

REPORT

SERVICES POLYTESTS INC.

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Report No. P-1499

Mechanical tests on anchors

Client:

Les Surfaces Sportives Prévost Inc.

520 des Marguerites st, Contrecoeur, Qc J0L 1C0

GENERAL: This report presents the mechanical tests results performed on 6 identical steel anchors supplied by the client. Tests were carried out at Polytests laboratory.

Responsible : Jacques Prévost, Les Surfaces Sportives Prévost Inc.

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1 Product

1.1 General


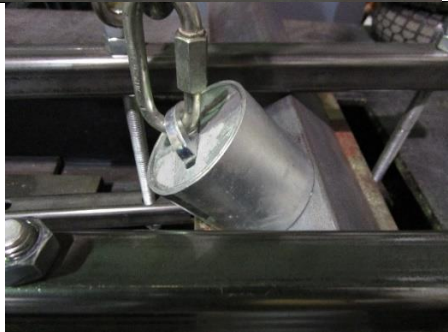

This report covers the mechanical testing performed on six identical steel anchors. Testing done aims at measuring the tensile and compression resistance of the product. Tests were done on August the 3rd 2020 by Alain Lefebvre at Polytests laboratory.

1.2 Samples

Samples submitted by the client were identified as being the SAFE T ANCHOR T-2000 model.




2 Test description and results

The pull and compression tests have been performed on the samples submitted. The pull resistance was made on both a parallel and perpendicular orientation. Tests were stopped upon failure of the samples.

<p>45 degree pull resistance (parallel orientation)</p>	
<p>45 degree pull resistance (perpendicular orientation)</p>	
<p>Compression resistance</p>	

Sample	Forces, lbs		
	45 degree pull resistance		Resistance to compression
	parallel	perpendicular	
1	4310	4705	35000
2	4395	4910	39000
Average	4353	4808	37000
Requirement	164	164	5 000
SF*	26.5	29.3	7.4

*Average Safety factor as established by the manufacturer

45 degree pull resistance (parallel orientation)		Tearing of the swivel hook at the pivot
45 degree pull resistance (perpendicular orientation)		Lateral deformation of the swivel hook
Compression resistance		Swelling of the housing under the pressure of the threads

SUMMARY TABLE

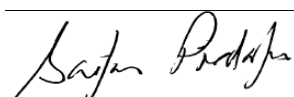
PROPERTIES	SPEC	SAFETY FACTOR	GENERAL SPEC.	SAFE T ANCHOR
45° PULL RESISTANCE	SPECS ₁	27	80 kg (164 lb)	1975 (4353)
COMPRESSION RESISTANCE	SPECS ₂	7	2250 kg (5000 lb)	16800 (37000)
TENSILE STRENGTH	ASTM D638	-	28.9 MPa (4200) psi	STEEL
TEAR RESISTANCE	ASTM D624	-	31 kN/m	STEEL
ABRASION RESISTANCE	ASTM	-	20 mg/1000 rev	STEEL
SERVICE TEMPERATURE	-	-	-50 to +130 °C	STEEL
ELONGATION	ASTM D412	-	250 %	STEEL

¹ According to the specifications for soccer goals, each anchor must withstand pull load of 80 kg (164 lb) according to the horizontal load test of 110 kg on the horizontal bar of the goal.

² According to the specifications, each anchor must withstand a compressive load of 2,250 kg (5,000 lb) in order to withstand the compressive loads of the truck axles.. (supplied by the client)

COMPONANT		SAFE T ANCHOR MATERIAL
HOUSING		ZINC COATED STEEL
COVER		ZINC COATED STEEL
STOPPER		ZINC COATED STEEL
SCREW PILE		ZINC COATED STEEL
ANTI-TAMPER BOLTS		STAINLESS STEEL
MECHANICAL BOLTS		ZINC PLATED STEEL
STEEL WIRE		STEEL, VINYL COATED WITH RUBBER TIPS

Written by :



Gaétan Piédalue, P.Eng..

Polytests Services Inc.