SHAPING TOMORROW

# PT GUNUNG RAJA PAKSI Tbk

Beam Plant Division

## MILL TEST CERTIFICATE

Acc to EN 10204 - 3.1

| | | | |
|---|---|---|---|
| Customer | : | Shipper | : PT. Gunung Raja Paksi Tbk |
| Certificate Number | : 1854 / GRP-MTC / V / 2021 | Destination | : Jakarta - Indonesia |
| Certificate Date | : May 21, 2021 | Commodity | : HOT ROLLED BEAM |
| SO Axapta N0. | : SP0-2103-0011 | Total Weight | : 5,088 Kg |
| DO No. | : 7640-1 | Total Pieces | : 4 |
| Specification | : JIS G 3101 SS 400 / Bj P 41 | | |
| Dimensional Tolerance | : JIS G 3192 : 2000 / SNI 07-7178-2006 | | |

| Size (mm) | Length (mm) | Quantity | | Heat No. | Chemical Composition (%) | | | | | Mechanical Properties | | | Bend Test 180 $^0$ R = 1.5 T |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Total Pieces (Pcs) | Weight (Kg) | | C | Si | Mn | P | S | Yield Strength N/mm$^2$ | Tensile Strength N/mm$^2$ | Elongation (%) on 200 mm | |
| 600 X 200 X 11 X 17 | 12,000 | 2 | 2,544 | A 18032114 | 0.117 | 0.218 | 0.829 | 0.016 | 0.032 | 336 | 448 | 33 | GOOD |
| 600 X 200 X 11 X 17 | 12,000 | 2 | 2,544 | A 18032111 | 0.134 | 0.205 | 0.831 | 0.011 | 0.027 | 339 | 458 | 34 | GOOD |

*We hereby certify that above steels have been satisfactorily tested in accordance with the specification*

Inspected by

AHMAD ANSORI
Quality Assurance

*Head Office & Factory :*
*Jl. Perjuangan No.8*
*Kp. Tangsi RT. 004/006 Sukadanau*
*Cikarang Barat, Bekasi 17530, West Java*
*INDONESIA*

GRP
SHAPING TOMORROW

# PT GUNUNG RAJA PAKSI Tbk

Beam Plant Division

## MILL TEST CERTIFICATE

Acc to EN 10204 - 3.1

| | | | |
|---|---|---|---|
| Customer | : | Shipper | : PT. Gunung Raja Paksi Tbk |
| Certificate Number | : 1856 / GRP-MTC / V / 2021 | Destination | : Jakarta - Indonesia |
| Certificate Date | : May 21, 2021 | Commodity | : HOT ROLLED BEAM |
| SO Axapta N0. | : SP0-2103-0505 | Total Weight | : 37,456 Kg |
| DO No. | : 7638-3 | Total Pieces | : 44 |
| Specification | : JIS G 3101 SS 400 / Bj P 41 | | |
| Dimensional Tolerance | : JIS G 3192 : 2000 / SNI 07-7178-2006 | | |

| Size (mm) | Length (mm) | Quantity | | Heat No. | Chemical Composition (%) | | | | | Mechanical Properties | | | Bend Test 180 $^0$ R = 1.5 T |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Total Pieces (Pcs) | Weight (Kg) | | C | Si | Mn | P | S | Yield Strength N/mm$^2$ | Tensile Strength N/mm$^2$ | Elongation (%) on 200 mm | |
| 250 X 125 X 6 X 9 | 12,000 | 2 | 710 | A 13042102 | 0.122 | 0.192 | 0.779 | 0.029 | 0.030 | 369 | 480 | 29 | GOOD |
| 250 X 125 X 6 X 9 | 12,000 | 2 | 710 | A 13042105 | 0.116 | 0.204 | 0.813 | 0.019 | 0.027 | 341 | 455 | 30 | GOOD |
| 250 X 125 X 6 X 9 | 12,000 | 2 | 710 | A 12042103 | 0.120 | 0.242 | 0.809 | 0.023 | 0.031 | 377 | 478 | 28 | GOOD |
| 400 X 200 X 8 X 13 | 12,000 | 10 | 7,920 | A 17042102 | 0.123 | 0.231 | 0.820 | 0.029 | 0.028 | 309 | 424 | 34 | GOOD |
| 400 X 200 X 8 X 13 | 12,000 | 10 | 7,920 | A 16042113 | 0.099 | 0.231 | 0.807 | 0.019 | 0.031 | 351 | 467 | 24 | GOOD |
| 400 X 200 X 8 X 13 | 12,000 | 3 | 2,376 | A 17042105 | 0.105 | 0.209 | 0.820 | 0.019 | 0.031 | 337 | 449 | 34 | GOOD |
| 500 X 200 X 10 X 16 | 12,000 | 10 | 10,750 | A 22032105 | 0.101 | 0.214 | 0.815 | 0.015 | 0.034 | 324 | 439 | 31 | GOOD |
| 600 X 200 X 11 X 17 | 12,000 | 4 | 5,088 | A 21042113 | 0.108 | 0.267 | 0.835 | 0.022 | 0.028 | 337 | 454 | 30 | GOOD |
| 600 X 200 X 11 X 17 | 12,000 | 1 | 1,272 | A 13042112 | 0.120 | 0.204 | 0.786 | 0.015 | 0.032 | 337 | 454 | 31 | GOOD |

*We hereby certify that above steels have been satisfactorily tested in accordance with the specification*

Inspected by

PT GUNUNG RAJA PAKSI Tbk GRP INSPECTOR CIKARANG - INDONESIA

AHMAD ANSORI
Quality Assurance

*Head Office & Factory :*
*Jl. Perjuangan No.8*
*Kp. Tangsi RT. 004/006 Sukadanau*
*Cikarang Barat, Bekasi 17530, West Java*
*INDONESIA*

GRP
SHAPING TOMORROW

# PT GUNUNG RAJA PAKSI Tbk

Beam Plant Division

## MILL TEST CERTIFICATE

Acc to EN 10204 - 3.1

Customer :
Certificate Number : 1804 / GRP-MTC / V / 2021
Certificate Date : May 10, 2021
SO Axapta N0. : SP0-2103-0010
DO No. : 7636-3
Specification : JIS G 3101 SS 400 / Bj PHC 400
Dimensional Tolerance : JIS G 3192 : 2000 / SNI 2610:2011

Shipper : PT. Gunung Raja Paksi Tbk
Destination : Jakarta - Indonesia
Commodity : HOT ROLLED BEAM
Total Weight : 15,994 Kg
Total Pieces : 11

| Size (mm) | Length (mm) | Quantity | | Heat No. | Chemical Composition (%) | | | | | Mechanical Properties | | | Bend Test 180 $^0$ R = 1.5 T |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Total Pieces (Pcs) | Weight (Kg) | | C | Si | Mn | P | S | Yield Strength N/mm$^2$ | Tensile Strength N/mm$^2$ | Elongation (%) on 200 mm | |
| 350 X 350 X 12 X 19 | 12,000 | 2 | 3,288 | A 14122004 | 0.130 | 0.208 | 0.818 | 0.013 | 0.028 | 305 | 429 | 29 | GOOD |
| 350 X 350 X 12 X 19 | 12,000 | 1 | 1,644 | A 15122012 | 0.118 | 0.210 | 0.691 | 0.009 | 0.028 | 314 | 440 | 34 | GOOD |
| 350 X 350 X 12 X 19 | 12,000 | 1 | 1,644 | A 14122001 | 0.167 | 0.174 | 0.676 | 0.016 | 0.025 | 318 | 460 | 28 | GOOD |
| 350 X 350 X 12 X 19 | 12,000 | 3 | 4,932 | A 15122010 | 0.110 | 0.186 | 0.691 | 0.009 | 0.031 | 333 | 449 | 30 | GOOD |
| 350 X 350 X 12 X 19 | 12,000 | 2 | 3,288 | A 15122007 | 0.131 | 0.190 | 0.693 | 0.011 | 0.036 | 309 | 432 | 34 | GOOD |
| 200 X 200 X 8 X 12 | 12,000 | 2 | 1,198 | A 21042104 | 0.128 | 0.212 | 0.835 | 0.022 | 0.033 | 334 | 456 | 28 | GOOD |

*We hereby certify that above steels have been satisfactorily tested in accordance with the specification*

Inspected by

PT GUNUNG RAJA PAKSI Tbk BEKASI - INDONESIA

AHMAD ANSORI
Quality Assurance

*Head Office & Factory :*
*Jl. Perjuangan No.8*
*Kp. Tangsi RT. 004/006 Sukadanau*
*Cikarang Barat, Bekasi 17530, West Java*
*INDONESIA*

# SIAM YAMATO STEEL CO., LTD.
# MILL INSPECTION CERTIFICATE

In Accordance with DIN 50049 / EN 10204-3.1

Head office : 1 Siam Cement Road, Bangsue, Bangkok Thailand 10800 Tel : (662) 586-2783-4, 5865329-30 Fax: (662) 586 2687, 910-3123
Factory-I : 9 I-7 Rd.,Maptaphut Industrial Estate, Rayong ,Thailand 21150 Tel : (038) 683-723-32 Fax:(038) 683-200
Factory-II :9/9 Soi G-5 Pakorn Songkronraj Road, Huay Pong Muang, Rayong 21150 Tel.: (038) 698 - 500 Fax :(038) 698 - 549

**Certificate No.** : **42120020227**
**Reference No.** : **OCE2000063**
**D/P No.** : **361852941 , 361852942 , 361852943 , 361852944 , 361852945 , 361852946 , 361852947 , 361852949 , 361852950 , 361852951 , 361852952 , 361853110**

Customer :
Description of Goods : Hot-rolled channel-U steel profiles
Remark 1 : Conformed to SNI 07-0052-2006
Remark 2 :
Remark 3 :

Standard SNI 07-0052-2006 BJ P 41, SS400
Steelmaking and Manufacturing Process :EAF,Killed Steel ,AS-Rolled

Location of sample and test piece : Comply with SNI 07-0358-1989
Type of Impact test piece : -
Shape of Tensile test piece : Rectangular cross-section
Marking of the product : Marking and Information available on Sticker

Revision : 00
Date of Issue : 25/02/2020


| Dimension x Length | Grade | Qty (Pcs.) | Heat No. | Yield Str. (MPa) | Mechanical Property (Test Piece Direction : L) | | | | | | | Chemical Composition (%) | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Tensile Str. (MPa) | Elong.(%) | Bend Test | Charpy Impact (J) - Test1 | Test2 | Test3 | Avg. | C x100 | Si x100 | Mn x100 | Cu x100 | Al x1000 | P x1000 | S x1000 | Nb x1000 | V x1000 | N x1000 | Ni x100 | Cr x100 | Ti x1000 | Mo x1000 | Pcm x100 | CE x100 |
| U 125X65X6/8X12.00M | SS400 | 46 | AB0702 | 337.74 | 473.76 | 25.21 | PASS | - | - | - | - | 13 | 18 | 49 | 28 | 2 | 15 | 10 | 0 | 1 | 7 | 9 | 17 | 1 | 20 | 19 | 26 |
| | | | | 339.10 | 467.51 | 24.90 | PASS | - | - | - | - | 13 | 18 | 49 | 28 | 2 | 15 | 10 | 0 | 1 | 7 | 9 | 17 | 1 | 20 | 19 | 26 |
| U 125X65X6/8X12.00M | SS400 | 121 | AB0703 | 337.25 | 468.60 | 29.11 | PASS | - | - | - | - | 14 | 17 | 46 | 28 | 1 | 16 | 15 | 0 | 1 | 6 | 9 | 16 | 1 | 18 | 19 | 26 |
| | | | | 341.36 | 470.29 | 26.76 | PASS | - | - | - | - | 14 | 17 | 46 | 28 | 1 | 16 | 15 | 0 | 1 | 6 | 9 | 16 | 1 | 18 | 19 | 26 |
| U 125X65X6/8X12.00M | SS400 | 102 | AB0704 | 335.21 | 464.59 | 28.20 | PASS | - | - | - | - | 14 | 18 | 47 | 30 | 1 | 15 | 14 | 0 | 1 | 8 | 10 | 15 | 1 | 18 | 20 | 26 |
| | | | | 337.14 | 466.52 | 29.26 | PASS | - | - | - | - | 14 | 18 | 47 | 30 | 1 | 15 | 14 | 0 | 1 | 8 | 10 | 15 | 1 | 18 | 20 | 26 |
| U 125X65X6/8X12.00M | SS400 | 90 | AB0705 | 337.70 | 470.15 | 27.99 | PASS | - | - | - | - | 14 | 17 | 46 | 28 | 1 | 13 | 10 | 0 | 1 | 7 | 10 | 14 | 1 | 16 | 19 | 26 |
| | | | | 344.74 | 469.91 | 26.64 | PASS | - | - | - | - | 14 | 17 | 46 | 28 | 1 | 13 | 10 | 0 | 1 | 7 | 10 | 14 | 1 | 16 | 19 | 26 |
| U 125X65X6/8X12.00M | SS400 | 84 | AB0706 | 316.16 | 452.71 | 24.41 | PASS | - | - | - | - | 13 | 18 | 46 | 29 | 1 | 17 | 18 | 0 | 1 | 7 | 10 | 15 | 1 | 17 | 19 | 26 |
| | | | | 337.03 | 471.17 | 27.54 | PASS | - | - | - | - | 13 | 18 | 46 | 29 | 1 | 17 | 18 | 0 | 1 | 7 | 10 | 15 | 1 | 17 | 19 | 26 |
| U 125X65X6/8X12.00M | SS400 | 132 | AB0707 | 334.29 | 471.22 | 29.17 | PASS | - | - | - | - | 15 | 18 | 46 | 28 | 0 | 14 | 12 | 0 | 1 | 9 | 10 | 14 | 1 | 16 | 20 | 26 |
| | | | | 336.34 | 472.39 | 26.48 | PASS | - | - | - | - | 15 | 18 | 46 | 28 | 0 | 14 | 12 | 0 | 1 | 9 | 10 | 14 | 1 | 16 | 20 | 26 |
| U 125X65X6/8X12.00M | SS400 | 119 | AB0708 | 331.53 | 466.38 | 25.03 | PASS | - | - | - | - | 13 | 18 | 48 | 27 | 0 | 16 | 18 | 0 | 1 | 7 | 12 | 17 | 1 | 18 | 19 | 26 |
| | | | | 333.49 | 461.60 | 27.37 | PASS | - | - | - | - | 13 | 18 | 48 | 27 | 0 | 16 | 18 | 0 | 1 | 7 | 12 | 17 | 1 | 18 | 19 | 26 |
| U 125X65X6/8X12.00M | SS400 | 80 | AB0709 | 326.67 | 467.40 | 29.66 | PASS | - | - | - | - | 13 | 17 | 48 | 26 | 0 | 13 | 14 | 0 | 1 | 9 | 10 | 15 | 1 | 17 | 19 | 26 |
| | | | | 333.24 | 463.07 | 29.61 | PASS | - | - | - | - | 13 | 17 | 48 | 26 | 0 | 13 | 14 | 0 | 1 | 9 | 10 | 15 | 1 | 17 | 19 | 26 |
| U 125X65X6/8X6.00M | SS400 | 2 | AB0702 | 337.74 | 473.76 | 25.21 | PASS | - | - | - | - | 13 | 18 | 49 | 28 | 2 | 15 | 10 | 0 | 1 | 7 | 9 | 17 | 1 | 20 | 19 | 26 |
| | | | | 339.10 | 467.51 | 24.90 | PASS | - | - | - | - | 13 | 18 | 49 | 28 | 2 | 15 | 10 | 0 | 1 | 7 | 9 | 17 | 1 | 20 | 19 | 26 |
| U 125X65X6/8X6.00M | SS400 | 14 | AB0703 | 337.25 | 468.60 | 29.11 | PASS | - | - | - | - | 14 | 17 | 46 | 28 | 1 | 16 | 15 | 0 | 1 | 6 | 9 | 16 | 1 | 18 | 19 | 26 |
| | | | | 341.36 | 470.29 | 26.76 | PASS | - | - | - | - | 14 | 17 | 46 | 28 | 1 | 16 | 15 | 0 | 1 | 6 | 9 | 16 | 1 | 18 | 19 | 26 |
| U 125X65X6/8X6.00M | SS400 | 82 | AB0704 | 335.21 | 464.59 | 28.20 | PASS | - | - | - | - | 14 | 18 | 47 | 30 | 1 | 15 | 14 | 0 | 1 | 8 | 10 | 15 | 1 | 18 | 20 | 26 |
| | | | | 337.14 | 466.52 | 29.26 | PASS | - | - | - | - | 14 | 18 | 47 | 30 | 1 | 15 | 14 | 0 | 1 | 8 | 10 | 15 | 1 | 18 | 20 | 26 |

Checked By : Finished Goods Checking Operator

Remark :
CE = Carbon equivalent
Pcm = Chemical composition sensitivity of welding crack

We hereby certify that the material described herein has been tested and inspected in accordance with the requirements of the above specification.
Manufactured by Siam Yamato Steel Co.,Ltd.

Quality Promotion Department Manager

**PT. LAUTAN STEEL INDONESIA**
Kws. Industri Balaraja Mas No. 8
Jl. Raya Serang Km. 24 Balaraja 15610

# MILL'S CERTIFICATE

SNI STANDART NASIONAL INDONESIA

Customer :

Name of Goods : Plain Bar
Specification : SNI 07-2052-2017/BJTP 280

Mill Certificate No. : 8323 /MKT/2019
Date : -
Truck No. : -

| Size Length | Heat No. | Chemical Composition (%) | | | | | | Mechanical Properties | | | | | | | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | YP | TS | EL | Ratio | Bend Test | | | |
| | | C | Si | Mn | P | S | CE | N/mm² | N/mm² | (%) | TS/YP | Curve (°) | Diameter | Result | |
| P 12 x 12 M | - | 0.26 | 0.24 | 0.71 | 0.025 | 0.027 | 0.420 | 381.25 | 477.61 | 17.5 | 1.25 | 180 | 3.5 x D | GOOD | LS SNI (1 btg) |

***Notes***

- *We hereby certify that above steels have been satisfactorilly tested in accordance with the specification*
- *Copy of Mill's Certificate is Avoid*
- *Carbon value (C)280 steels class maximum 0.32 for concrete reinforced steel products 0.03% greater allowed*
- $C_{eq} = C + \frac{Mn}{6} + \frac{Si}{24} + \frac{Ni}{40} + \frac{Cr}{5} + \frac{Mo}{4} + \frac{V}{14}$

Balaraja, June 26 , 2019

Quality Control Dept.

**PT. LAUTAN STEEL INDONESIA**
Kws. Industri Balaraja Mas No. 8
Jl. Raya Serang Km. 24 Balaraja 15610

# MILL'S CERTIFICATE

SNI STANDART NASIONAL INDONESIA

Customer :

Name of Goods : Plain Bar
Specification : SNI 07-2052-2017/BJTP 280

Mill Certificate No. : 8325 /MKT/2019
Date : -
Truck No. : -

| Size Length | Heat No. | Chemical Composition (%) | | | | | | Mechanical Properties | | | | | | | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | YP | TS | EL | Ratio | Bend Test | | | |
| | | C | Si | Mn | P | S | CE | N/mm² | N/mm² | (%) | TS/YP | Curve (°) | Diameter | Result | |
| P 14 x 12 M | - | 0.26 | 0.24 | 0.72 | 0.025 | 0.028 | 0.420 | 373.54 | 465.15 | 17.5 | 1.24 | 180 | 3.5 x D | GOOD | LS SNI (1 btg) |

***Notes***

- *We hereby certify that above steels have been satisfactorilly tested in accordance with the specification*
- *Copy of Mill's Certificate is Avoid*
- *Carbon value (C)280 steels class maximum 0.32 for concrete reinforced steel products 0.03% greater allowed*
- $C_{eq} = C + \frac{Mn}{6} + \frac{Si}{24} + \frac{Ni}{40} + \frac{Cr}{5} + \frac{Mo}{4} + \frac{V}{14}$

Balaraja, June 26 , 2019

Quality Control Dept.

**PT. LAUTAN STEEL INDONESIA**
Kws. Industri Balaraja Mas No. 8
Jl. Raya Serang Km. 24 Balaraja 15610

# MILL'S CERTIFICATE

SNI STANDART NASIONAL INDONESIA

Customer :

Name of Goods : Plain Bar
Specification : SNI 07-2052-2017/BJTP 280

Mill Certificate No. : 8324 /MKT/2019
Date : -
Truck No. : -

| Size Length | Heat No. | Chemical Composition (%) | | | | | | Mechanical Properties | | | | | | | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | YP | TS | EL | Ratio | Bend Test | | | |
| | | C | Si | Mn | P | S | CE | N/mm² | N/mm² | (%) | TS/YP | Curve (°) | Diameter | Result | |
| P 13 x 12 M | - | 0.26 | 0.21 | 0.55 | 0.03 | 0.028 | 0.389 | 379.06 | 538.92 | 22.5 | 1.42 | 180 | 3.5 x D | GOOD | LS SNI (1 btg) |

***Notes***

- *We hereby certify that above steels have been satisfactorilly tested in accordance with the specification*
- *Copy of Mill's Certificate is Avoid*
- *Carbon value (C)280 steels class maximum 0.32 for concrete reinforced steel products 0.03% greater allowed*
- $C_{eq} = C + \frac{Mn}{6} + \frac{Si}{24} + \frac{Ni}{40} + \frac{Cr}{5} + \frac{Mo}{4} + \frac{V}{14}$

Balaraja, June 26 , 2019

Quality Control Dept.

**PT. LAUTAN STEEL INDONESIA**
Kws. Industri Balaraja Mas No. 8
Jl. Raya Serang Km. 24 Balaraja 15610

# MILL'S CERTIFICATE

SNI STANDART NASIONAL INDONESIA

Customer :

Name of Goods : Plain Bar
Specification : SNI 07-2052-2017/BJTP 280

Mill Certificate No. : 8326 /MKT/2019
Date : -
Truck No. : -

| Size Length | Heat No. | Chemical Composition (%) | | | | | | Mechanical Properties | | | | | | | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | YP | TS | EL | Ratio | Bend Test | | | |
| | | C | Si | Mn | P | S | CE | N/mm² | N/mm² | (%) | TS/YP | Curve (°) | Diameter | Result | |
| P 16 x 12 M | - | 0.28 | 0.22 | 0.74 | 0.025 | 0.028 | 0.420 | 384.51 | 485.97 | 17.5 | 1.26 | 180 | 3.5 x D | GOOD | LS SNI (1 btg) |

***Notes***

- *We hereby certify that above steels have been satisfactorilly tested in accordance with the specification*
- *Copy of Mill's Certificate is Avoid*
- *Carbon value (C)280 steels class maximum 0.32 for concrete reinforced steel products 0.03% greater allowed*
- $C_{eq} = C + \frac{Mn}{6} + \frac{Si}{24} + \frac{Ni}{40} + \frac{Cr}{5} + \frac{Mo}{4} + \frac{V}{14}$

Balaraja, June 26 , 2019

Quality Control Dept.

**PT. LAUTAN STEEL INDONESIA**
Kws. Industri Balaraja Mas No. 8
Jl. Raya Serang Km. 24 Balaraja 15610

# MILL'S CERTIFICATE

SNI STANDART NASIONAL INDONESIA

Customer :

Name of Goods : Plain Bar
Specification : SNI 07-2052-2017/BJTP 280

Mill Certificate No. : 8327 /MKT/2019
Date : -
Truck No. : -

| Size Length | Heat No. | Chemical Composition (%) | | | | | | Mechanical Properties | | | | | | | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | YP | TS | EL | Ratio | Bend Test | | | |
| | | C | Si | Mn | P | S | CE | N/mm² | N/mm² | (%) | TS/YP | Curve (°) | Diameter | Result | |
| P 19 x 12 M | - | 0.27 | 0.23 | 0.73 | 0.025 | 0.028 | 0.420 | 380.65 | 485.29 | 17.5 | 1.27 | 180 | 5 x D | GOOD | LS SNI (1 btg) |

***Notes***

- *We hereby certify that above steels have been satisfactorilly tested in accordance with the specification*
- *Copy of Mill's Certificate is Avoid*
- *Carbon value (C)280 steels class maximum 0.32 for concrete reinforced steel products 0.03% greater allowed*
- $C_{eq} = C + \frac{Mn}{6} + \frac{Si}{24} + \frac{Ni}{40} + \frac{Cr}{5} + \frac{Mo}{4} + \frac{V}{14}$

Balaraja, June 26 , 2019

Quality Control Dept.

PT Krakatau Wajatama

KRAKATAU STEEL CONSTRUCTION INDUSTRIES

QSC 01578 EMS 00187

# MILL CERTIFICATE

Konsumen :

No. Delivery Order : P-210100002012
Jenis Barang : BAJA PROFIL WFL
Spesifikasi : SNI 07-7178-2006 BjP 41
No. Kontrak : P-210100002000

No. MC : BP21040242W
Tanggal : 17-04-2021
Pengirim : PT. KRAKATAU WAJATAMA

No Surat Pengantar : 202104000229

Di distribusikan oleh PT KRAKATAU WAJATAMA OSAKA STEEL MARKETING

| NO | UKURAN (mm) | PANJANG (mm) | NO LEBURAN | NO SAMPEL | KOMPOSISI KIMIA (%) | | | | | | | | | PENGUJIAN TARIK | | | | PENGUJIAN LENGKUNG | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | C | Mn | Si | P | S | Cu | Ni | Cr | V | KUAT LULUH (MPa) | KUAT TARIK (MPa) | REGANGAN (%) | RASIO TS/YS | DIAMETER PELENGKUNG | SUDUT LENGKUNG | GRADE |
| 1 | 200x100x5.5 | 12.000 | 19955230 | S21D0163 | 0.220 | 0.650 | 0.280 | 0.031 | 0.035 | 0.010 | 0.020 | 0.010 | -- | 305.78 | 446.36 | 22.00 | 1.46 | 1.5xt | 180 $^0$ | BjP 41 |
| 2 | 200x100x5.5 | 12.000 | 19955260 | S21C0195 | 0.200 | 0.590 | 0.260 | 0.028 | 0.029 | 0.010 | 0.020 | 0.010 | -- | 355.12 | 473.04 | 20.00 | 1.33 | 1.5xt | 180 $^0$ | BjP 41 |

Catatan : Foto Copy Mill Certificate Tidak Berlaku !!!!

Cilegon, 17 April 2021

Rincian No. Bundel untuk No. MC BP21040242W :

| No | No. Sampel | No. Bundel |
|---|---|---|
| 1 | S21C0195 | S21D011372 S21D011373 |
| 2 | S21D0163 | S21D011363B |

AGIS PRIYATNA

KEPALA PENGENDALIAN KUALITAS