



Certificate of Approval

This is to certify that

Thai Wire Products Public Company Limited

Address of Head office : 99/2 Moo 8 Zeer Street Building 7th Floor, Phahonyothin Road,
Kukot, Lamlookha District,
Pathumthani 12130, Thailand

Address of premises : 4 Maptaphud Industrial Estate I-5 Road,
Maptaphud, Muang District,
Rayong 21150, Thailand

has been assessed and found to be conforming to the requirements of TIS/ISO 9001:2000

for the scope : Manufacture of

- Steel wires for prestressed concrete
- Steel wires strands for prestressed concrete
- Galvanized wires
- Galvanized steel wire strands
- Motorcycle spoke wires
- Hard drawn steel wires
- Ordinary low carbon steel wires
- Bicycle spoke wires

by Management System Certification Institute (Thailand)

Date of issue : 21st October 2005

Valid until : 20th October 2008

(Mr. Channawit Sookjamsai)
Executive Director

Management System Certification Institute (Thailand)



First issued date 21st October 1999 and valid until 20th October 2002 Second issued date : 27th August 2004 and valid until 20th October 2005

FP-005-02 Rev. 2 20/08/04 d/s

Certificate of Approval

This is to certify that the Quality Management System
at :

Thai Wire Products Public Company Limited

Address of Head office
: 99/2 Zeer Street Building 7th Floor, Phahonyothin Road,
Kukot, Lamlookha District,
Pathumthani 12130, Thailand

Address of premises
: 4 Maptaphud Industrial Estate I-5 Road,
Maptaphud, Muang District,
Rayong 21150, Thailand

Has been examined by Assessors of QMS Certification services
and found to be conforming to the requirements of

AS/NZS ISO 9001:2000

In respect of the following activities:

Manufacture of

- Steel wires for prestressed concrete
- Galvanized wires
- Motorcycle spoke wires
- Ordinary low carbon steel wires
- Steel wires strands for prestressed concrete
- Galvanized steel wires strands
- Hard drawn steel wires
- Bicycle spoke wires

This Certificate is valid from
21/10/2005 – 20/10/2008

Original certification date: 21/10/1999

Approval QMS Certification Services Pty Ltd

IAS-ANZ

QMS



CERTIFICATION SERVICES
AS/NZS 9001:2000

To verify the validity of this certificate please visit www.qms.com.au

Accreditation by the Joint Accreditation System
of Australia and New Zealand, Acc. No. 0141099MMA

Ref. No : 06T007/0394



CERTIFICATE OF LABORATORY ACCREDITATION

This is to certify that

Testing Laboratory

Thai Wire Products Public Company Limited

4, I-5, Maptaphud Industrial Estate, Maptaphud, Muang, Rayong

has successfully undergone assessment under the Thai Laboratory Accreditation Scheme (TLAS)

Thai Industrial Standards Institute

for meeting its criteria of competence, which are in accordance with
General requirements for the competence of testing and calibration laboratories

TIS 17025 - 2543 (2000)

ISO/IEC 17025 : 1999

Accreditation No. **TESTING 0163**

The scope of accreditation is as annexed hereto.

Date of Issue : 19 January 2006

Valid until : 18 January 2009

Signature :

(Damri Sukhotanang)

Deputy Permanent Secretary

Chairman, Ministerial Cluster

for Industrial and Entrepreneurial Promotion

Chairman of Industrial Product Standards Council

Initial Date of Issue 19 January 2006

Thai Laboratory Accreditation Scheme, Thai Industrial Standards Institute, Ministry of Industry

- Item / Product Tested - Standard/Test Method/Technique

- | | |
|---|--|
| 1. Steel wire for prestressed concrete | - TIS 95-2540 (1997)
clause 10.3 |
| | - TIS 95-2540 (1997)
clause 10.4 |
| 2. Steel wire strands for prestressed | - TIS 420-2540 (1997)
clause 10.3 |
| 3. Wire Rod | - TIS 244 : part 7-2525
(1982) clause 5.3 |
| 4. Steel wire,galvanized steel wire and galvanized steel wire strands | - TIS 244 : part 7-2525
(1982) clause 5.3 |



Thai Wire Products Public Company Limited

E-Mail Address : Plant@Thaiwire.com

Sales Department : Tel. 0-2992 6867

Fax. 0-2992 6870~1

Factory : Tel. 0-3868 4610~3

Fax. 0-3868 4614



ISO 9001

CERTIFICATE NUMBER

QMS 02120/565

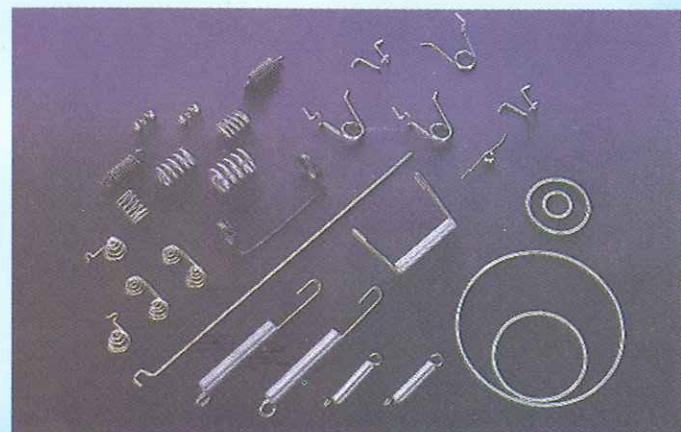
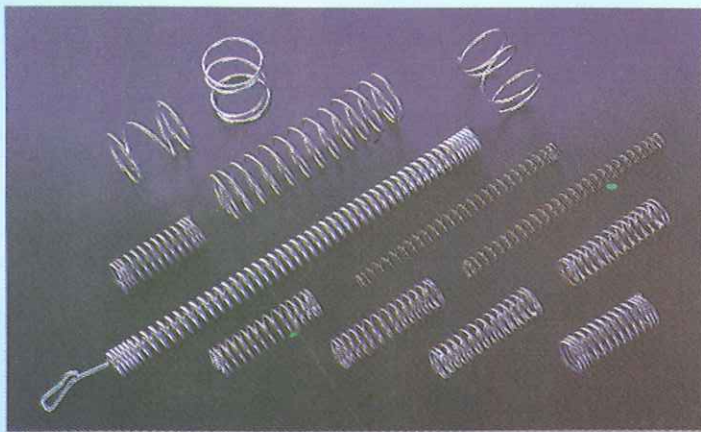
1. Mechanical Spring Steel Wire Acc. To JIS G 3521

1.1. Chemical Composition

	C%	Si%	Mn%	P%	S%
SWB	0.69 ~ 0.76	0.15 ~ 0.35	0.30 ~ 0.60	0.030 max.	0.030 max.
SWC	0.69 ~ 0.76	0.15 ~ 0.35	0.30 ~ 0.60	0.030 max.	0.030 max.
SWC80	0.79 ~ 0.86	0.15 ~ 0.35	0.30 ~ 0.60	0.030 max.	0.030 max.

1.2. Standard Diameters and Specifications

Wire Dia (mm)	Tensile Strength (N/mm ²)		Wire Dia. Tolerance (mm)	Ovality (mm)
	SWB	SWC / SWC80		
0.50	1910 ~ 2210	2210 ~ 2500	+0/-0.010	0.010 max.
0.55	1860 ~ 2160	2160 ~ 2450	+0/-0.010	0.010 max.
0.60	1810 ~ 2110	2110 ~ 2400	+0/-0.010	0.010 max.
0.65	1810 ~ 2110	2110 ~ 2400	+0/-0.010	0.010 max.
0.70	1770 ~ 2060	2060 ~ 2350	+0/-0.010	0.010 max.
0.80	1770 ~ 2010	2010 ~ 2300	+0/-0.010	0.010 max.
0.90	1770 ~ 2010	2010 ~ 2260	+0/-0.010	0.010 max.
1.00	1720 ~ 1960	1960 ~ 2210	+0/-0.015	0.015 max.
1.20	1670 ~ 1910	1910 ~ 2160	+0/-0.015	0.015 max.
1.40	1620 ~ 1860	1860 ~ 2110	+0/-0.030	0.030 max.
1.60	1570 ~ 1810	1810 ~ 2060	+0/-0.030	0.030 max.
1.80	1520 ~ 1770	1770 ~ 2010	+0/-0.030	0.030 max.
2.00	1470 ~ 1720	1720 ~ 1960	+0/-0.030	0.030 max.
2.30	1420 ~ 1670	1720 ~ 1960	+0/-0.040	0.040 max.
2.60	1420 ~ 1670	1670 ~ 1910	+0/-0.040	0.040 max.
2.90	1370 ~ 1620	1670 ~ 1910	+0/-0.040	0.040 max.





Thai Wire Products Public Company Limited

E-Mail Address : Plant@Thaiwire.com

Sales Department : Tel. 0-2992 6867

Fax. 0-2992 6870-1

Factory : Tel. 0-3868 4610-3

Fax. 0-3868 4614



ISO 9001

CERTIFICATE NUMBER
QMS 02120/565

2. Music Wire Acc. To JIS G 3522

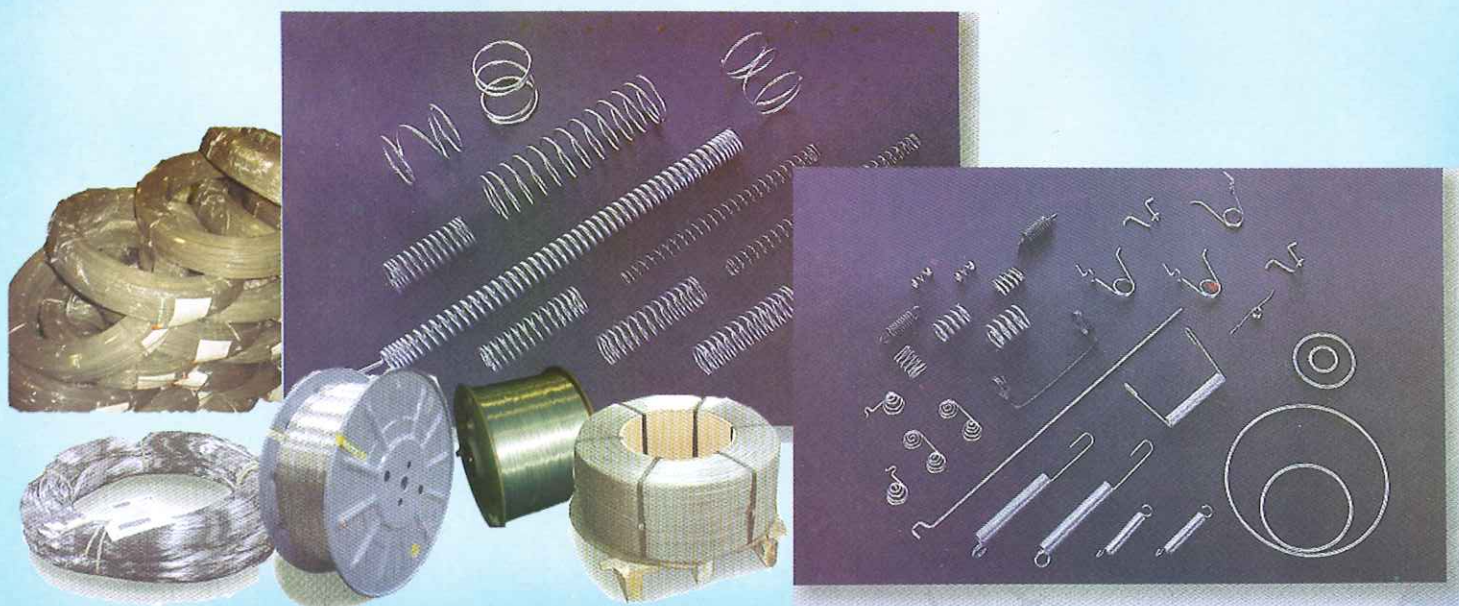
2.1. Chemical Composition

	C%	Si%	Mn%	P%	S%	Cu%
SWP-A	0.80 ~ 0.85	0.12 ~ 0.32	0.30 ~ 0.60	0.025 max.	0.025 max.	0.020 max.
SWP-B	0.80 ~ 0.85	0.12 ~ 0.32	0.30 ~ 0.90	0.025 max.	0.025 max.	0.020 max.

2.2. Standard Diameter and Specifications

* Purposed by TWP

Wire Dia (mm)	Tensile Strength (N/mm ²)		Wire Dia. Tolerance (mm)	Ovality (mm)
	SWP-A	SWP-B		
0.50	2300 ~ 2550	2550 ~ 2790	+0/-0.010 *	+0/-0.010 *
0.55	2260 ~ 2500	2500 ~ 2750	+0/-0.010	+0/-0.010
0.60	2210 ~ 2450	2450 ~ 2700	+0/-0.010	+0/-0.010
0.65	2210 ~ 2450	2450 ~ 2700	+0/-0.010	+0/-0.010
0.70	2160 ~ 2400	2400 ~ 2650	+0/-0.010	+0/-0.010
0.80	2110 ~ 2350	2350 ~ 2600	+0/-0.010	+0/-0.010
0.90	2110 ~ 2300	2300 ~ 2500	+0/-0.010	+0/-0.010
1.00	2060 ~ 2260	2260 ~ 2450	+0/-0.010	+0/-0.010
1.20	2010 ~ 2210	2210 ~ 2400	+0/-0.015	+0/-0.015
1.40	1960 ~ 2160	2160 ~ 2350	+0/-0.015	+0/-0.015
1.60	1910 ~ 2110	2110 ~ 2300	+0/-0.015	+0/-0.015
1.80	1860 ~ 2060	2060 ~ 2260	+0/-0.015	+0/-0.015
2.00	1810 ~ 2010	2010 ~ 2210	+0/-0.015	+0/-0.015





Thai Wire Products Public Company Limited

E-Mail Address : Plant@Thaiwire.com

Sales Department : Tel. 0-2992 6867
Fax. 0-2992 6870-1

Factory : Tel. 0-3868 4610-3
Fax. 0-3868 4614



ISO 9001
CERTIFICATE NUMBER
QMS 02120/565

3. Spring Wire Acc. to EN10270 – 1

3.1. Chemical Composition

Symbol of grade	C%	Si%	Mn%	P% max.	S% max.	Cu% max.
SM,SH	0.35 ~ 1.00	0.10 ~ 0.30	0.50 ~ 1.20	0.035	0.035	0.20
DM,DH	0.45 ~ 1.00	0.10 ~ 0.30	0.50 ~ 1.20	0.020	0.025	0.12

3.2. Standard Diameters and Specifications

* Purposed by TWP

Diameter (mm)	Tensile Strength (N/mm ²)				Dia. Tolerance (mm)	Ovality (mm)
	SM	DM	SH	DH		
0.50 ~ 0.53	2180 ~ 2450	2180 ~ 2450	2460 ~ 2720	2460 ~ 2720	± 0.010 *	0.010 max. *
0.53 ~ 0.56	2170 ~ 2430	2170 ~ 2430	2440 ~ 2700	2440 ~ 2700	± 0.010 *	0.010 max. *
0.56 ~ 0.60	2140 ~ 2400	2140 ~ 2400	2410 ~ 2670	2410 ~ 2670	± 0.010 *	0.010 max. *
0.60 ~ 0.63	2130 ~ 2380	2130 ~ 2380	2390 ~ 2650	2390 ~ 2650	± 0.010 *	0.010 max. *
0.63 ~ 0.65	2120 ~ 2370	2120 ~ 2370	2380 ~ 2640	2380 ~ 2640	± 0.010 *	0.010 max. *
0.65 ~ 0.70	2090 ~ 2350	2090 ~ 2350	2360 ~ 2610	2360 ~ 2610	± 0.010	0.010 max.
0.70 ~ 0.75	2070 ~ 2320	2070 ~ 2320	2330 ~ 2580	2330 ~ 2580	± 0.010	0.010 max.
0.75 ~ 0.80	2050 ~ 2300	2050 ~ 2300	2310 ~ 2560	2310 ~ 2560	± 0.015	0.015 max.
0.80 ~ 0.85	2030 ~ 2280	2230 ~ 2280	2290 ~ 2530	2290 ~ 2530	± 0.015	0.015 max.
0.85 ~ 0.90	2010 ~ 2260	2010 ~ 2260	2270 ~ 2510	2270 ~ 2510	± 0.015	0.015 max.
0.90 ~ 0.95	2000 ~ 2240	2000 ~ 2240	2250 ~ 2490	2250 ~ 2490	± 0.015	0.015 max.
0.95 ~ 1.00	1980 ~ 2220	1980 ~ 2220	2230 ~ 2470	2230 ~ 2470	± 0.015	0.015 max.
1.00 ~ 1.05	1960 ~ 2200	1960 ~ 2200	2210 ~ 2450	2210 ~ 2450	± 0.020	0.020 max.
1.05 ~ 1.10	1950 ~ 2190	1950 ~ 2190	2200 ~ 2430	2200 ~ 2430	± 0.020	0.020 max.
1.10 ~ 1.20	1920 ~ 2160	1920 ~ 2160	2170 ~ 2400	2170 ~ 2400	± 0.020	0.020 max.
1.20 ~ 1.25	1910 ~ 2140	2150 ~ 2380	2150 ~ 2380	2150 ~ 2380	± 0.020	0.020 max.
1.25 ~ 1.30	1900 ~ 2130	1900 ~ 2130	2140 ~ 2370	2140 ~ 2370	± 0.020	0.020 max.
1.30 ~ 1.40	1870 ~ 2100	1870 ~ 2100	2110 ~ 2340	2110 ~ 2340	± 0.020	0.020 max.
1.40 ~ 1.50	1850 ~ 2080	1850 ~ 2080	2090 ~ 2310	2090 ~ 2310	± 0.020	0.020 max.
1.50 ~ 1.60	1830 ~ 2050	1830 ~ 2050	2060 ~ 2290	2060 ~ 2290	± 0.020	0.020 max.
1.60 ~ 1.70	1810 ~ 2030	1810 ~ 2030	2040 ~ 2260	2040 ~ 2260	± 0.020	0.020 max.
1.70 ~ 1.80	1790 ~ 2010	1790 ~ 2010	2020 ~ 2240	2020 ~ 2240	± 0.025	0.025 max.
1.80 ~ 1.90	1770 ~ 1990	1770 ~ 1990	2000 ~ 2220	2000 ~ 2220	± 0.025	0.025 max.
1.90 ~ 2.00	1760 ~ 1970	1760 ~ 1970	1980 ~ 2200	1980 ~ 2200	± 0.025	0.025 max.
2.00 ~ 2.10	1740 ~ 1960	1740 ~ 1960	1970 ~ 2180	1970 ~ 2180	± 0.025	0.025 max.
2.10 ~ 2.25	1720 ~ 1930	1720 ~ 1930	1940 ~ 2150	1940 ~ 2150	± 0.025	0.025 max.
2.25 ~ 2.40	1700 ~ 1910	1700 ~ 1910	1920 ~ 2130	1920 ~ 2130	± 0.025	0.025 max.
2.40 ~ 2.50	1690 ~ 1890	1690 ~ 1890	1900 ~ 2110	1900 ~ 2110	± 0.025	0.025 max.

