



designation	Hågernäs Bridge
type of use:	pedestrian bridge + service vehicle (80 kN +40 kN)
location:	Hågernäs, approx 20 km north of Stockholm, Sweden
structural system:	half-through, three-hinged arch.
type of bridge:	gangway bridge
structural engineer:	Univ. Prof. Roberto Crocetti
timber supplier company:	Moelven Töreboda AB
erection of structure:	Moelven Töreboda AB
contact:	Univ. Prof. Roberto Crocetti, Division of Structural Engineering, Lund University Crocetti Roberto, Tel. +46 46 222 86 26 roberto.crocetti@kstr.lth.se
component	construction material
foundation:	concrete footing on rock
road surface:	asphalt layer (80mm)
wearing course:	the arches are protected by means of wearing planks on the sides and a metal sheet on the top. The ribs of the deck are protected in the same manner as the arches. The top part of the deck (i.e. the "flange" of the T-cross section"), which is a 126 mm Kerto-Q plate, is protected by means of waterproof membrane and asphalt
main structure:	arch : glulam deck : composite structure glulam+ Kerto Q
secondary structure:	glulam beams



connections:	<p>the main connections are:</p> <p>a) the hinges in the arches. Here the connection consists of steel plates nailed to the timber parts. At the springing points, the steel plates are anchored to the concrete foundations by means of threaded bars. The hinges of the arches (three at each arch) consists of massive steel pins with diameters 60mm and 90 mm.</p> <p>b) the connection between the steel hangers and the timber arch : it consists of threaded bars which are inserted in pre-drilled holes made in the arch in direction parallel to the hanger. They are locked on the top side of the arch by means of appropriate washer and nut. The bars are lightly pre-tensioned.</p>
railings:	the railing system is made of wood
waterproofing:	the arches and the carriageway are protected by means of wearing planks and metal sheathing.
drainage:	the bridge has a slope in the transversal direction and a curvature in the longitudinal direction. Drainage of water occurs only at bridge abutments.
further information	the arch span is 34 m, the radius of curvature of the arches is 22 m. The total length is 42,1 m and the carriageway is in a small slope from the left abutment to the right abutment. Technical durability is 80 year, according to Swedish specifications.