

Engtex

ENGTEX METALS SDN. BHD.



Certification No. : PE 025602



No. Perakuan : A 002008



ISO 9001:2008 / MS ISO 9001:2008

INTRODUCTION

EM Ribbed Fabric is an innovative introduction to the construction industry by Engtex Metals Sdn Bhd, a subsidiary of Engtex Group Berhad. The EM Ribbed fabric has superior bond strength, better ductility and higher fatigue resistance. Its use as reinforcement in concrete structures for quality performance and durability cannot be compared. It is the economical alternative for better performance.

STANDARDS & PROPERTIES

EM Welded wire fabric is manufactured to comply to The requirements of Malaysian Standard MS145:2014 – steel fabric for the Reinforcement of Concrete. The cold Reduced steel wires used in the manufacturing of EM fabric complies to the Malaysian Standard MS146:2014 – Hard Drawn Mild Steel Wire for Reinforcement of Concrete, which stipulates a minimum characteristic yield strength (0.2% proof stress) of 500N/mm². While the shear strength of each weld is at least (125N/mm²) of the wires which ensures that the necessary anchorage can be developed.

With our new Cold Rolled Reduced Steel Wires for steel wire reinforcement of concrete under MS146:2014 and the yield strength will be minimum at 500N/mm².

THE ADVANTAGES USING ENGTEX METALS FABRIC

- Consistent quality assured compared with other types of reinforcement. All wires are cold drawn and tested. Wire drawing process to accurate diameter.
- Engtex Metals Fabric provides proper distribution of steel reinforcement throughout the concrete slab. Assured of obtaining the required area of reinforcement at the correct spacing, on-site supervision and checking time is reduced.
- Engtex Metals Fabric is simple to handle, placed and supported remain in position during concreting.
- High quality of Engtex Metals Fabric that meets MS145:2014 Standard results in significant cost savings. In addition to material saving, fixing time is also saved, as Engtex Metals Fabric delivered to construction site with wires welded at specified spacing.
- Our staff will be pleased to discuss the details of any comparison with you and provide current cost.

MATERIAL SPECIFICATIONS

The Standard & Industrial Research Institute of Malaysia (SIRIM) publishes specifications for steel and welded steel fabric are given in the tables :

Standard	Title
MS144 : 2014	Specification For Cold Reduced Mild Steel Wire for Reinforcement of concrete products.
MS145 : 2014	Specification For Welded Steel Fabric for Reinforcement of concrete.
MS146 : 2014	Specification For Hot & Cold-Rolled Steel Bars for Reinforcement Wire for Welded Mesh.

Characteristic Strength

MS144 : 2014 and MS145 : 2014 stipute the minimum requirement for characteristic yield strength of welded fabric :

Grade	Min. Characteristic Strength (N/mm ²)
500	500

ANCHORAGE & LAPPING

Conventional steel bars rely entirely on the adhesion between the bar surface and concrete to provide the necessary bond for anchorage. This is usually achieved by having surface deformations or provision of hooks to provide the required surface area for developing the necessary anchorage.

Unlike steel bars, EM fabric enables positive mechanical anchorage through the connected cross-wire welded at each intersection. Once EM fabric is embedded in the concrete, the anchorage of the fabric required to develop tensile stresses within the wires is provided by the embedment of the cross-wire. With the weld shear strength exceeding half the characteristic yield strength (125N/mm²) of the wire, an embedment of two welds will develop sufficient anchorage strength equal to the characteristic yield strength (500N/mm²).

Therefore, the bond between the wire surface and concrete becomes additional anchorage. Full yield strength can be achieved with an overlapping of two welds of the fabric (Fig 1) and usually used in the lapping for the bottom of suspended slabs. While half yield strength can be achieved when the fabric are overlapping by one weld (Fig 2) and widely applied in the lapping of top fabrics.

Fig.1 : Full Yield Strength Lap

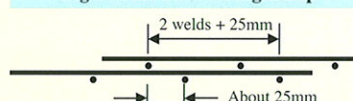
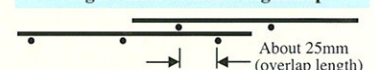


Fig.2 : Half Yield Strength Lap

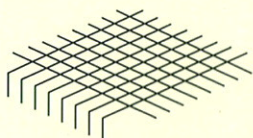


EM RIBBED STEEL FABRIC

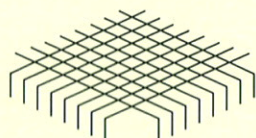
EM REF. NO	MS 145 REF. NO.	MAIN WIRE		CROSS WIRE		STEEL WIRE		MASS PER UNIT AREA (kg/m ²)
		Diameter (mm)	Spacing (mm)	Diameter (mm)	Spacing (mm)	Main (mm ² /m)	Cross (mm ² /m)	
Square Mesh								
A4	A63	4	200	4	200	63	63	0.99
A5	A98	5	200	5	200	98	98	1.54
A6	A142	6	200	6	200	142	142	2.22
A7	A193	7	200	7	200	193	193	3.02
A8	A252	8	200	8	200	252	252	3.95
A9	A318	9	200	9	200	318	318	4.99
A10	A393	10	200	10	200	393	393	6.16
A11	A475	11	200	11	200	475	475	7.46
A12	A565	12	200	12	200	565	565	8.88
A13	A664	13	200	13	200	664	664	10.43
A16	A1005	16	200	16	200	1005	1005	15.79
Rectangular Mesh								
B5	B196	5	100	7	200	196	193	3.05
B6	B283	6	100	7	200	283	193	3.73
B7	B385	7	100	7	200	385	193	4.53
B8	B503	8	100	8	200	503	252	5.93
B9	B636	9	100	8	200	636	252	6.97
B10	B785	10	100	8	200	785	252	8.14
B12	B1131	12	100	8	200	1131	252	10.90
B13	B1328	13	100	8	200	1328	252	12.39
Small Square								
DA4	DA126	4	100	4	100	126	126	1.97
DA5	DA196	5	100	5	100	196	196	3.08
DA6	DA283	6	100	6	100	283	283	4.44
DA7	DA385	7	100	7	100	385	385	6.04
DA8	DA503	8	100	8	100	503	503	7.90
DA9	DA636	9	100	9	100	636	636	9.98
DA10	DA785	10	100	10	100	785	785	12.32
DA11	DA950	11	100	11	100	950	950	14.91
DA12	DA1131	12	100	12	100	1131	1131	17.75
DA13	DA1327	13	100	13	100	1327	1327	20.86
E Series (Special Mesh)								
E6	E189	6	150	6	150	189	189	2.96
E7	E257	7	150	7	150	257	257	4.03
E8	E335	8	150	8	150	335	335	5.26
E9	E424	9	150	9	150	424	424	6.65
E10	E524	10	150	10	150	524	524	8.22
E11	E634	11	150	11	150	634	634	9.94
E12	E754	12	150	12	150	754	754	11.84

Note : If there is requirement on special mesh / double mesh wire, can contact our staff for further details.

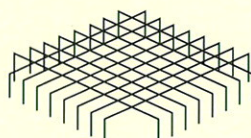
EM Types Of Bending And Special Design Mesh



Single Bend

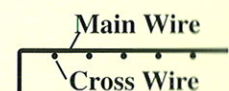
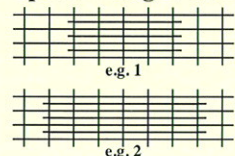


Double Bend



Fourth Bend

Special Design Mesh



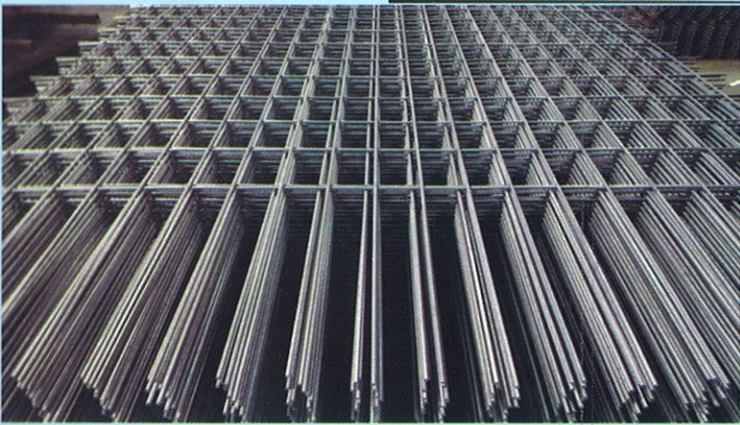
EM QC Division



EM Rebar Division



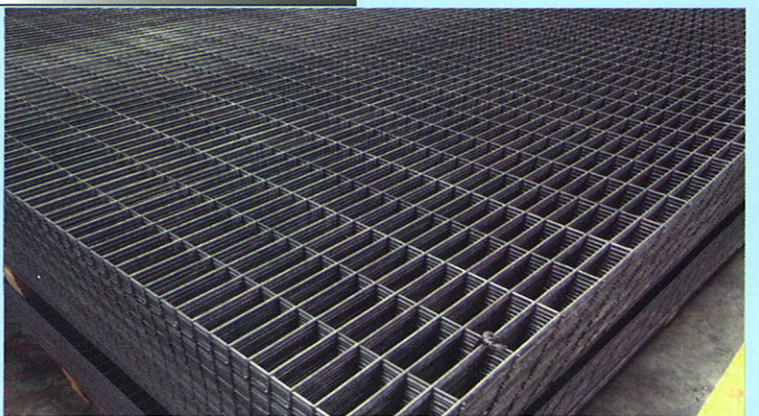
EM Wire Mesh Division



EM Hard Drawn Division



EM Fence Division





Some of Projects Reference

- 7 Blocks Commercial Building, Apartments & Shopping Mall, KL Gateway
- Colombia Hospital Projects, P. Jaya, Klang & Johore.
- Malton High Rise Condo & Commercial Building, Bukit Jalil, KL
- Emerald Shopping Mall & Apartments, Selayang, K.L.
- Rumah Selangorku, Apartments, Bukit Tinggi, Klang.
- Puncak 7, Apartment & Semi D, Shah Alam, Selangor
- TTDI Gateway, Apartments and Commerical Building, Shah Alam, Selangor
- Sunsuria Residence, Apartments, Jelutong, Shah Alam, Selangor
- Phase 1 & 2, Kasih Heights Development, Semenyih
- RumahKu, 8 Blocks Apartments, Cameron Highlands
- Peony Square, Apartments, Cameron Highlands
- Sunsuria City Development, Sepang, Selangor
- Prima Project, Phase 1,2 & 3 At Lumut, Perak



Sky Residence, Apartments, Puchong, Selangor
 Garden Residence 1, CyberJaya, Selangor
 Naval Base Building, Lumut.
 Razak Mansion, Apartments, Sg Besi, KL
 I-Con City, Commercial Building, P. Jaya.
 Trivo, Shoplot, Jelutong, Shah Alam, Selangor
 Eco Majestic, Apartments, Semenyih, Selangor
 Galleria Soho, S. Kembangan, Selangor
 Le Pavillion, Puchong, Selangor
 Platinum Matrix, Commercial Building, Malacca
 Serene Heights Residence, Semenyih
 Eco Grande Residence, Puncak Alam, Selangor

- Airport Building, KLIA 2, Sepang.
- Hospital HUKM Building, K.L
- Park Hill Residence, Condo, Bk Jalil, KL
- Rimbayu Residence, Dengkil, Selangor
- Forrest City Development, Johore
- Eco Sanctuary Residence, Selangor
- Kiara Properties Development, KL
- Pandan Mas Project, KL
- Jalil Mas Project, KL
- Swan Hotel, Malacca
- Regalia Condo, Malacca
- Amanja Commercial Suite, KL

PRODUCTION PROCESS FLOW CHART

Raw Material



QC Inspection

Drawing Process



QC Inspection

Straightening & Cutting



QC Inspection

Multi Blok Drawing Process



QC Inspection

Straightening & Cutting



QC Inspection

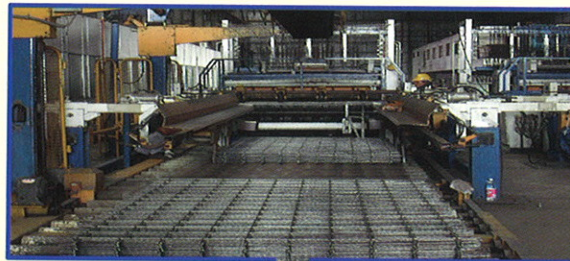
HTD Steel Bars



Hard Drawn Wire

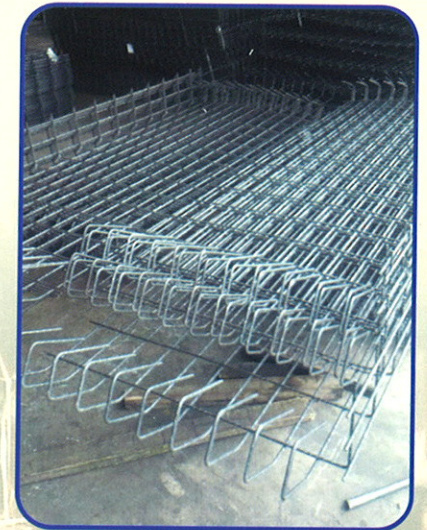


Welding Process



QC Inspection

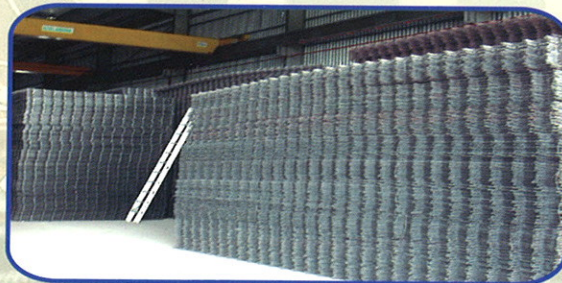
Precast Mesh



Security Fence



Finish Product - Mesh



Engtex Metals Sdn Bhd

- Steel Fabric Division
- Precast Steel Fabric Division
- Wire Division
- Fencing Division

Other Products

- Hot & Cold Rolled Rebar Mesh
- Nails
- Security & Anti Climb Fence



ENGTEX METALS SDN. BHD. (342663-H)

A member of Engtex Group Berhad - listed on the Main Board of Bursa Malaysia (KLSE)

Office : Lot 36, Jalan BRP 9/2B, Putra Industrial Park, Bukit Rahman Putra,
47000 Sungai Buloh, Selangor Darul Ehsan, Malaysia.
Tel: 603-6140 5928, 6140 1554 Fax: 603-6140 4545
E-mail: rickywong@engtex.com.my URL: <http://www.engtex.com.my/engtex>

KL Factory: Lot 443, Off Jalan Abdul Aziz, Batu 30, Jalan Kuala Selangor,
45600 Ijok, Selangor Darul Ehsan, Malaysia.
Tel: 603-3279 1888, 3279 3613 Fax: 603-3279 3163

JB Factory: Plot 24, Jalan Teknologi 5, Taman Teknologi Johor,
81400 Senai, Johor Darul Takzim, Malaysia.
Tel: 607-599 5898, 599 0878 Fax: 607-599 4899