

# Ostrava Thread Bars 500, 550, 555, 670



LIBERTY Ostrava  
[www.libertysteelgroup.com](http://www.libertysteelgroup.com)



MEMBER OF



**LIBERTY Ostrava is an integrated steel business with an annual production capacity of approximately 3.6 million tonnes serving construction, machinery and oil & gas industries.**

The company is a domestic leader in the manufacturing of road barriers and tubes. In addition to the Czech market, it supplies its products to more than 40 countries around the world. Together with its subsidiaries in Ostrava, the company has 6,000 employees. The company

manufactures its products with a minimum possible environmental footprint. It is part of LIBERTY Steel Group, which is part of GFG Alliance, a collection of global businesses and investments owned by Sanjeev Gupta and his family. The Alliance is structured into three core industrial pillars: LIBERTY Steel Group, ALVANCE Aluminium Group and SIMEC Energy Group. Headquartered in London, GFG Alliance employs 35,000 people, across 10 countries and has revenues of USD \$20bn.

### Liberty Ostrava Facilities

- 3 coke oven batteries
- 5 sinter belts
- 3 blast furnaces
- 4 tandem furnaces
- 3 continuous casting machines
- 6 rolling mills (incl. hot-strip mill, big and small Stiefel pipe mills, wire rod mill, heavy section mill, fine & medium section mill)
- Mine support and road barrier lines

### Main Products

Hot rolled coils, sheets and strips, road barriers, merchant bars and sections, wire rods, tubular steels, mine supports, engineering products, transformer cores, thread bars, rebars

### Key Markets

Construction, machinery and automotive

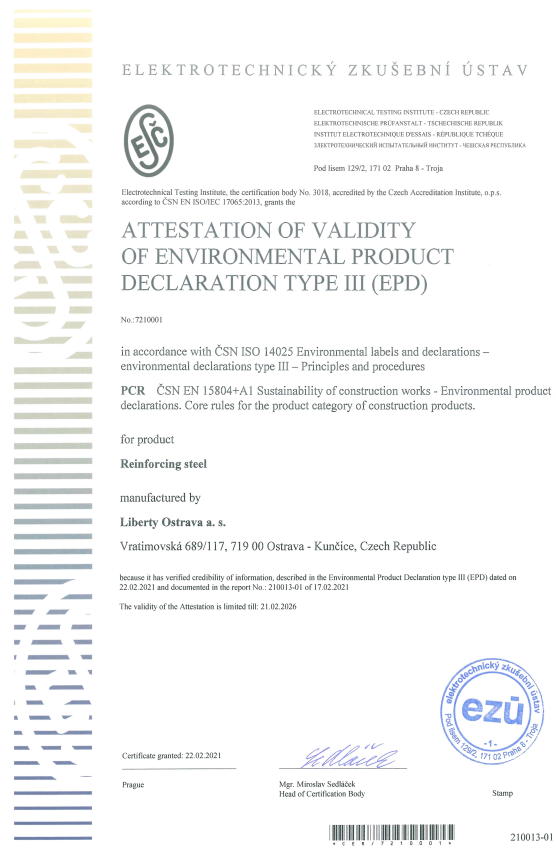
### Certification

ISO 9001

ISO 14001

OHSAS 18001

ISO 50001



Actual certificates are available on the link:

<https://www.libertysteelgroup.com/cz/products/product-certification/?lang=en>

<https://www.libertysteelgroup.com/cz/products/epd/?lang=en>

# Threaded Bars 500, 550, 555, 670

## Technical Characteristics of the Thread Bar System

- Easy length adjustment, due to the entire coarse thread over the whole length of the bar
- Shortening by cutting and extension by accessories also possible on the construction site
- Easier to screw compared to standard threads
- The coarse thread is resistant to rough handling and dirt, because the coarse thread cleans itself during assembling
- Consistently high quality through internal and external tests

## Service

- Worldwide shipments including all administrative formalities
- Fast communication, flexibility & reliability
- On time delivery
- Quick and accurate document handling

## On Request

- Bars and accessories on request available in black and hot-dip galvanized
- Special lengths & bundling
- Charpy test (CVN)

## Existing Approvals

High strength reinforcement system (ETA approval)

## Advantages Over Conventional Reinforcement

- Anchorage length can be reduced by special end anchorages
- Lap splices can be replaced by a simple coupler connection
- Reduction of the reinforcement with constant load bearing capacity by using a higher steel grade

Current certificates can be downloaded at <https://libertysteelgroup.com/cz>



# Specifications

## Mechanical properties for 500/550:

Strength:  $R_{e, nom} = 500$  MPa;  $R_{m, nom} = 550$  MPa

Elongation:  $A_{gtmin} = 6\%$ ,  $5\%$

## Mechanical properties for 555/700:

Strength:  $R_{e, nom} = 555$  MPa;  $R_{m, nom} = 700$  MPa

Elongation:  $A_{gtmin} = 5\%$

## Mechanical properties for 550/620:

Strength:  $R_{e, nom} = 550$  MPa;  $R_{m, nom} = 620$  MPa

Elongation:  $A_{gtmin} = 5\%$

## Mechanical properties for 670/800:

Strength:  $R_{e, nom} = 670$  MPa;  $R_{m, nom} = 800$  MPa

Elongation:  $A_{gt} = 5\%$

## Delivery Statement:

Hot rolled bar with right-handed and left-handed thread ribs.

## Weldability:

For structural welding, specific procedures for high carbon steel must be respected.

## Application:

Tightened coupling splices and anchorages

Length: standard 12 m - 15 m - 0 / + 0.3 m, other lengths upon agreement with supplier.

Density:  $7.85 \text{ kg/dm}^3$

## Inspection:

Mill certificate 3.1 according to EN 10204.

## Ostrava Thread Bars 500/550, 555/700, Left-hand Thread



OTB 500/550, OTB 555/700								
Nominal Diameter $d$ [mm]	Outer Diameter $d_a$ [mm]	Yield Load $F_{e, nom}$ [kN]	Ultimate Load $F_{m, nom}$ [kN]	Yield Strength <sup>1),2)</sup> $R_{e, nom}$ [MPa]	Tensile Strength <sup>1)</sup> $R_{m, nom}$ [MPa]	Elongation $A_{gt}$ [%]	Nominal Cross section $A$ [mm <sup>2</sup> ]	Weight [kg/m]
16	17.9	100	110	500	550	6	201	1.58
20	22.4	157	172	500	550	6	314	2.47
25	27.9	246	270	500	550	6	491	3.85
28	31.2	308	339	500	550	6	616	4.83
32	35.7	402	442	500	550	6	804	6.31
40	44.6	629	691	500	550	5	1257	9.87
50	55.6	982	1078	500	550	5	1963	15.41
57.5	62.8	1441	1818	555	700	5	2597	20.39
63.5	69.0	1758	2217	555	700	5	3167	24.86
75	81.5	2209	2430	500	550	5	4418	34.68

## Ostrava Thread Bars 550/620, Left-hand Thread



OTB 550/620								
Nominal Diameter $d$ [mm]	Outer Diameter $d_a$ [mm]	Yield Load $F_{e, nom}$ [kN]	Ultimate Load $F_{m, nom}$ [kN]	Yield Strength <sup>1),2)</sup> $R_{e, nom}$ [MPa]	Tensile Strength <sup>1)</sup> $R_{m, nom}$ [MPa]	Elongation $A_{gt}$ [%]	Nominal Cross section $A$ [mm <sup>2</sup> ]	Weight [kg/m]
20	22.4	173	195	550	620	5	314	2.47
25	27.9	270	304	550	620	5	491	3.85
28	31.2	339	382	550	620	5	616	4.83
32	35.7	442	499	550	620	5	804	6.31
40	44.6	691	779	550	620	5	1257	9.87
50	55.6	1080	1217	550	620	5	1963	15.41
57.5	62.8	1428	1610	550	620	5	2597	20.39
63.5	69.0	1742	1963	550	620	5	3167	24.86
75	81.5	2430	2739	550	620	5	4418	34.68

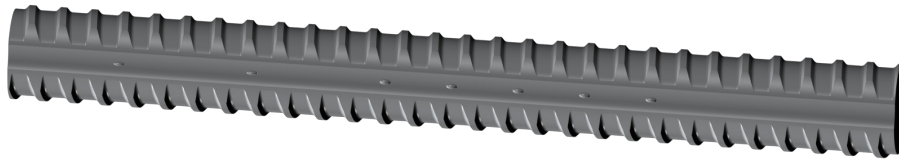
1) 5% -fractile

2) Yield strength  $R_e$  corresponds to  $R_{p0.2}$ , 0.2% proof strength



## Specifications continued...

### Ostrava Thread Bars 670/800, Right-hand Thread

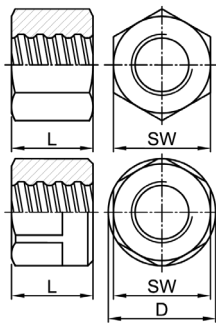


OTB 670/800								
Nominal Diameter $d$ [mm]	Outer Diameter $d_a$ [mm]	Yield Load $F_{e,nom}$ [kN]	Ultimate Load $F_{m,nom}$ [kN]	Yield Strength <sup>1),2)</sup> $R_{e,nom}$ [MPa]	Tensile Strength <sup>1)</sup> $R_{m,nom}$ [MPa]	Elongation $A_{gt}$ [%]	Nominal Cross section $A$ [mm <sup>2</sup> ]	Weight [kg/m]
18	20.4	170	203	670	800	5	254	2.00
22	24.2	255	304	670	800	5	380	2.98
25	27.5	329	393	670	800	5	491	3.85
28	31.2	413	493	670	800	5	616	4.84
30	33.5	474	566	670	800	5	707	5.55
35	39.2	645	770	670	800	5	962	7.55
43	47.9	973	1162	670	800	5	1452	11.40
50	54.6	1315	1570	670	800	5	1963	15.41
57.5	62.8	1740	2078	670	800	5	2597	20.39
63.5	69.0	2122	2534	670	800	5	3167	24.86
75	81.5	2960	3534	670	800	5	4418	34.68



# Accessories for 500/550, 550/620 and 555/700

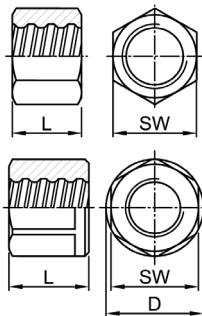
## Hexagonal Nut



### L2002

Ø [mm]	Weight [kg]	SW [mm]	L [mm]	D [mm]
16L	0.20	32	40	-
20L	0.27	36	45	-
25L	0.35	41	50	-
28L	0.48	46	55	-
32L	0.79	55	60	-
40L	1.20	65	70	-
50L	2.17	80	85	-
57L	3.42	90	100	102
63L	3.58	100	135	114
75L	3.00	100	100	108

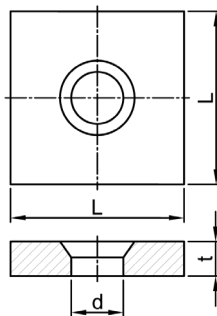
## Lock Nut, Long



### L2003

Ø [mm]	Weight [kg]	SW [mm]	L [mm]	D [mm]
16L	0.15	32	30	-
20L	0.16	32	40	-
25L	0.28	41	40	-
28L	0.26	41	45	-
32L	0.48	50	50	-
40L	0.84	60	65	-
50L	2.04	80	80	-
57L	2.77	90	80	102
63L	3.44	90	115	102
75L	2.42	100	80	108

## Plate for Spherical. Nut



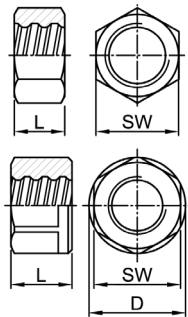
### L2011

Ø [mm]	Weight [kg]	L [mm]	t [mm]	d [mm]
16L	0.24	60	10	25
20L	0.37	70	12	30
25L	0.81	90	15	35
28L	1.33	100	20	40
32L	1.91	120	20	52
40L	4.48	150	30	65
50L	10.78	190	45	83
57L	16.25	220	50	92
63L	20.09	245	50	104
75L	32.43	275	65	118

## Accessories for 500/550, 550/620 and 555/700 continued...

### Lock Nut, Short

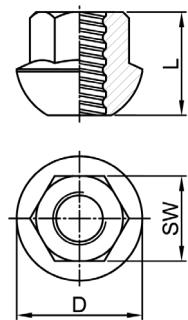
#### L2040



Ø [mm]	Weight [kg]	SW [mm]	L [mm]	D [mm]
16L	0.10	32	20	-
20L	0.08	32	20	-
25L	0.14	41	20	-
28L	0.14	41	25	-
32L	0.29	50	30	-
40L	0.45	60	35	-
50L	1.27	80	50	-
57L	2.77	90	60	102
63L	2.26	90	75	102
75L	2.42	100	80	108

### Spherical Nut, 55°

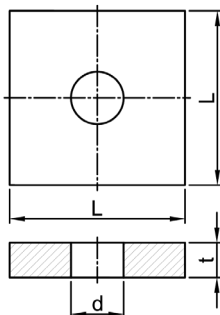
#### L2044



Ø [mm]	Weight [kg]	SW [mm]	L [mm]	D [mm]
16L	0.20	27	33	35
20L	0.26	36	41	49
25L	0.35	41	45	55
28L	0.45	41	54	62
32L	0.65	46	57	70
40L	1.50	60	70	88
50L	2.80	80	85	107
57L	4.15	90	100	120
63L	6.20	100	115	144
75L	8.53	120	120	163

### Steel Plate with Additional Reinforcement

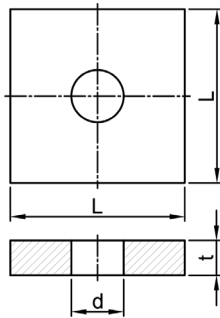
#### L2138



Ø [mm]	Weight [kg]	L [mm]	t [mm]	d [mm]
16L	0.26	55	12	20
20L	0.52	70	15	25
25L	0.89	80	20	30
28L	1.14	90	20	33
32L	1.74	100	25	38
40L	3.27	125	30	47
50L	5.87	155	35	58
57L	9.13	180	40	65
63L	12.69	200	45	72
75L	20.33	230	55	86

## Accessories for 500/550, 550/620 and 555/700 continued...

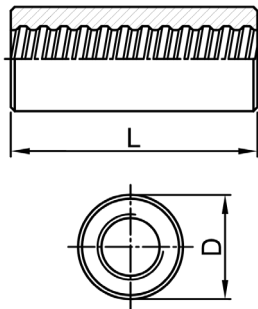
### Steel Plate without Additional Reinforcement



### L2139

Ø [mm]	Weight [kg]	L [mm]	t [mm]	d [mm]
16L	0.31	60	12	20
20L	0.70	80	15	25
25L	1.16	90	20	30
28L	1.79	100	25	33
32L	2.15	110	25	38
40L	4.91	140	35	47
50L	8.79	175	40	58
57L	12.96	200	45	65
63L	17.40	220	50	72
75L	29.10	260	60	86

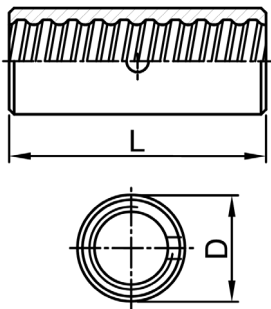
### Coupler



### L3003

Ø [mm]	Weight [kg]	D [mm]	L [mm]
16L	0.40	32	90
20L	0.56	36	105
25L	0.65	40	115
28L	0.90	45	125
32L	1.40	52	140
40L	2.50	65	160
50L	4.80	80	200
57L	8.81	100	230
63L	10.00	102	260
75L	8.67	108	240

### Contact Coupler



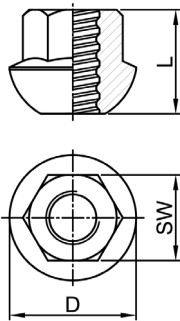
### L3006

Ø [mm]	Weight [kg]	D [mm]	L [mm]
16L	0.17	27	65
20L	0.25	32	70
25L	0.30	36	80
28L	0.40	40	85
32L	0.50	45	90
40L	0.82	54	120
50L	1.09	63	160
57L	3.36	83	170
63L	4.28	90	200
75L	5.33	102	210



# Accessories for 670/800

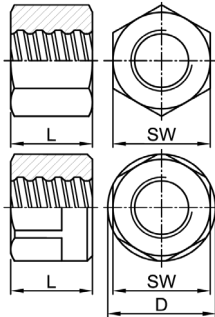
## Spherical Nut 55°



### R2001

Ø [mm]	Weight [kg]	SW [mm]	L [mm]	D [mm]
18R	0.20	32	35	43
22R	0.31	36	45	53
25R	0.43	41	50	60
28R	0.60	46	55	67
30R	0.79	50	60	71
35R	1.30	60	70	83
43R	2.20	70	85	102
50R	3.59	80	100	116
57R	5.50	90	115	137
63R	7.30	100	125	151
75R	11.90	120	150	174

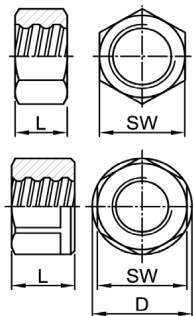
## Hexagonal Nut



### R2002

Ø [mm]	Weight [kg]	SW [mm]	L [mm]	D [mm]
18R	0.29	36	45	-
22R	0.40	41	50	-
25R	0.55	46	55	-
28R	0.69	50	60	-
30R	0.92	55	65	-
35R	1.40	65	70	-
43R	2.75	80	90	-
50R	2.65	80	100	-
57R	4.27	90	120	102
63R	4.53	100	110	108
75R	4.08	100	130	108

## Lock Nut, Long

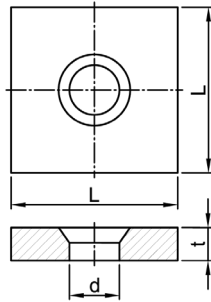


### R2003

Ø [mm]	Weight [kg]	SW [mm]	L [mm]	D [mm]
18R	0.15	30	40	-
22R	0.24	36	45	-
25R	0.35	41	50	-
28R	0.49	46	55	-
30R	0.63	50	60	-
35R	0.77	55	65	-
43R	1.63	70	80	-
50R	2.38	80	90	-
57R	3.42	90	100	102
63R	5.05	100	115	114
75R	3.73	100	120	108

## Accessories for 670/800 continued...

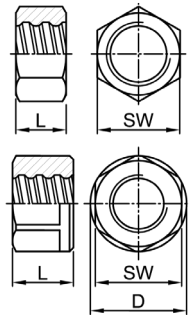
### Plate for Spherical. Nut



#### R2011

Ø [mm]	Weight [kg]	L [mm]	t [mm]	d [mm]
18R	2.20	100	25	27
22R	2.62	110	30	32
25R	3.39	125	30	35
28R	4.59	135	35	40
30R	5.32	145	35	40
35R	8.36	170	40	47
43R	15.90	210	50	58
50R	22.59	240	55	70
57R	32.80	275	60	75
63R	45.20	300	65	82
75R	51.89	325	70	100

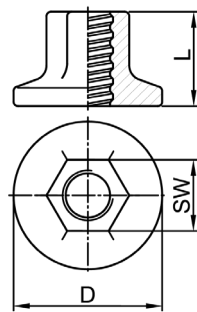
### Lock Nut, Short



#### R2040

Ø [mm]	Weight [kg]	SW [mm]	L [mm]	D [mm]
18R	0.10	30	22	-
22R	0.12	36	22	-
25R	0.15	41	22	-
28R	0.26	46	30	-
30R	0.32	50	30	-
35R	0.47	55	40	-
43R	1.01	70	50	-
50R	1.32	80	50	-
57R	1.93	90	60	102
63R	3.03	100	70	114
75R	2.46	100	80	108

### Anchor Piece

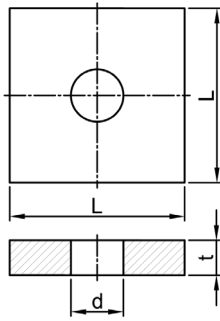


#### R2073

Ø [mm]	Weight [kg]	SW [mm]	L [mm]	D [mm]
18R	0.28	32	35	55
22R	0.43	36	45	65
25R	0.67	41	50	75
28R	0.91	46	55	85
30R	1.10	50	60	90
35R	1.82	60	70	105
43R	2.95	70	85	130
50R	4.48	80	100	150
57R	7.42	90	115	175
63R	9.35	100	125	190
75R	16.82	120	150	230

## Accessories for 670/800 continued...

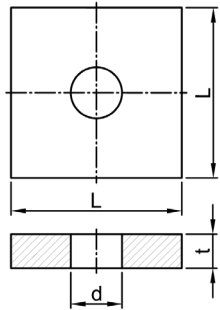
### Steel Plate with Additional Reinforcement



#### R2138

Ø [mm]	Weight [kg]	L [mm]	t [mm]	d [mm]
18R	-	-	-	-
22R	0.91	80	20	27
25R	1.16	90	20	30
28R	1.41	100	25	34
30R	2.17	110	25	36
35R	2.79	125	30	42
43R	4.84	150	35	50
50R	7.64	175	40	60
57R	12.88	200	45	67
63R	17.31	220	50	74
75R	31.53	260	65	86

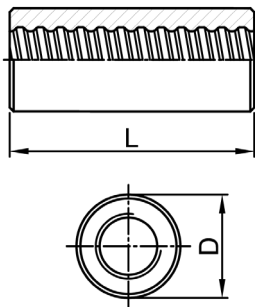
### Steel Plate without Additional Reinforcement



#### R2139

Ø [mm]	Weight [kg]	L [mm]	t [mm]	d [mm]
18R	-	-	-	-
22R	1.18	90	20	27
25R	1.46	100	25	30
28R	2.20	110	25	34
30R	2.63	120	25	36
35R	4.29	140	30	42
43R	7.40	170	35	50
50R	13.13	200	45	60
57R	19.38	230	50	67
63R	24.06	245	55	74
75R	43.02	290	70	86

### Coupler



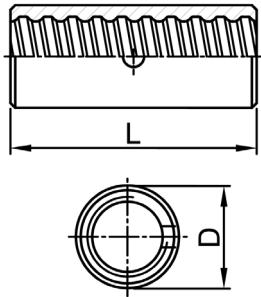
#### R3003

Ø [mm]	Weight [kg]	D [mm]	L [mm]
18R	0.56	36	100
22R	0.70	40	110
25R	0.96	45	120
28R	1.37	50	140
30R	1.82	55	150
35R	2.94	65	170
43R	5.28	80	200
50R	6.90	90	210
57R	10.39	102	250
63R	15.70	114	300
75R	9.39	108	260

## Accessories for 670/800 continued...

### Contact Coupler

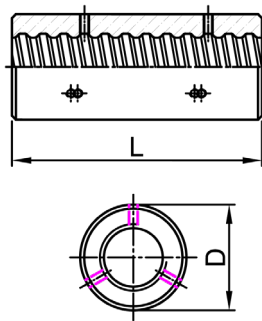
#### R3006



Ø [mm]	Weight [kg]	D [mm]	L [mm]
18R	0.15	27	70
22R	0.22	32	75
25R	0.43	40	80
28R	0.62	45	90
30R	0.55	45	90
35R	0.81	50	120
43R	2.09	65	160
50R	2.25	70	170
57R	3.60	83	180
63R	4.46	90	200
75R	5.95	102	230

### Coupler with Set Screws

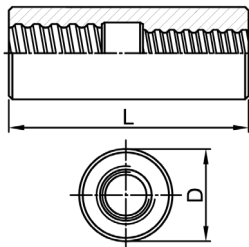
#### R3020



Ø [mm]	Weight [kg]	D [mm]	L [mm]
18R	0.56	36	100
22R	0.70	40	110
25R	0.96	45	120
28R	1.37	50	140
30R	1.82	55	150
35R	2.94	65	170
43R	5.28	80	200
50R	6.90	90	210
57R	10.39	102	250
63R	15.70	114	300
75R	9.37	108	260

### Reducing Coupler

#### R3102



Ø [mm]	Weight [kg]	D [mm]	L [mm]
18R	-	-	-
22R	0.84	40	135
25R	1.26	45	155
28R	1.63	50	165
30R	2.15	55	175
35R	2.57	60	185
43R	5.51	80	200
50R	7.65	85	270
57R	10.98	100	270
63R	15.24	110	315
75R	11.91	110	300

# Contact with the mill

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