ADVERTORIAL

DEALING WITH NON-CERTIFIED STEEL WIRE MESH IS ILLEGAL

SIRIM QAS International shares how to identify and avoid using CQ Mesh in the construction field

According to CIDB Act 520, steel wire mesh needs to be certified and obtain Perakuan Pematuhan Standard (PPS). PPS is issued by the Construction Industry Development Board (CIDB) itself whilst certification can be obtained from SIRIM, an appointed Certification Body or other approved certification bodies. Under Section 33C, any person who deals or undertakes to deal with construction materials specification the Fourth Schedule without CIDB PPS shall be deemed guilty of an offence. "Deal" means to handle, use, manufacture, supply, market, transfer, sell, or buy, whether wholesale or retail, import, or export.

Regrettably after long years of awareness and enforcement, non-certified steel wire mesh – also known as CQ Mesh – is still readily available in the market. Recently, CIDB has received feedbacks and complaints from various industry players on CQ Mesh being supplied and used in the construction field.

WHAT IS CQ MESH?

Wire mesh is a factory-made machine-welded steel fabric for the reinforcement of concrete conforming to MS 145 : 2014. Generally, CQ Mesh refers to wire mesh that does not comply with standards, customarily in some or all of the following:

1) **Out of mass tolerance (under-size)**
This is the most cliché issue found in the industry, where manufacturers seek to gain extra revenue by supplying wire mesh with mass per meter (kg/m) much lower than the allowed tolerance requirement stated in the product standard.

2) **Mechanical properties failure**
Mechanical properties like tensile, yield, tensile/yield ratio and elongation (A_{gt}) play a fundamental role in the integrity of concrete structures. When there's failure in one of these mechanical properties, it could be due to poor steel quality, manufacturing process, or habitually by out of mass tolerance (under-size) bar.

3) **Absence of rolled on bar mark**
Rolled on bar mark is used as a manufacturer's identification mark. Steel wire mesh without the bar mark will not show any sign of traceability from steel wire mesh supplied for construction usage to the actual manufacturers. In the event of loss of wire mesh tagging, which contains wire mesh information it is still possible to trace and track the product through the rolled on bar mark.

4) Improper identification tag

The proper identification tag with required information is essential to provide necessary product details and certification information to all relevant parties. Typically, CQ Mesh did not come with proper and complete tag information. Instead, it is supplied with hand-written tags with just elementary information.

MISUSE OF SIRIM CERTIFICATION MARK

In certain instances, suppliers of CQ Mesh may use an approved SIRIM Certification Mark on the identification tag to highlight the impression of legitimate and compliance. Such misuse of SIRIM Certification Mark is an enormous predicament in the industry as it sought to mislead consumers. SIRIM QAS International takes a very grave assessment on this matter and will initiate legal action against offenders.

HOW TO IDENTIFY COMPLIED MESH

The following are some necessary steps to govern if mesh complies with MS 145 : 2014 and MS 146 : 2014. The first two checks are visual observation. If both checks pass, then perform a humble "Quick Test" to check the mass of the bar.

1) Check rolled on bar mark - No rolled on bar mark means CQ Mesh.

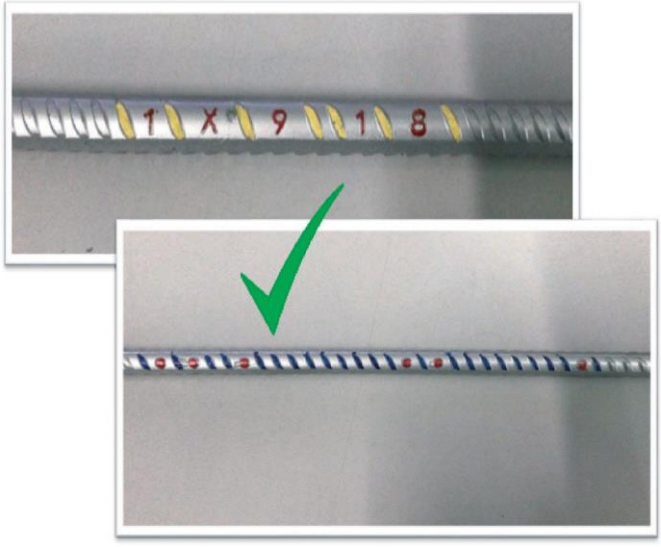

Figure 1: Certified wire mesh must come with rolled-mark on the ribbed wire.

Figure 2: Without bar marking = non-certified.

2) Check identification tag - incomplete information for instance, mesh reference, steel grade, sheet size, and quantity means CQ Mesh. Non-availability of complete SIRIM Certification Mark is also an indication of CQ Mesh. The tag shall at least have details, as shown in Table 1 below.

LICENSEE'S NAME or TRADEMARK	
MESH REFERENCE	THE GRADE OF MESH
THE TYPE OF MESH	DIMENSION OF MESH
NUMBER OF SHEET	LOT NO. / MANUFACTURING DATE
STANDARD NO.	
SIRIM CERTIFICATION MARK	
SIRIM LICENSE NUMBER	

Table 1: Tag template.

ABC SDN. BHD.	
A63	COLD WORKED RIBBED BAR GRADE B500A OF MS 146 : 2014
SQUARE MESH	5000mm × 2100mm
20 PIECES	26-June-20
MS SIRIM Certified to MS 146 : 2014 Certification No.: PCXXXXXX*	

Table 2: An example of a proper identification tag.

3) Quick test - Cut the wire from the mesh and ensure both ends are trimmed at right-angle to the bar. Weigh the sample (kg) and measure the length (m). Calculate mass per meter by dividing weight per meter. Refer to the table below for the minimum and maximum for weight per meter for preferred diameters.

Size (mm)	Minimum mass per meter (kg/m)	Nominal mass per meter (kg/m)	Maximum mass per meter (kg/m)
6	0.209	0.222	0.235
7	0.284	0.302	0.320
8	0.371	0.395	0.419
9	0.477	0.499	0.521
10	0.589	0.617	0.645
12	0.848	0.888	0.928