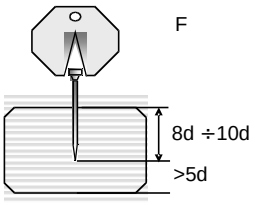
C.R.I.L. Centro Ricerche Imballaggi Legno e Logistica s.r.l.

RESISTANCE TO EXTRACTION OF FASTENING ELEMENTS

References		System design
Test report n°	**51/20F**	
Reference standard	**UNI EN ISO 12777-2:2001 pt.o 5.2**	
Test date	05/10/2020	
Test tool	Electronic dynamometer (risoluzione 1N)	
Tool speed	25 mm/min	
Average test temperature (°C)	21,7	
Average test humidity (% U.R.)	54,2	

Used samples description
Metal staple with divergent points Model N° 3, Milled Nominal dimensions: 3,60/4,10 x 17,60 x 50 (L) mm.

Customer	
Company	Taraschi Andrea
Place	46010 - Mariana Mantovana (MN)

Test data

Staple type	Milled
Leg wire dimension (mm)	4,10 x 3,60
Length (mm)	50
Crown wide (mm)	17,6

Wood type	pine wood joists
Height (mm)	86
Wide (mm)	86
Length (mm)	815
Weigth (kg)	2,5
Density (kg/dm3)	0,41

Wood moisture at assembly (%p/p)	-
Wood moisture at test (%p/p)	12,5

Staple penetration (mm)	33
Staples distance (mm)	36

Time elapsed between mounting and testing	>150 hours

Crown angle	0°

Test n°	Maximum force (daN)
1	118,4
2	131,7
3	104,2
4	126,3
5	125,6
6	126,4
7	139,3
8	127,1

Crown angle	90°

test n°	Maximum force (daN)
9	82,5
10	117,3
11	124,7
12	113,4
13	103,3
14	117,4
15	85,6
16	95,6

Force 0° (daN)	124,9

Force 90° (daN)	105,0

Mean max force (daN)	114,9
Expanded Uncertainty ± [daN]	8,8

NOTE:
The assembly was carried out by the customer according to the standard UNI EN ISO 12777-2 : 2001