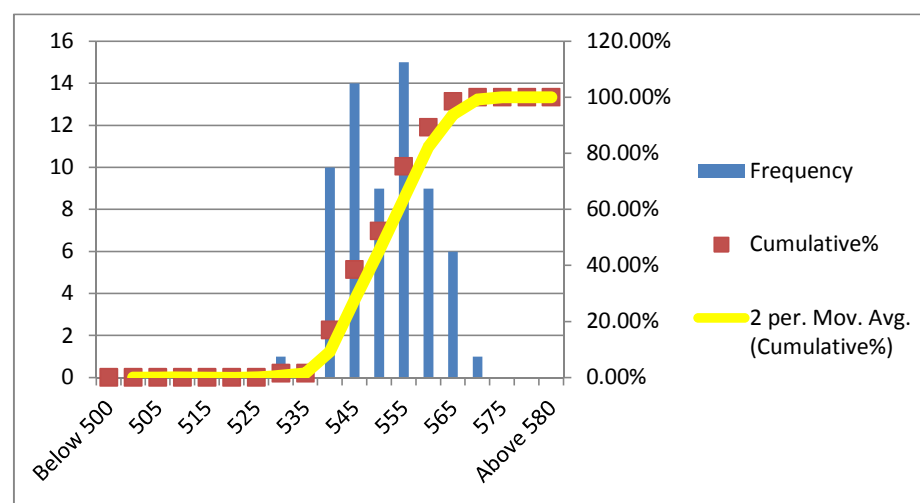


Campaign Length: 22.08.16 to 22.08.16
 Total Production: 1306.309 MT
 Billet Rolled: RIN-255 & 256
 Product: Xtreme 500W (32 mm)

YIELD STRENGTH	
Mean	551.308
Median	550
Mode	555
Std. Dev.	8.537
Min	530
Max	570
Count	65

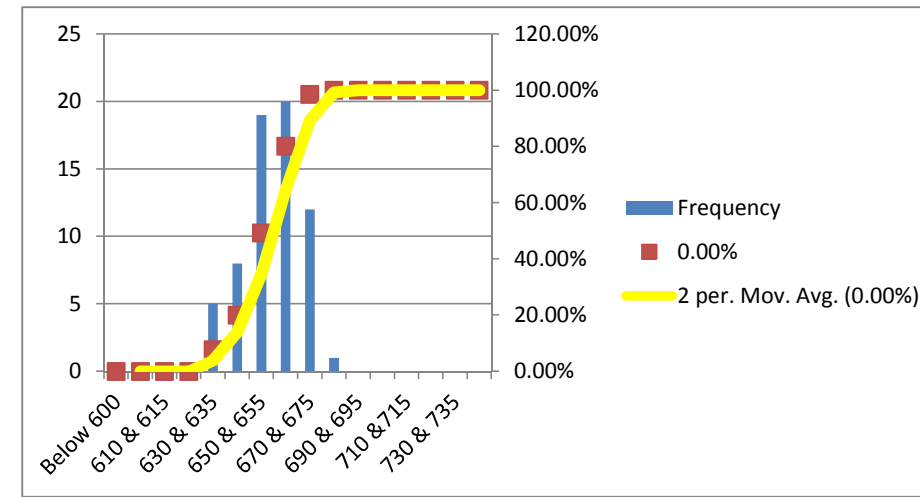
Bin	Frequency	%	Cumulative%
Below 500	0	0.00%	0.00%
500	0	0.00%	0.00%
505	0	0.00%	0.00%
510	0	0.00%	0.00%
515	0	0.00%	0.00%
520	0	0.00%	0.00%
525	0	0.00%	0.00%
530	1	1.54%	1.54%
535	0	0.00%	1.54%
540	10	15.38%	16.92%
545	14	21.54%	38.46%
550	9	13.85%	52.31%
555	15	23.08%	75.38%
560	9	13.85%	89.23%
565	6	9.23%	98.46%
570	1	1.54%	100.00%
575	0	0.00%	100.00%
580	0	0.00%	100.00%
Above 580	0	0.00%	100.00%
Total	65		



MINIMUM REQUIREMENTS
 As per ISO 6935-2: 500 Mpa
 As per ASTM A-615: 420 Mpa

ULTIMATE STRENGTH	
Mean	657.231
Median	660
Mode	655
Std. Dev.	11.86
Min	630
Max	680
Count	65

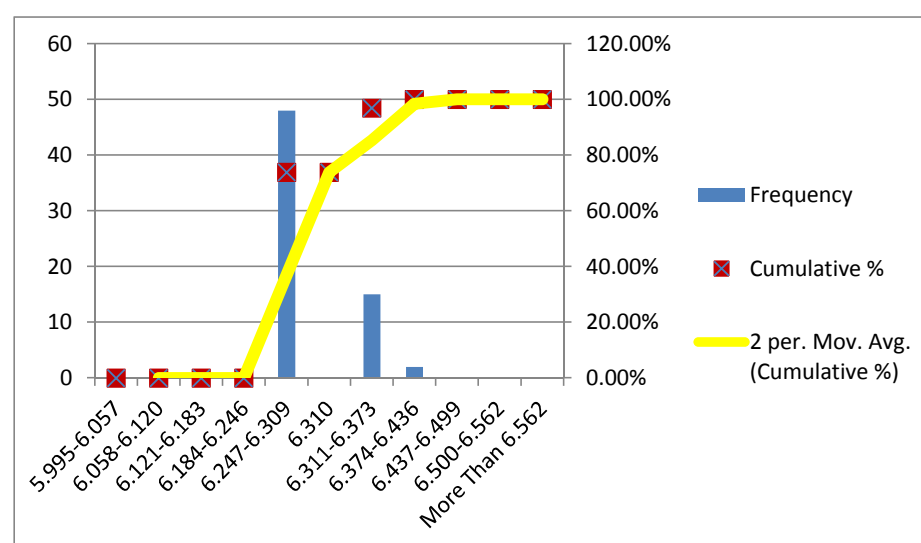
Bin	Frequency	%	Cumulative%
Below 600	0	0.00%	0.00%
600 & 605	0	0.00%	0.00%
610 & 615	0	0.00%	0.00%
620 & 625	0	0.00%	0.00%
630 & 635	5	7.69%	7.69%
640 & 645	8	12.31%	20.00%
650 & 655	19	29.23%	49.23%
660 & 665	20	30.77%	80.00%
670 & 675	12	18.46%	98.46%
680 & 685	1	1.54%	100.00%
690 & 695	0	0.00%	100.00%
700 & 705	0	0.00%	100.00%
710 & 715	0	0.00%	100.00%
720 & 725	0	0.00%	100.00%
730 & 735	0	0.00%	100.00%
Above 735	0	0.00%	100.00%
Total	65		



MINIMUM REQUIREMENTS
 As per ISO 6935-2: 575 Mpa
 As per ASTM A-615: 620 Mpa

UNIT WEIGHT	
Mean	6.295
Median	6.285
Mode	6.255
Std. Dev.	0.035
Min	6.248
Max	6.381
Count	65

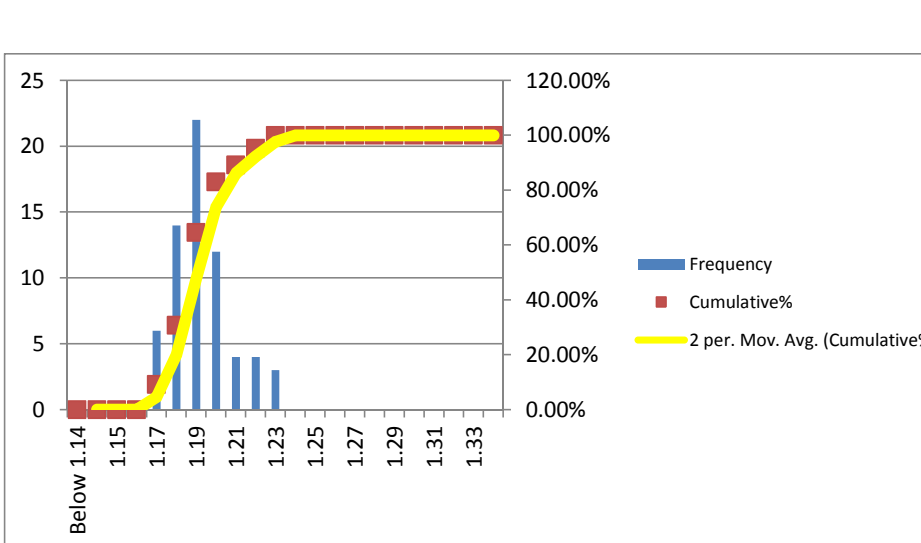
Bin	Frequency	%	Cumulative %
Less Than 5.995	0	0.00%	0.00%
-5% 5.995-6.057	0	0.00%	0.00%
-4% 6.058-6.120	0	0.00%	0.00%
-3% 6.121-6.183	0	0.00%	0.00%
-2% 6.184-6.246	0	0.00%	0.00%
-1% 6.247-6.309	48	73.85%	73.85%
0% 6.310-6.373	15	23.08%	96.92%
1% 6.374-6.436	2	3.08%	100.00%
2% 6.437-6.499	0	0.00%	100.00%
3% 6.500-6.562	0	0.00%	100.00%
4% 6.563-6.625	0	0.00%	100.00%
5% More Than 6.626	0	0.00%	100.00%
Total	65		



MINIMUM REQUIREMENTS
 As per ISO 6935-2: ± 4%
 As per ASTM A-615: -6%

T/Y RATIO	
Mean	1.192
Median	1.19
Mode	1.18
Std. Dev.	0.015
Min	1.17
Max	1.23
Count	65

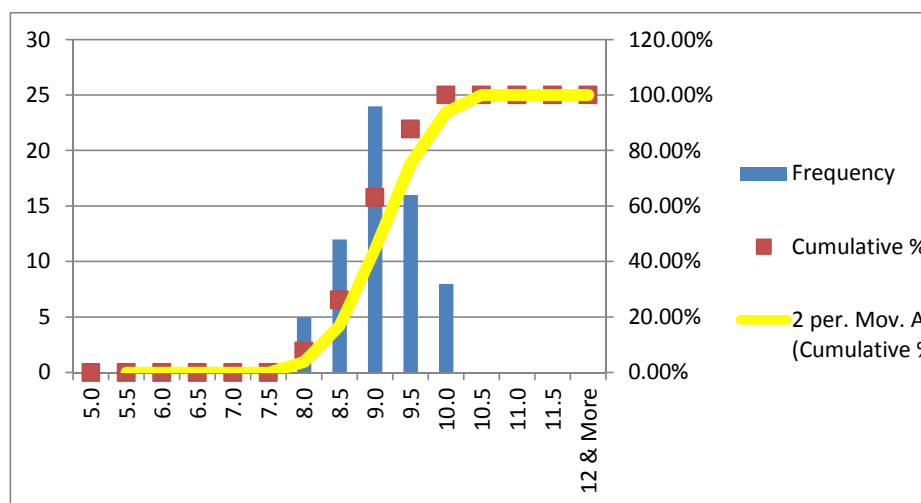
Bin	Frequency	%	Cumulative %
Below 1.14	0	0.00%	0.00%
1.14	0	0.00%	0.00%
1.15	0	0.00%	0.00%
1.16	0	0.00%	0.00%
1.17	6	9.23%	9.23%
1.18	14	21.54%	30.77%
1.19	22	33.85%	64.62%
1.20	12	18.46%	83.08%
1.21	4	6.15%	89.23%
1.22	4	6.15%	95.38%
1.23	3	4.62%	100.00%
1.24	0	0.00%	100.00%
1.25	0	0.00%	100.00%
1.26	0	0.00%	100.00%
1.27	0	0.00%	100.00%
1.28	0	0.00%	100.00%
1.29	0	0.00%	100.00%
1.30	0	0.00%	100.00%
1.31	0	0.00%	100.00%
1.32	0	0.00%	100.00%
1.33	0	0.00%	100.00%
1.34 & More	0	0.00%	100.00%
Total	65		



MINIMUM REQUIREMENTS
 As per ISO 6935-2: T/Y: 1.15
 As per ASTM A-615: Not Required

ELN. AT MAX. FORCE (Agt)(GL-200 mm)	
Mean	9.077
Median	9.0
Mode	9.0
Std. Dev.	0.554
Min	8.0
Max	10.0
Count	65

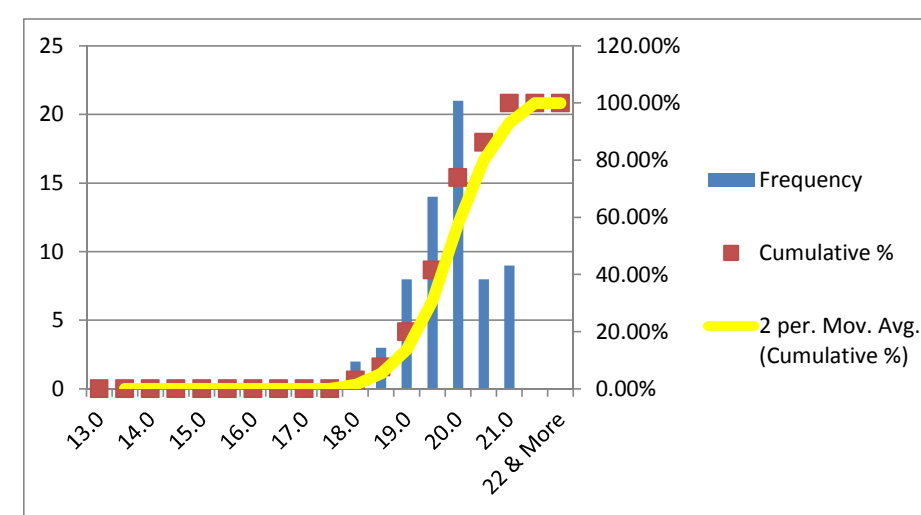
Bin	Frequency	%	Cumulative %
5.0	0	0.00%	0.00%
5.5	0	0.00%	0.00%
6.0	0	0.00%	0.00%
6.5	0	0.00%	0.00%
7.0	0	0.00%	0.00%
7.5	0	0.00%	0.00%
8.0	5	7.69%	7.69%
8.5	12	18.46%	26.15%
9.0	24	36.92%	63.08%
9.5	16	24.62%	87.69%
10.0	8	12.31%	100.00%
10.5	0	0.00%	100.00%
11.0	0	0.00%	100.00%
11.5	0	0.00%	100.00%
12 & More	0	0.00%	100.00%
Total	65		



MINIMUM REQUIREMENTS
 As per ISO 6935-2: 7%
 As per ASTM A-615: Not Required

ELN. AFTER FRACTURE (A5)(GL-5D)	
Mean	19.838
Median	20.0
Mode	20.0
Std. Dev.	0.745
Min	18.0
Max	21.0
Count	65

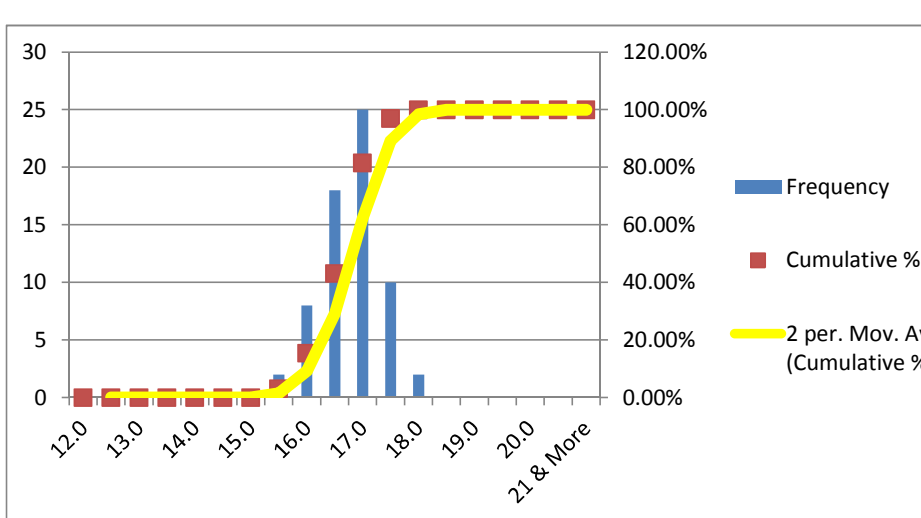
Bin	Frequency	%	Cumulative %
13.0	0	0.00%	0.00%
13.5	0	0.00%	0.00%
14.0	0	0.00%	0.00%
14.5	0	0.00%	0.00%
15.0	0	0.00%	0.00%
15.5	0	0.00%	0.00%
16.0	0	0.00%	0.00%
16.5	0	0.00%	0.00%
17.0	0	0.00%	0.00%
17.5	0	0.00%	0.00%
18.0	2	3.08%	3.08%
18.5	3	4.62%	7.69%
19.0	8	12.31%	20.00%
19.5	14	21.54%	41.54%
20.0	21	32.31%	73.85%
20.5	8	12.31%	86.15%
21.0	9	13.85%	100.00%
21.5	0	0.00%	100.00%
22 & More	0	0.00%	100.00%
Total	65		



MINIMUM REQUIREMENTS
 As per ISO 6935-2: 14%

ELN. AFTER FRACTURE (A)(GL-203.2 mm)	
Mean	16.800
Median	17.0
Mode	17.0
Std. Dev.	0.543
Min	15.5
Max	18.0
Count	65

Bin	Frequency	%	Cumulative %
12.0	0	0.00%	0.00%
12.5	0	0.00%	0.00%
13.0	0	0.00%	0.00%
13.5	0	0.00%	0.00%
14.0	0	0.00%	0.00%
14.5	0	0.00%	0.00%
15.0	0	0.00%	0.00%
15.5	2	3.08%	3.08%
16.0	8	12.31%	15.38%
16.5	18	27.69%	43.08%
17.0	25	38.46%	81.54%
17.5	10	15.38%	96.92%
18.0	2	3.08%	100.00%
18.5	0	0.00%	100.00%
19.0	0	0.00%	100.00%
19.5	0	0.00%	100.00%
20.0	0	0.00%	100.00%
20.5	0	0.00%	100.00%
21 & More	0	0.00%	100.00%
Total	65		



MINIMUM REQUIREMENTS
 As per ASTM A-615: 7%

BEND TEST:
 ALL THE SAMPLES IN THIS CAMPAIGN PASSED THE BEND TEST MAINTAINING MANDREL DIA 5D

MINIMUM REQUIREMENTS
 As per ISO 6935-2: 6D
 As per ASTM A-615: 7D

REBEND TEST:
 ALL THE SAMPLES IN THIS CAMPAIGN PASSED THE REBEND TEST MAINTAINING MANDREL DIA 7D

MINIMUM REQUIREMENTS
 As per ISO 6935-2: 10D
 As per ASTM A-615: Not Required

Nominal Diameter D	Unit Weight	Yield or Proof Strength R _{eH}	Ultimate Tensile Strength R _m	T/Y Ratio	% Total Elongation at Maximum Force A _{gt}	% Elongation after Fracture A	% Elongation after Fracture A	Height of Transverse Rib	Height of Longitudinal Rib
(mm)	(Kg/m)	(MPa)	(MPa)		GL:200mm	GL: 203.2 mm	GL: 5D	mm	mm
32	6.255	545	665	1.22	9.0	16.5	19.5	2.60	1.80
32	6.283	555	675	1.22	9.5	17.0	20.0		
32	6.337	545	670	1.23	9.5	16.5	21.0		
32	6.283	550	670	1.22	8.5	16.0	20.5		
32	6.350	545	655	1.20	9.0	15.5	18.5		
32	6.329	560	670	1.20	8.5	16.0	19.0		
32	6.269	565	675	1.19	8.0	16.0	18.0		
32	6.333	555	660	1.19	9.0	16.5	18.5		
32	6.321	550	650	1.18	9.5	17.0	20.0		
32	6.278	555	655	1.18	9.0	16.5	19.5		
32	6.365	560	665	1.19	8.5	15.5	18.0		
32	6.252	540	645	1.19	9.0	17.0	18.5		
32	6.265	540	640	1.19	9.5	17.5	20.0		
32	6.291	550	675	1.23	10.0	17.5	19.5		
32	6.296	545	660	1.21	9.5	17.0	19.5		
32	6.345	540	665	1.23	10.0	17.5	20.0		
32	6.362	545	665	1.22	10.0	17.5	20.0		
32	6.255	555	660	1.19	9.5	17.0	20.0		
32	6.261	555	665	1.20	10.0	17.5	20.5		
32	6.265	555	670	1.21	10.0	17.5	20.0		
32	6.338	545	655	1.20	9.5	17.0	20.5		
32	6.285	545	655	1.20	9.0	16.5	20.5		
32	6.295	545	650	1.19	9.0	16.5	21.0		
32	6.347	550	655	1.19	9.5	17.0	20.5		
32	6.364	550	660	1.20	9.5	17.0	20.5		
32	6.381	545	650	1.19	9.0	16.5	21.0		
32	6.255	560	670	1.20	10.0	17.5	20.0		
32	6.274	540	640	1.19	9.0	16.5	21.0		
32	6.292	545	645	1.18	9.0	16.5	21.0		
32	6.255	560	670	1.20	10.0	17.5	20.0		
32	6.275	540	635	1.18	8.5	16.0	21.0		
32	6.286	560	675	1.21	10.0	17.5	20.0		
32	6.300	555	660	1.19	9.5	17.0	20.5		
32	6.271	545	655	1.20	9.0	16.5	20.5		
32	6.285	555	650	1.17	9.0	16.5	20.0		
32	6.294	560	665	1.19	9.5	17.0	20.0		
32	6.276	550	660	1.20	9.5	17.0	20.0		
32	6.281	550	645	1.17	9.0	16.5	21.0		
32	6.286	540	655	1.21	9.5	17.0	21.0		
32	6.299	560	655	1.17	9.5	17.0	20.0		
32	6.311	540	635	1.18	8.5	16.0	21.0		
32	6.327	555	655	1.18	9.5	17.0	20.0		
32	6.263	555	665	1.20	9.5	17.0	20.0		
32	6.379	555	655	1.18	9.0	16.5	20.0		
32	6.291	555	655	1.18	9.0	16.5	20.0		
32	6.269	565	670	1.19	8.5	18.0	20.0		
32	6.339	570	680	1.19	8.0	17.0	19.5		
32	6.301	545	645	1.18	9.0	17.0	19.5		
32	6.348	555	655	1.18	8.0	17.0	19.5		
32	6.284	565	665	1.18	8.5	18.0	20.0		
32	6.292	545	650	1.19	9.0	16.5	19.0		
32	6.307	560	665	1.19	9.0	17.0	19.5		
32	6.260	565	665	1.18	8.5	16.0	19.0		
32	6.274	565	660	1.17	8.0	16.0	19.0		
32	6.269	550	655	1.19	8.5	17.0	19.5		
32	6.258	540	630	1.17	8.5	16.5	19.0		
32	6.248	540	640	1.19	9.0	16.5	19.0		
32	6.253	540	630	1.17	8.0	16.0	19.0		
32	6.249	555	660	1.19	8.5	17.0	19.5		
32	6.265	545	645	1.18	9.0	17.0	19.5		
32	6.273	550	655	1.19	9.0	17.0	19.5		
32	6.284	530	630	1.19	8.5	16.5	19.0		
32	6.291	560	660	1.18	9.0	17.5	20.0		
32	6.302	565	670	1.19	9.0	17.0	19.5		
32	6.279	555	665	1.20	9.0	17.0	19.5		