

## PRODUCT DATA SHEET

### SANFIELD PRE-STRESSING BAR SYSTEM



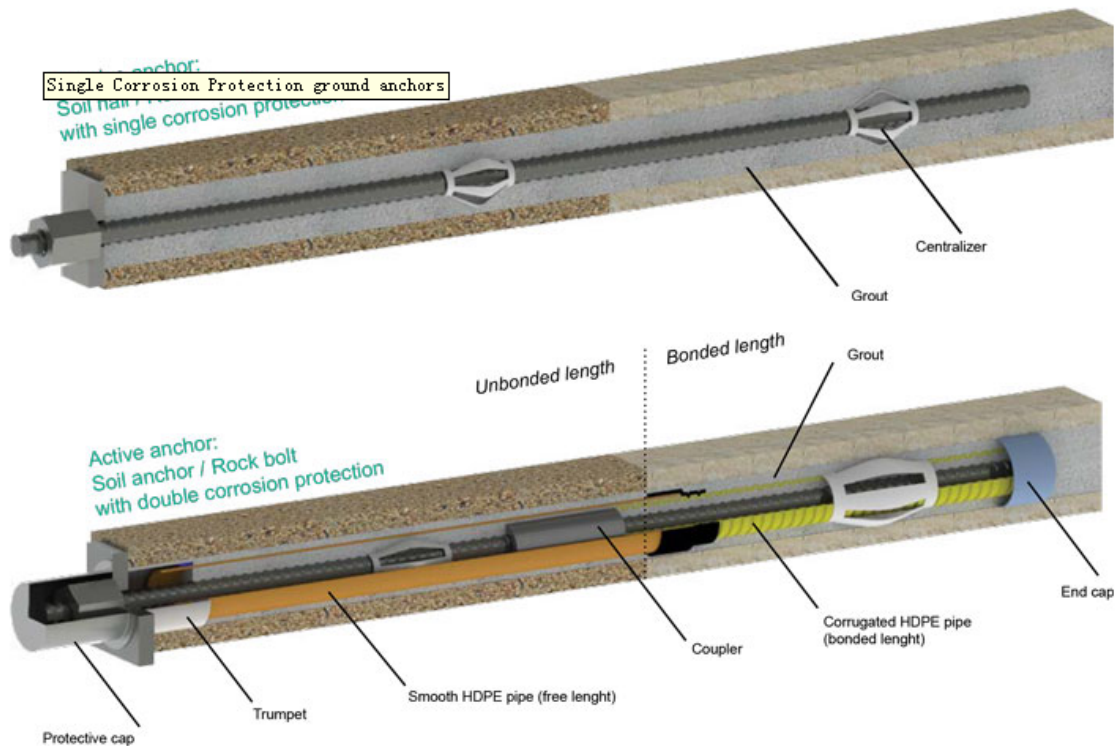
#### SYSTEM (PRESTRESSING STEEL BAR AND ACCESSORIES):

Pre-stressing Screw Thread Bar is a straight bar which has full thread, high strength, and high dimensional accuracy. The bar can be anchored at any section point with internal screw threads nuts.

It is widely used in large-scale water conservancy projects, industrial and civil construction continuous beams and large frame structure, road, rail and medium-sized cross-bridges, nuclear power plants and ground anchors and other projects. It can be easily connected and anchored, and has strong adhesion, tensioned safe, convenient construction, also save steel, reducing component size and weight.

Sanfield offer pre-stressing bars depending on the design requirements.





## BENEFITS:

- 1) Homogeneous material, isotropic and with high tensile strength. Good resilience and resistance to fatigue.
- 2) High impact strength at various temperatures.
- 3) Large plasticity and very high ductility at low temperature.
- 4) Low stress loss on fine thread.
- 5) The system can be used in both cases of bonded and unbonded pre-stressing internal and external dismantable.
- 6) Higher elongation compared to traditional products.
- 7) Wide range of corrosion protection such as cement grout, wax injection or coating with plastic heat shrinking sleeve.
- 8) High strength of bars leads to less congestion and ease of installation. Ability to detention and re-tension

## FULLY THREADED BARS:

**APPLICATIONS**

Bridge Construction:

Lifting Bars

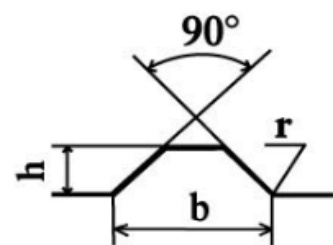
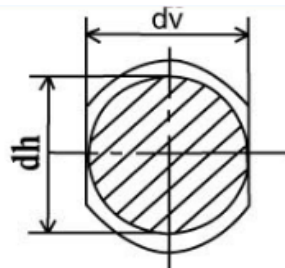
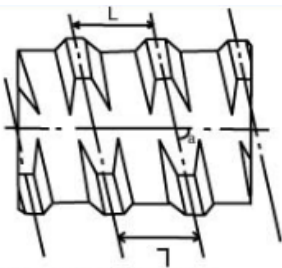
Temporary or Permanent Stressing of Segments

**STEEL GRADES**

Fully threaded bar are available in grades Shown Below:-

Steel Grade	Yield strength Mpa	Tensile strength Mpa	Elongation at Failure A/%	Elongation at Max.Load Agt/%	Stress relaxation		
					Original stress	Relaxation rate after 1000h r/%	Relaxation rate after 10h r/%
PSB500	≥500	≥630	≥10				≤1.5
PSB785	≥785	≥980	≥7				
PSB830	≥830	≥1030	≥6	≥3.5	0.8R	≤3	
PSB930	≥930	≥1080	≥6				
PSB1080	≥1080	≥1230	≥6	≥2.5			

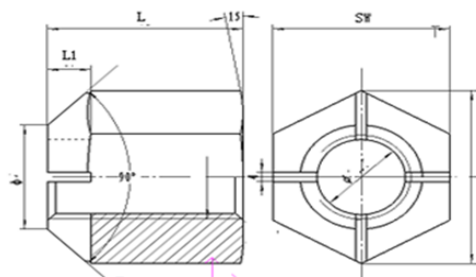
**PHYSICAL PROPERTIES:**



Nominal Diameter mm	Dv mm	Dh mm	H mm	B mm	L mm	Nominal sectional area mm <sup>2</sup>	Nominal Weight Kg/M
15	15	15	1	4.5	10	176	1.47
18	18	18	1.2	4	9	254.5	2.11
20	20	20	1.3	4.8	10	314	2.47
25	25	25	1.6	6	12	490.9	4.10
32	32	32	2.0	7	16	804.2	6.65
36	36	36	2.2	8	18	1018	8.41
40	40	40	2.5	8	20	1256.6	10.34
50	50	50	3.0	9	24	1963.5	16.28
63.5	63	63.5	3.0	--	22	--	26.50

**ACCESSORIES:**

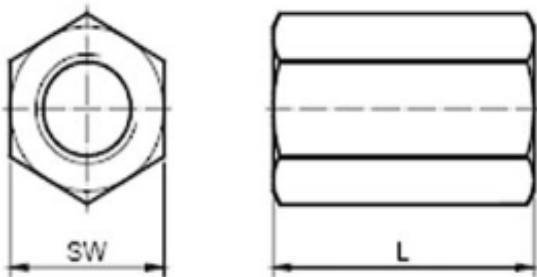
Spherical Nut:-



Nominal Diameter mm	Spherical Nut		
	L	SW	Unit Weight kg/pc
15	45	28.5	0.18
20	45	32	0.21
25	54	50	0.60
32	72	65	1.35
36	80	65	1.50
40	100	70	2.00
50	110	80	2.60
63.5	115	100	4.58

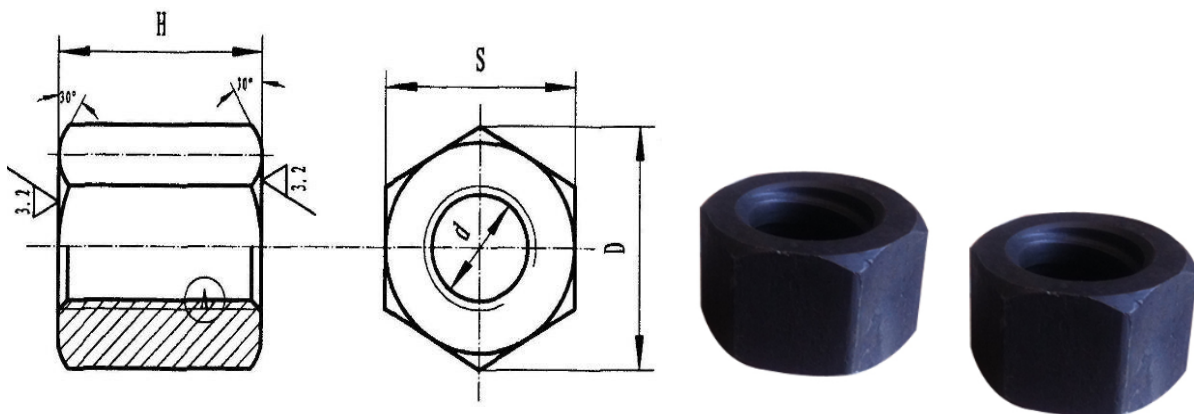
Hex Nut:-

Full Force Hex Nut



Normal Diameter mm	Full Force Hex Nut		
	L	SW	Unit Weight kg/pc
15	45	28.5	0.20
20	45	32	0.29
25	54	50	0.65
32	72	65	1.45
36	80	65	1.65
40	100	70	2.09
50	110	80	2.71
63.5	115	100	4.58

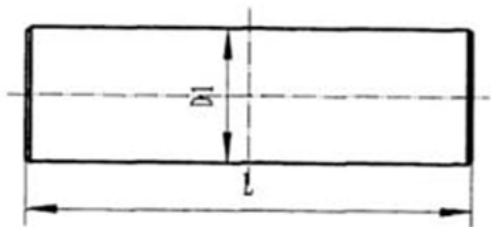
Locked Nut:-





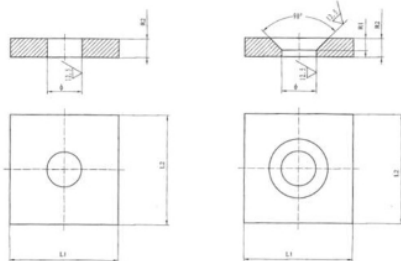
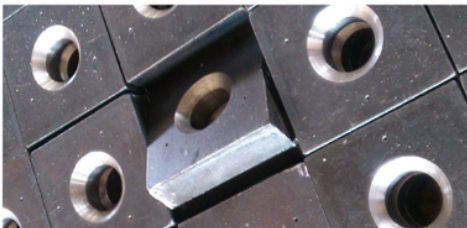
Nominal Diameter mm	Locked Nut			
	H	S	D	Unit Weight kg/pc
15	22	32	37	0.09
20	22	32	37	0.11
25	26.5	50	57	0.30
32	35.5	65	75	0.67
36	39.5	65	75	0.75
40	49.5	70	81	1.00
50	54.5	80	92	1.30
63.5	57.5	100	115	2.29

Couplers:-



Normal Diameter mm	L	D	Unit Weight kg/pc
15	80	32	0.09
20	126	32	0.11
25	168	50	0.30
32	180	65	0.67
36	39.5	65	0.75
40	49.5	70	1.00
50	54.5	80	1.30
63.5	57.5	100	2.29

Bearing Plate:-





Normal Diameter mm	Size marking					
	L1	L2	R1	R2	Φ	Weight (kg /pc)
15	80	80		12	22	0.7
20	80	80		16	28	0.7
25	120	120	13.5	20	35	2.1/2.0
28	100	100		14	38	1.2
32	140	140	15.5	24	45	3.5/3.4
36	150	150	15	30	50	4.8/4.6
40	160	160	15	30	55	5.53/5.2
50	200	200		50		14.1
63.5	240	240		50		21.8

## QUALITY ASSURANCE

All component of the Sanfield pre-stressing bar system are manufactured under consistent quality assurance. Load-bearing components are all individually marked with a lot number that assure full traceability.

Traceability of bars is achieved through the MTC and the certificates of compliance provided together with the delivery notes.

A Certificate of Compliance and test reports are provided at the time of delivery.

## SURFACE FINISH

No specific surface finish is required for pre-stressing bars; upon request, specific coatings are available.

## CORROSION PROTECTION

Bars may be protected from corrosion by various means; to be specified by the client: cement grout, wax, plastic shrink films, paint, etc. These various types of protection may be applied on site or in a workshop.

## INSTALLATION SEQUENCE

The installer should follow the Technical Specification in the Project Contract Documents. Installation sequence of Sanfield pre-stressing bars is dependent on application purposes, shear key, pre-stressing, post-tensioning, heavy lifting etc.

## CUTTING

Gas cutting for Pre-stressing bars is strictly prohibited.

## HANDLING AND STORAGE

Pre-stressing bars are delivered in rolls with slightly oil-coating to limit corrosion during shipping. Inside threads are protected by plastic tube or dense fabric. All bars are must be cleaned by solvent before use. Stacking of pre-stressing bars directly on ground is not recommend use either wooden sleepers or else in covered areas.

## INFORMATION FOR INQUIRIES

Customers are requested to provide the following information to Sanfield for inquiry:

- 1) Diameter of bar.
- 2) Bill of Quantity
- 3) Required working and ultimate load.
- 4) Length of the bar from face to face of concrete and the length of the threads.
- 5) Bar surface finish.
- 6) Corrosion protection requirement if any.
- 7) Accessories required.
- 8) Details of the surface on which the plates will bear.
- 9) Type of structure where the bars will be used (temporary or permanent).
- 10) Tensioning load.

## PROVISIONS FOR CHANGES

Sanfield reserves the right to modify the contents of this document at any time without prior notice.