LONG PRODUCTS CATALOGUE

بشاي للصلب

BESHAY STEEL

CONTENTS

COMPANY PROFILE

With great pride, from the heart of Egypt, a global steel maker has evolved.

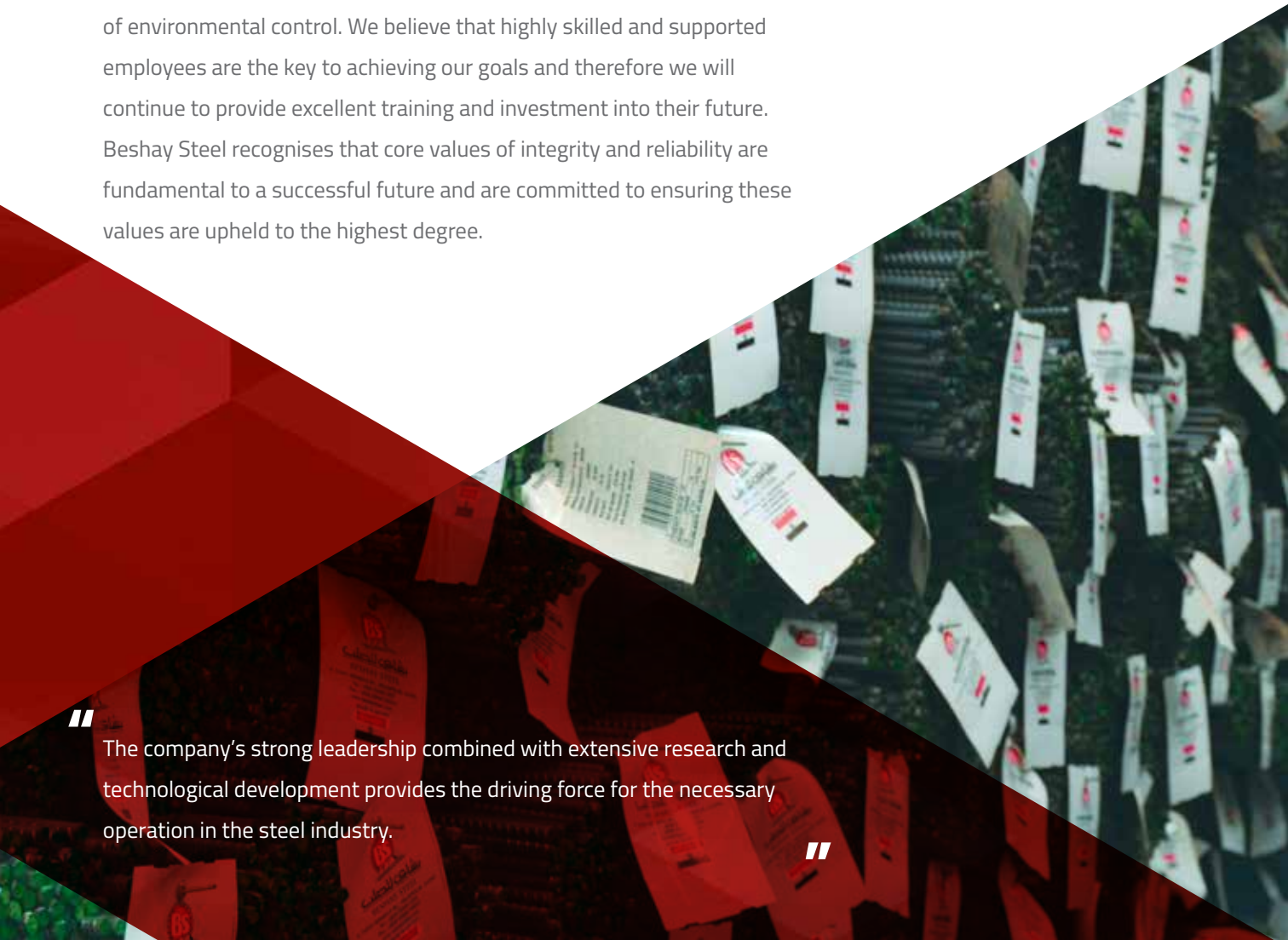
Beshay Steel group is the largest privately owned steel producer in Egypt and the Middle East with an annual crude steel capacity of up to 4 MTPY.

Currently, the company is focused on producing Direct Reduced Iron (DRI), Billets, Re-bars, Wire Rods and Light Sections for the domestic and global markets. The group employs more than 3,500 handpicked personnel, qualified at the highest levels to continue to exceed the standards of the industry.

The majority of the production is consumed by the demands of the local market and the balance is exported to the Middle East, Europe and Asia markets. Our vision is to steadily invest in expanding our production capacities in order to meet the exponentially growing global demands and therefore retain our position at the front of the steel industry.

Our mission is to produce and supply the highest quality product to our customers

using processes that are sustainable and meet the high global standards of environmental control. We believe that highly skilled and supported employees are the key to achieving our goals and therefore we will continue to provide excellent training and investment into their future. Beshay Steel recognises that core values of integrity and reliability are fundamental to a successful future and are committed to ensuring these values are upheld to the highest degree.



"The company's strong leadership combined with extensive research and technological development provides the driving force for the necessary operation in the steel industry."

INTEGRATED STEEL MAKING

Direct Reduction:

1

Iron ore is reduced to sponge iron (DRI) by the reaction with carbon monoxide and hydrogen in a MIDREX shaft furnace.

2

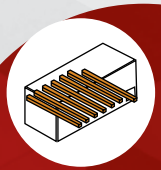
The DRI is transported directly to an electric arc furnace at 800o C via a 36m conveyor where it is melted together with steel scrap.

3

The liquid steel is transported in a ladle to the ladle furnace where the temperature and chemical composition are tuned for casting.

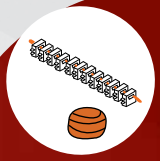
4

The liquid steel is cast into square section billets.



5

The billets are transported to the rolling mill reheat furnace at 700o C to maximize energy effciency.



6

The hot billets are soaked in a temperature of 1200o C and rolled in the rolling mill to produce re-bars, wire rods or light sections.

7

The finished products are shipped to Beshay Steel customers all over the world.

WHY BESHAY STEEL ?

Our products are accredited by many other internationally recognized bodies.

As a result we export to several countries in Europe such as the United Kingdom, Italy, Germany, Russia and Ukraine. We have a large share of Middle East imports especially from neighboring countries, such as the Gulf States, Syria, Sudan and Algeria.

Accreditation:

ISO 9001:2008 Quality Management System

ISO 14001:2004 Environmental Management

ISO 18001:2007 Occupational Health and Safety Management Systems

ISO 50001:2011 Energy Management

UK Cares Product Conformity Production of ASTM Certificate

UK Cares Product Conformity Production of BS Certificate

UK Cares Quality Management System Certificate

SYSTEM CERTIFICATION ISO 9001 SGS

UKAS MANAGEMENT SYSTEMS 0005

CARES 150901

UKAS PRODUCT CERTIFICATION

SYSTEM CERTIFICATION ISO 14001 SGS

UKAS MANAGEMENT SYSTEMS 0005

CARES 070701

UKAS PRODUCT CERTIFICATION

بشاي للصلب

BESHAY STEEL

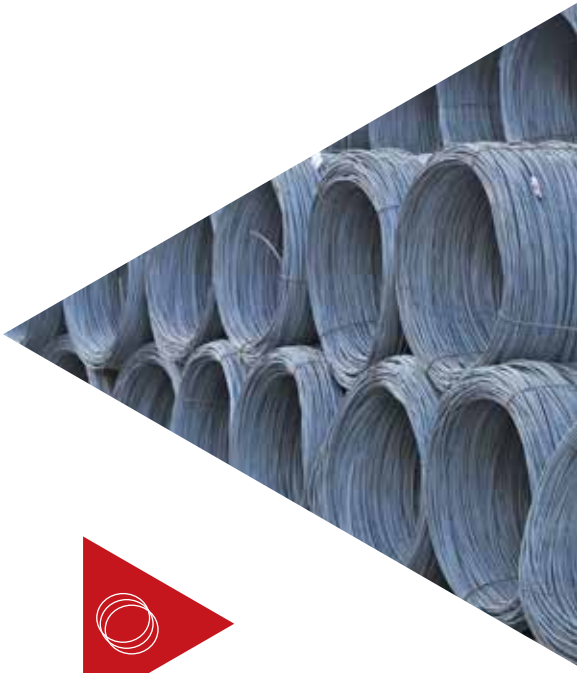
SYSTEM CERTIFICATION OHSAS 18001 SGS

CARES 1146

UKAS QUALITY MANAGEMENT

SYSTEM CERTIFICATION ISO 50001 SGS

PRODUCT RANGE



Re-bars:

The Beshay Steel Product Range covers re-bars from 10mm nominal diameter up to 40mm. Re-bars are produced at 12m lengths, unless otherwise specified by the customer. All dimensional tolerances and ovality satisfy national and international standards. Beshay's production of re-bars ensures excellent quality of structure and composition.

Wire Rods:

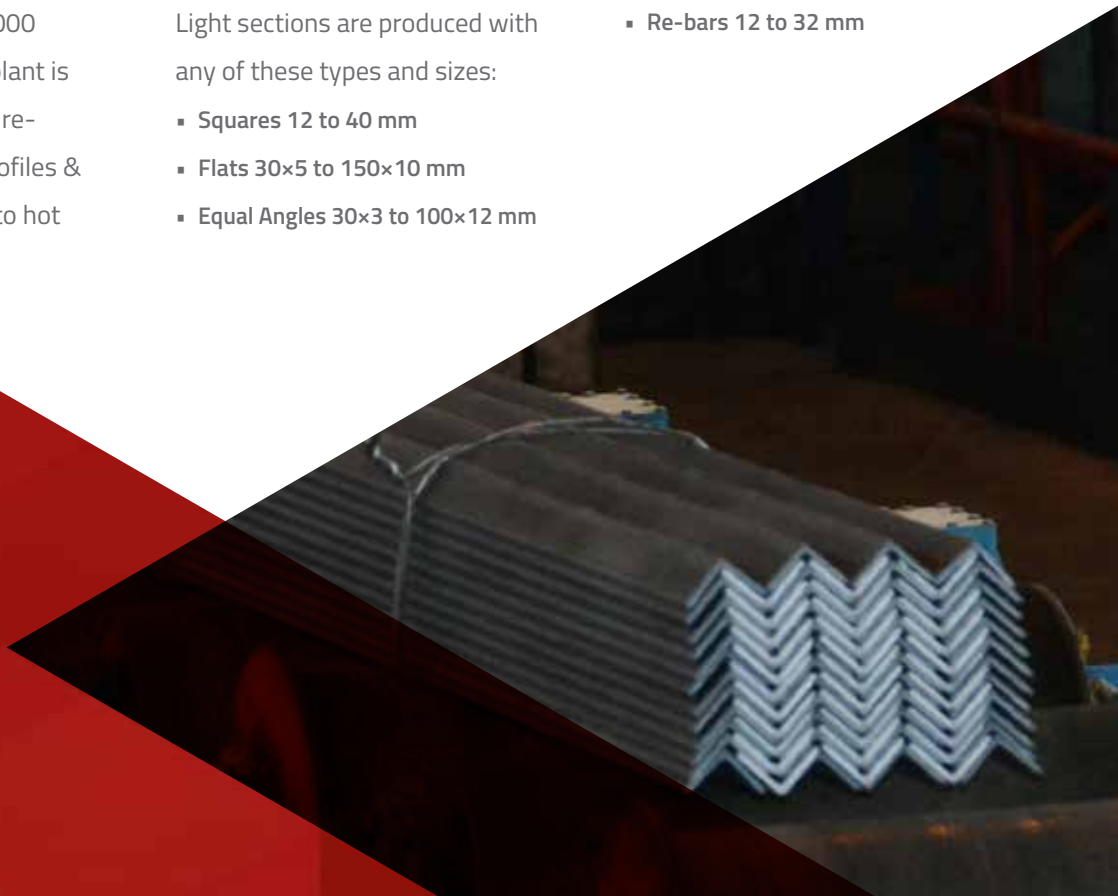
Wire Rods are produced using the highest technology techniques and our production line is capable of producing plain and ripped coils ranging from 6mm up to 12 mm in diameter. The Wire Rods come with the assurance of superiority, high quality and dimensional accuracy.

Profiles & Angles:

Our Profiles & Angles plant produces squares, angles, flats, channels, and beams with the total production of 400,000 tons per year. Also, the plant is capable to produce both re-bars and rounds. This Profiles & Angles plant is adapted to hot charge billets from our Melt Shop plant to save energy and have less environmental impact.

Light sections are produced with any of these types and sizes:

- **Squares 12 to 40 mm**
- **Flats 30×5 to 150×10 mm**
- **Equal Angles 30×3 to 100×12 mm**
- **Channels 30×15 to 120×55 mm**
- **IPE/IPN 80 to 120 mm**
- **Rounds 12 to 50 mm**
- **Re-bars 12 to 32 mm**



PRODUCT RANGE

Re-bars

Standards Sheet

Standard		Grade	Y.S (MPa)		T.S
			Min.	Max.	Min.
Egyptian	ES 262:2000	240 Plain Bar	240	–	350
		280 Plain Bar	280	–	450
		360/520 Ribbed Bar	360	–	520
		400/600 Ribbed Bar	400	–	600
	ES 262:2009	B240D P Plain Bar	240	–	–
		B300D P Plain Bar	300	–	–
		B420D P Plain Bar	420	540	–
		B420DWP Plain Bar	420	540	–
		B300D R Ribbed Bar	300	–	–
		B300DWR Ribbed Bar	300	390	–
		B400DWR Ribbed Bar	400	520	–
		B500DWR Ribbed Bar	500	650	–
		B300C R Ribbed Bar	300	–	–
		B400CWR Ribbed Bar	400	–	–
		B500C R Ribbed Bar	500	–	–
		B300B R Ribbed Bar	300	–	–
		B400B R Ribbed Bar	400	–	–
		B400BWR Ribbed Bar	400	–	–
		B500B R Ribbed Bar	500	–	–
		B500BWR Ribbed Bar	500	–	–
American	ASTM A615/A615M-15	Gr.40 Ribbed Bar	300	–	500
		Gr.60 Ribbed Bar	420	–	620
		Gr.75 Ribbed Bar	520	–	690
	ASTM A 706/A706M-14	Gr.60 Ribbed Bar	420	540	550
British	BS 4449:1997	Gr.250 Plain Bar	250	–	–
		Gr.460b Ribbed Bar	460	–	–
	BS 4449:2005	Gr. B500B Ribbed Bar	500	650	–
Lebanon	LRB500	(A500S) Ribbed Bar	500	–	600
Canada	CAN/CSA -G30.18-M92	Gr. 500W Ribbed Bar	500	625	625
Italian	Italian	Fe B 44K Ribbed Bar	430	–	540
Australian	AS/NZS 4671:2001	Gr. 500E Ribbed Bar	500	600	–
Algeria	Algeria	RB 500W Ribbed Bar	500	–	550
DIN	DIN 488 BSt	500s Ribbed Bar	500	650	550
JIS	JIS G3117	SD50 Ribbed Bar	490	628	618
ISO	ISO 6935:1991	RB500W Ribbed Bar	500	–	550
UNE	UNE	UNE 36065 Ribbed Bar	500	625	575

Mechanical Properties					Chemical Composition (wt%)							
(MPa)	Y.S/ T.S	Elongation at Fracture (%)		Elongation at Max. Force (%)	C	Si	Mn	P	S	N	Cu	C.E.
Max.	Min.	Min.	Gauge Length	Min.	Max.	Max.	Max.	Max	Max.	Max.	Max.	Max.
–	1.10	20	10d	–	0.30	–	–	0.060	0.060	–	–	–
–	1.10	18	10d	–	0.30	–	–	0.060	0.600	–	–	–
–	1.05	12	10d	–	0.45	–	–	0.060	0.060	0.013	–	0.51
–	1.05	10	10d	–	0.45	–	–	0.060	0.060	0.013	–	0.51
520	1.25	22	5d	8	–	–	–	0.058	0.058	–	–	–
600	1.25	19	5d	8	–	–	–	0.058	0.058	–	–	–
–	1.25	16	5d	8	–	–	–	0.058	0.058	–	–	–
–	1.25	16	5d	8	0.33	0.60	1.56	0.048	0.048	0.012	–	0.56
–	1.25	17	5d	8	–	–	–	0.058	0.058	–	–	
–	1.25	17	5d	8	0.30	0.60	1.56	0.048	0.048	0.014	–	0.49
–	1.25	17	5d	8	0.32	0.60	1.88	0.048	0.048	0.014	–	0.56
–	1.25	13	5d	8	0.35	0.60	1.88	0.048	0.048	0.014	–	0.61
–	1.15	16	5d	7	–	–	–	0.070	0.070	–	–	–
–	1.15	14	5d	7	0.24	0.65	1.66	0.058	0.058	0.014	–	0.50
–	1.15	14	5d	7	–	–	–	0.070	0.070	–	–	–
–	1.08	16	5d	5	–	–	–	0.070	0.070	–	–	–
–	1.08	14	5d	5	–	–	–	0.070	0.070	–	–	–
–	1.08	14	5d	5	0.24	0.65	1.66	0.058	0.058	0.014	–	0.50
–	1.08	14	5d	5	–	–	–	0.070	0.070	–	–	–
–	1.08	14	5d	5	0.24	0.65	1.66	0.058	0.058	0.014	–	0.50
–	–	12	200 mm	–	–	–	–	0.060	–	–	–	–
–	–	9	200 mm	–	–	–	–	0.060	–	–	–	–
–	–	7	200 mm	–	–	–	–	0.060	–	–	–	–
–	1.25	14	200 mm	–	0.33	0.55	1.56	0.043	0.053	–	–	0.55
–	1.15	22	5d	–	0.27	–	–	0.065	0.065	0.013	–	0.45
–	1.08	14	5d	5	0.27	–	–	0.055	0.055	0.013	–	0.54
–	1.08	14	5d	5	0.24	–	–	0.055	0.055	0.014	0.85	0.52
–	–	10	10d	–	0.25	–	–	0.055	0.055	0.013	–	0.52
–	–	12	200 mm	–	0.33	0.55	1.65	0.042	0.052	0.013	–	0.55
–	–	12	5d	–	0.24	–	–	0.055	0.055	0.013	–	0.52
–	1.15	12	10d	–	0.24	–	–	0.055	0.055	0.013	–	0.51
–	1.05	14	5d	–	0.24	0.65	1.70	0.055	0.055	0.013	–	0.50
–	1.08	10	10d	8	0.24	–	–	0.050	0.050	0.013	0.65	–
–	–	12	10d	–	0.32	0.55	1.80	0.040	0.040	0.013	–	0.60
–	1.05	14	5d	–	0.24	0.65	1.50	0.055	0.055	0.013	–	0.52
–	1.15	16	5d	–	0.24	–	–	0.055	0.055	0.013	–	0.52

PRODUCT RANGE

Re-bars

Diameters

Bar Diameter (mm)	Unit Weight (Kg/m)
10	0.617
12	0.888
14	1.210
16	1.580
18	2.000
20	2.470
22	2.980
25	3.850
28	4.830
32	6.310
36	8.000
40	9.860

	Number of Bars / Bundle	Bundle Weight (Kg)*
	270	1999.080
	188	2003.328
	138	2003.760
	106	2009.760
	84	2016.000
	67	1985.880
	56	2002.560
	43	1986.600
	34	1970.640
	26	1968.720
	21	2016.000
	17	2011.440

* The Bundle Weight is for reference purposes only, and the weight is determined based on the actual figure in loading.

PRODUCT RANGE

Profiles & Angles

Standards Sheet

Standard		Grade	Mechanical Properties						
			Y.S (MPa)			T.S (MPa)		Elongation at Fracture (%) Lo=5.65 √S	
			Thickness (mm)						
			≤ 16	> 16 ≤ 40	≥ 40 > 63	> 3 ≤ 100		≥ 3 > 40	≥ 40 > 63
			Min.	Min.	Min.	Min.	Max.	Min.	Min.
European	EN 10025-2	S235JR	235	225	215	360	510	26	25
		S235J0	235	225	215	360	510	26	25
		S235J2	235	225	215	360	510	26	25
		S275JR	275	265	255	410	560	23	22
		S275J0	275	265	255	410	560	23	22
		S275J2	275	265	255	410	560	23	22
		S355JR	355	345	335	470	630	22	21
		S355J0	355	345	335	470	630	22	21
		S355J2	355	345	335	470	630	22	21
		S355K2	355	345	335	470	630	22	21
		S450J0	450	430	410	550	720	17	17

Impact strength (J)	Chemical Composition (wt%)											
	C			Si	Mn	P	S	N	Cu	C.E V		
	Thickness (mm)									Thickness (mm)		
	≤ 16	> 16 ≤ 40	≥ 40							≤ 30	> 30 ≤ 40	> 40 ≥ 150
Min.	Max.	Max.	Max.	Max.	Max.	Max	Max.	Max.	Max.	Max.	Max.	Max.
27	0.19	0.19	0.23	–	1.5	0.045	0.045	0.014	0.6	0.35	0.35	0.38
27	0.19	0.19	0.19	–	1.5	0.040	0.040	0.014	0.6	0.35	0.35	0.38
27	0.19	0.19	0.19	–	1.5	0.035	0.035	–	0.6	0.35	0.35	0.38
27	0.24	0.24	0.25	–	1.6	0.045	0.045	0.014	0.6	0.40	0.40	0.42
27	0.21	0.21	0.21	–	1.6	0.040	0.040	0.014	0.6	0.40	0.40	0.42
27	0.21	0.21	0.21	–	1.6	0.035	0.035	–	0.6	0.40	0.40	0.42
27	0.27	0.27	0.27	0.6	1.7	0.045	0.045	0.014	0.6	0.45	0.47	0.47
27	0.23	0.23	0.24	0.6	1.7	0.040	0.040	0.014	0.6	0.45	0.47	0.47
27	0.23	0.23	0.24	0.6	1.7	0.035	0.035	–	0.6	0.45	0.47	0.47
40	0.23	0.23	0.24	0.6	1.7	0.035	0.035	–	0.6	0.45	0.47	0.47
27	0.23	0.23	0.24	0.6	1.8	0.040	0.040	0.027	0.6	0.47	0.49	0.49

JR = The value of impact strength at tested at temperature 20 °C is 27J
J0 = The value of impact strength at tested at temperature 0 °C is 27J
J2 = The value of impact strength at tested at temperature - 20 °C is 27J
K2 = The value of impact strength at tested at temperature - 20 °C is 40J

PRODUCT RANGE

Profiles & Angles

Round Bar Diameters

Round Bar Diameter (mm)	Unit Weight (Kg/m)
12	0.888
14	1.210
16	1.580
18	2.000
20	2.470
22	2.980
25	3.850
28	4.830
30	5.553
32	6.318
34	7.133
36	7.996
38	8.909
40	9.872
42	10.884
45	12.494
48	14.216
50	15.425

Number of Bars / Bundle (6m)	Bundle Weight (Kg)*
376	2003.3
276	2003.8
211	2000.3
167	2004.0
135	2000.7
112	2002.6
87	2009.7
69	1999.6
60	1999.1
53	2009.1
47	2011.4
42	2015.1
38	2031.4
34	2013.9
31	2024.4
27	2024.1
24	2047.1
22	2036.1

*** The Bundle Weight is for reference purposes only, and the weight is determined based on the actual figure in loading.**

PRODUCT RANGE

Profiles & Angles

Square Bar Diameters

Square Bar Diameter (mm)	Unit Weight (Kg/m)
12	1.132
14	1.541
16	2.012
20	3.144
22	3.804
24	4.527
25	4.913
30	7.074
35	9.629
40	12.576
50	19.650

Number of Bars / Bundle (6m)	Bundle Weight (Kg)*
295	2003.36
217	2005.81
166	2004.11
106	1999.58
88	2008.64
74	2010.15
68	2004.30
47	1994.87
35	2021.99
27	2037.31
17	2004.30

* The Bundle Weight is for reference purposes only, and the weight is determined based on the actual figure in loading.

PRODUCT RANGE

Profiles & Angles

Hexagonal Bar Diameters

Hexagonal Bar Diameter (mm)	Unit Weight (Kg/m)
12	0.978
15	1.529
18	2.200
20.5	2.850
22.5	3.440
23.5	3.750
25.5	4.419
28.5	5.520
31.5	6.740
33.5	7.627
37.5	9.568

Number of Bars / Bundle (6m)	Bundle Weight (Kg)*
341	2000.99
218	1999.93
152	2006.40
117	2000.70
97	2002.08
89	2002.50
76	2015.06
60	1987.20
49	1981.56
44	2013.53
35	2009.28

*** The Bundle Weight is for reference purposes only, and the weight is determined based on the actual figure in loading.**

PRODUCT RANGE

Profiles & Angles

Angles Dimensions

Angles Dimensions (mm)	Unit Weight (Kg/m)
30*3	1.360
30*4	1.780
35*4	2.090
35*5	2.570
40*4	2.420
40*5	2.970
45*4	2.740
45*5	3.380
50*5	3.770
50*6	4.470
50*7	5.160
60*5	4.570
60*6	5.420
60*8	7.090
65*7	6.830
70*6	6.380
70*7	7.380
70*9	9.360
75*7	7.950
75*8	8.990
80*6	7.380
80*8	9.630
80*10	11.900
90*7	9.610
90*9	12.200
100*8	12.200
100*10	15.000
100*12	17.800

Number of Pieces / Bundle (6m)	Bundle Weight (Kg)*
245	1999.20
188	2007.84
159	1993.86
130	2004.60
138	2003.76
112	1995.84
122	2005.68
99	2007.72
88	1990.56
75	2011.50
65	2012.40
73	2001.66
61	1983.72
47	1999.38
49	2008.02
52	1990.56
45	1992.60
36	2021.76
42	2003.40
37	1995.78
45	1992.60
35	2022.30
28	1999.20
35	2018.10
27	1976.40
27	1976.40
22	1980.00
19	2029.20

* The Bundle Weight is for reference purposes only, and the weight is determined based on the actual figure in loading.

PRODUCT RANGE

Profiles & Angles

IPE Beams Dimensions

IPE Beams Dimensions (mm)	Unit Weight (Kg/m)	Number of Pieces / Bundle (6m)
46*80	6.000	55
55*100	8.000	42
64*120	10.400	32

Bundle Weight (Kg)* 6 Meters	Number of Pieces / Bundle (12m)	Bundle Weight (Kg)* 12 Meters
1980.00	28	2016.00
2016.00	21	2016.00
1996.80	16	1996.80

* The Bundle Weight is for reference purposes only, and the weight is determined based on the actual figure in loading.

PRODUCT RANGE

Profiles & Angles

IPE Beams Dimensions

IPN Beams Dimensions (mm)	Unit Weight (Kg/m)	Number of Pieces / Bundle (6m)
42*80	5.940	56
50*100	8.340	40
58*120	11.100	30

Bundle Weight (Kg)* 6 Meters	Number of Pieces / Bundle (12m)	Bundle Weight (Kg)* 12 Meters
1995.84	28	1995.84
2001.60	20	2001.60
1998.00	15	1998.00

* The Bundle Weight is for reference purposes only, and the weight is determined based on the actual figure in loading.

PRODUCT RANGE

Profiles & Angles

UPN Channels Dimensions

UPN Channels Dimensions (mm)	Unit Weight (Kg/m)	Number of Pieces / Bundle (6m)
30*15	1.740	192
40*20*3	1.870	178
40*20*4	2.870	116
50*25	3.86	86
60*30	5.07	66
80*45	8.64	39
100*50	10.6	31
120*55	13.4	25

Bundle Weight (Kg)* 6 Meters	Number of Pieces / Bundle (12m)	Bundle Weight (Kg)* 12 Meters
2004.48	96	2004.48
1997.16	89	1997.16
1997.52	58	1997.52
1991.76	43	1991.76
2007.72	33	2007.72
2021.76	19	1969.92
1971.60	16	2035.20
2010.00	12	1929.60

* The Bundle Weight is for reference purposes only, and the weight is determined based on the actual figure in loading.

PRODUCT RANGE

Profiles & Angles

Flat Dimensions (30*4 - 60*6)

Flat Dimensions (mm)	Unit Weight (Kg/m)
30*4	0.943
30*5	1.180
30*6	1.410
30*8	1.880
30*10	2.360
35*4	1.100
35*5	1.370
35*6	1.650
35*8	2.200
35*10	2.750
40*4	1.260
40*5	1.570
40*6	1.880
40*8	2.510
40*10	3.140
40*12	3.770
40*15	4.700
40*16	5.030
50*5	1.960
50*6	2.360
50*8	3.140
50*10	3.930
50*12	4.710
50*14	5.502
50*15	5.880
50*20	7.850
50*25	9.825
50*30	11.780
60*5	2.360
60*6	2.830

Number of Pieces / Bundle (6m)	Bundle Weight (Kg)*
353	1997.70
282	1996.56
236	1996.56
178	2007.84
141	1996.56
303	1999.80
243	1997.46
202	1999.80
152	2006.40
121	1996.50
265	2003.40
212	1997.04
177	1996.56
132	1987.92
106	1997.04
88	1990.56
71	2002.20
66	1991.88
170	1999.20
141	1996.56
106	1997.04
85	2004.30
71	2006.46
61	2013.73
57	2010.96
42	1978.20
34	2004.30
28	1979.04
141	1996.56
118	2003.64

*** The Bundle Weight is for reference purposes only, and the weight is determined based on the actual figure in loading.**

PRODUCT RANGE

Profiles & Angles

Flat Dimensions (60*8 -100*10)

Flat Dimensions (mm)	Unit Weight (Kg/m)
60*8	3.770
60*10	4.710
60*12	5.660
60*15	7.050
60*20	9.420
60*30	14.130
70*6	3.300
70*8	4.400
70*10	5.500
70*12	6.590
70*15	8.230
70*16	8.800
70*20	10.990
70*25	13.720
70*30	16.490
80*6	3.770
80*8	5.020
80*10	6.280
80*12	7.540
80*14	8.803
80*15	9.432
80*16	10.061
80*20	12.560
80*30	18.840
90*10	7.070
90*20	14.130
90*30	21.200
100*6	4.710
100*8	6.280
100*10	7.850

Number of Pieces / Bundle (6m)	Bundle Weight (Kg)*
89	2013.18
71	2006.46
59	2003.64
47	1988.10
35	1978.20
24	2034.72
101	1999.80
76	2006.40
61	2013.00
51	2016.54
41	2024.58
38	2006.40
30	1978.20
24	1975.68
20	1978.80
88	1990.56
66	1987.92
53	1997.04
38	1719.12
38	2007.13
35	1980.72
33	1992.04
27	2034.72
18	2034.72
47	1993.74
24	2034.72
16	2035.20
71	2006.46
53	1997.04
42	1978.20

*** The Bundle Weight is for reference purposes only, and the weight is determined based on the actual figure in loading.**

PRODUCT RANGE

Profiles & Angles

Flat Dimensions (100*12 -150*30)

Flat Dimensions (mm)	Unit Weight (Kg/m)
100*12	9.420
100*15	11.780
100*20	15.700
100*30	23.550
110*10	8.630
120*10	9.420
120*12	11.300
120*20	18.840
120*30	28.260
150*12	14.130
150*20	23.550
150*30	35.330

	Number of Pieces / Bundle (6m)	Bundle Weight (Kg)*
	35	1978.20
	28	1979.04
	21	1978.20
	14	1978.20
	38	1967.64
	35	1978.20
	29	1966.20
	18	2034.72
	12	2034.72
	24	2034.72
	14	1978.20
	9	1907.82

* The Bundle Weight is for reference purposes only, and the weight is determined based on the actual figure in loading.

COMPETITIVE ADVANTAGE

EASPEC is the Beshay Steel group production specification that surpasses all known standards.

Our finely engineered products are renowned for their superior quality, not only because their strength and composition meet the specifications but because they are engineered on the micro scale.

OUR PRODUCTS ARE SUPERIOR FROM THE INSIDE OUT

The microstructure of our re-bars is composed of a tempered martensitic shell, which provides the required strength and hardness, while the core is a more ductile ferritic-pearlitic structure. Therefore our steel re-bars are not only strong; but bendable enough for the convenience of our customers. Not only do we engineer the inside of the bar, we also take great care of the outer features. We use very costly, high wear resistant rolls in order to ensure perfect geometry of the bar ribs and therefore ensure excellent bonding with concrete.

PRODUCT MICROSTRUCTURE

The microstructure of the re-bars is carefully engineered by the thermo-mechanical treatment that is applied from the very beginning of the rolling process. The chemically homogeneous billets are soaked at a specific temperature where a phase transformation to the formable Austenite phase is provoked.

These austenitic billets are then passed through the roughing and intermediate rolling stages where the required section reduction is achieved.

The bars then go through a thermo mechanical treatment stage, where the bar's outer shell is transformed to a strong tempered-martensitic structure while the core remains a ductile pearlitic-ferritic phase.

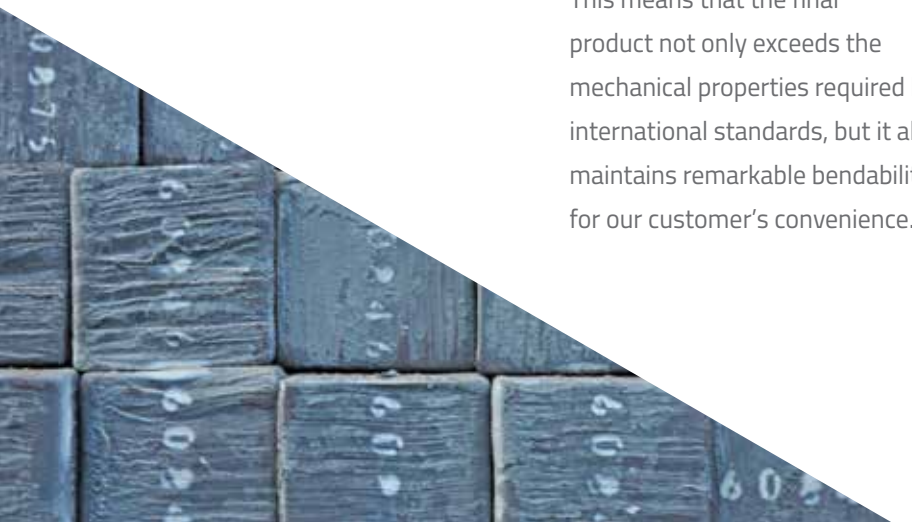
This means that the final product not only exceeds the mechanical properties required by international standards, but it also maintains remarkable bendability for our customer's convenience.

Samples from 2 main local competitors where compared to Beshay Steel. This was carried out by measuring the micro hardness across the bar diameter in 2mm iterations.

The Beshay Steel bars showed significantly higher hardness values in the outer tempered martensitic shell than the samples produced by both competitors.

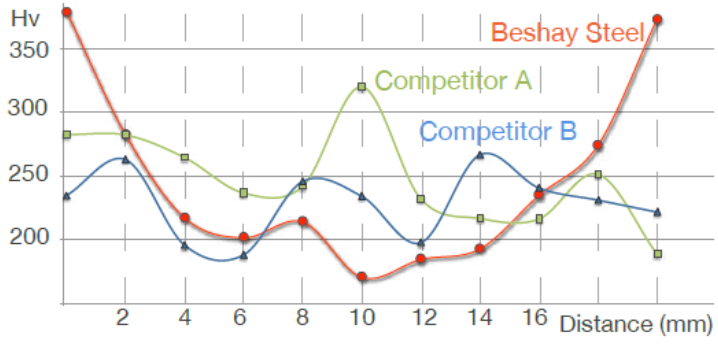
The graph also shows that the hardness values decrease smoothly towards the centre of the bar, where the ductile ferritic-pearlitic structure is present.

This strict microstructure control enables Beshay Steel to maintain excellent mechanical properties with no compromises to our customer's needs.



VACUUM DEGASSING TECHNOLOGY

Our Meltshop has an integrated vacuum degassing plant that is connected to gratify the demands for the production of pure and high-quality steel. This keeps us on top of competition with the newest techniques of high quality steel to have the wide range of production grades. Throughout the vacuum action, the hydrogen, nitrogen, oxygen, and sulfur contents are condensed in diverse process steps relying on the melt composition. A vacuum alloy hopper system permits for compositional modifications. High alloy yields and decent homogenization are distinctive characteristics of this process. A freeboard of 600–1,200 mm is compulsory, reliant on the metallurgical reactions in the ladle. We are proud to be using such a system as it offers all what the customer needs.



SUSTAINABILITY

Energy

Steel making is a very energy demanding process. This is why we continuously invest into improving our equipment in order to maintain maximum efficiency and reduce energy consumptions, whether electrical or gas.

The Environment

During Steel Making, emissions of CO, CO2, SOX and NOX are a known by product. Beshay Steel invested into three superior de-dusting systems, with a suction capacity of 7.3 million Nm3/h. This allows us to reduce and filter our emissions in order to provide a safe working environment for our employees and decrease our impact on the environment.

This off-gas is constantly monitored and the steel making process is adjusted accordingly to minimise those emissions even further.


BS
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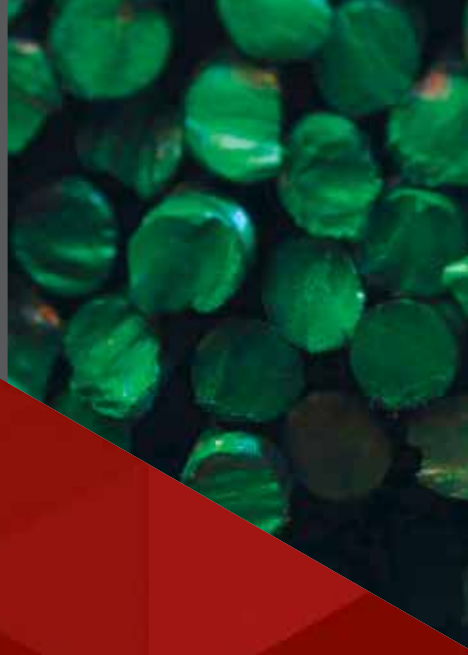

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