

**“Deemed-to-satisfy” Steel H-pile Sections
for Foundation Works**

A. General

Type of construction system:	Socketed Steel H-piles and Driven Steel Bearing H-piles
Applications:	Pile Foundation for Private Building Works

B. “Deemed-to-satisfy” Conditions

There is no objection in principle to the use of the “deemed-to-satisfy” steel bearing piles listed in the following tables under section 3 of Building (Construction) Regulation subject to the following conditions:

a. Sectional properties

The sectional properties of the piles should be in conformity with the provisions of BS4: Part 1: 2005*.

b. Specification of pile

The chemical composition and mechanical properties of the piles should be in conformity with the provisions in BS EN 10025: Part 2: 2004*.

c. Structural capacity

The structural capacity of a single pile under working load should be determined in accordance with the Code of Practice for Foundations 2017.

d. Foundation capacity

The capacity of the pile foundation should be determined by the application of recognized foundation engineering principles taking into account the ultimate bearing capacity with an adequate factor of safety and the estimation of settlement, based on the characteristics of the founding stratum and the pile element.

e. Quality assurance

A copy of the mill certification of each of the structural steel used should be submitted to confirm that the requirements of chemical composition and mechanical properties are complied with.

f. Specification of welding

When the pile(s) is/are proposed in a piling submission, welding design and specification should be submitted and should include the following:

- i. Technical specifications of welding including use of welding electrodes, welding current and welding test; and
- ii. Preheating requirements for all types of welded joints should be assessed in accordance with BS EN 1011: Part 2: 2001* and, if found necessary, minimum preheating temperature for the welded joints should be specified.

The Building Authority (BA) will consider the applicability of these types of piles to a building site according to the ground conditions and environs when foundation plans are submitted for approval. The BA may also impose requirements on driving performance tests, proof tests and quality assurance on materials and workmanship when giving approval to the foundation plans.

* Where it is intended to use other standards or technical references, or latest version of the standards, it should be demonstrated that they can achieve a performance equivalent to the acceptable standards as specified in the Code of Practice for the Structural Use of Steel 2011.

Table 1 List of “deemed-to-satisfy” Grade S450J0 Steel H-piles

Brand Name	Size
HYUNDAI Grade S450J0	305x305x180 kg/m 305x305x223 kg/m
LAIWU Grade S450J0	305x305x149 kg/m 305x305x180 kg/m 305x305x223 kg/m
Maanshan Grade S450J0	305x305x149 kg/m 305x305x180 kg/m
Maanshan Grade S450J0/S460J0	305x305x223 kg/m
THS Grade S450J0	305x305x149 kg/m 305x305x180 kg/m 305x305x223 kg/m
Nippon Steel Grade S450J0	305x305x149 kg/m 305x305x180 kg/m 305x305x223 kg/m
Sumitomo S450J0	305x305x149 kg/m 305x305x180 kg/m 305x305x223 kg/m
Siam Yamato (SYS) S450J0	305x305x149 kg/m 305x305x180 kg/m 305x305x223 kg/m
Dragon Steel S450J0	305x305x149 kg/m 305x305x180 kg/m 305x305x223 kg/m
Nippon Steel & Sumitomo Metal Corporation Sakai Works S450J0	305x305x149 kg/m 305x305x180 kg/m 305x305x223 kg/m
Nippon Steel Corporation East Nippon Works Kashima Area S450J0	305x305x149 kg/m 305x305x180 kg/m 305x305x223 kg/m
HISTAR Grade S450J0	305x305x180 kg/m 305x305x223 kg/m
EVRAZ NTMK Grade S450J0+AR	305x305x180 kg/m 305x305x223 kg/m
RIZHAO Grade S450J0	305x305x149 kg/m 305x305x180 kg/m 305x305x223 kg/m
SULB Grade S450J0+AR	305x305x149 kg/m 305x305x180 kg/m 305x305x223 kg/m
TH AS Grade S450J0+AR	305x305x186 kg/m
BAOTOU Grade S450J0	305x305x149 kg/m 305x305x180 kg/m 305x305x223 kg/m
HBJX Grade S450J0	305x305x149 kg/m 305x305x180 kg/m 305x305x223 kg/m

Table 2 List of “deemed-to-satisfy” Grade S460J0 Steel H-piles

Brand Name	Size
Maanshan Grade S450J0/S460J0	305x305x149 kg/m 305x305x180 kg/m 305x305x223 kg/m