

ADJUSTABLE TELESCOPIC STEEL PROPS

SERIE ITALIA

NOMINAL CHARACTERISTICS OF RESISTANCE

Load tests of props

A series of load tests has been led to measure the structural failure on samples of each type of props in various configurations. These tests have been made considering the maximum extension and the various intermedium ones. The valuation of 5% fractile of resistance with 75% of confidence has been detected throughout the elaboration of test results, according to the prescriptions of the regulation UNI EN 1065.

Theatrical evaluation of the characteristical resistance of props

Calculations have been effectuated applying the analytic solution in the elastic-plastic field of the elements composing the adjustable prop, adopting the same load system and the constraints provided by Norm UNI EN 1065.

To increase security, the effective collapse load in correspondence of each prop extension has been assumed as the minor one between the experimental collapse load and the analytic collapse load, as previously evaluated.

In the following tables there are the minimum collapse load and the admissible load, valuated adopting a security coefficient of 1.65 according to the EUROCODICE 3.

COLLAPSE LOAD AND ADMISSIBLE LOAD SERVICE LOAD MUST NEVER PASS THE ADMISSIBLE LOAD INDICATED BELOW

PROP SERIE ITALIA H=5.00 M

EXTENSION (m)	MINIMAL COLLAPSE LOAD (kN)	ADMISSIBLE LOAD (kN)
5,00	7,47	4,53
4,90	7,91	4,79
4,80	8,35	5,06
4,70	8,88	5,38
4,60	9,40	5,70
4,50	10,03	6,08
4,40	10,66	6,46
4,30	11,43	6,93
4,20	12,20	7,39
4,10	13,19	7,99
4,00	14,17	8,59
3,90	15,44	9,35
3,80	16,70	10,12
3,70	18,43	11,17
3,60	20,16	12,22
3,50	22,58	13,68
3,40	25,00	15,15
3,30	25,77	15,62
3,20	25,77	15,62
3,10	25,77	15,62
3,00	25,77	15,62
2,90	25,77	15,62
2,80	25,77	15,62

(*)NOTE: THE ADMISSIBLE LOAD HAVE BEEN CALCULATED ADOPTING A SECURITY COEFFICENT OF 1,65

PROP SERIE ITALIA H=4,50 M

EXTENSION (m)	MINIMAL COLLAPSE LOAD (kN)	ADMISSIBLE LOAD (kN)
4,50	8,32	5,04
4,40	9,10	5,52
4,30	9,90	6,00
4,20	10,50	6,36
4,10	11,60	7,03
4,00	12,50	7,58
3,90	13,37	8,10
3,80	14,08	8,53
3,70	14,22	8,62
3,60	15,02	9,10
3,50	15,89	9,63
3,40	16,84	10,21
3,30	17,28	10,47
3,20	18,37	12,73
3,10	19,57	13,70
3,00	20,90	14,55
2,90	25,77	15,62
2,80	25,77	15,62
2,70	25,77	15,62
2,60	25,77	15,62
2,50	25,77	15,62
2,40	25,77	15,62

PROP SERIE ITALIA H=4,00 M

EXTENSION (m)	MINIMAL COLLAPSE LOAD (kN)	ADMISSIBLE LOAD (kN)
4,00	10,23	6,20
3,90	10,76	6,52
3,80	11,33	6,87
3,70	14,04	8,51
3,60	14,04	8,55
3,50	14,04	8,58
3,40	14,20	8,61
3,30	15,05	10,00
3,20	16,00	11,88
3,10	20,60	12,48
3,00	22,00	13,33
2,90	23,00	13,94
2,80	25,00	15,15
2,70	25,77	15,62
2,60	25,77	15,62
2,50	25,77	15,62
2,40	25,77	15,62
2,30	25,77	15,62
2,20	25,77	15,62

(*)NOTE: THE ADMISSIBLE LOAD HAVE BEEN CALCULATED ADOPTING A SECURITY COEFFICENT OF 1,65

PROP SERIE ITALIA H=3,50 M

EXTENSION (m)	MINIMAL COLLAPSE LOAD (kN)	ADMISSIBLE LOAD (kN)
3,50	13,45	8,14
3,40	13,44	8,14
3,30	13,44	8,14
3,20	16,00	10,91
3,10	17,10	11,82
3,00	20,00	12,12
2,90	21,50	13,03
2,80	23,00	13,94
2,70	24,50	14,85
2,60	25,77	15,62
2,50	25,77	15,62
2,40	25,77	15,62
2,30	25,77	15,62
2,20	25,77	15,62
2,10	25,77	15,62
2,00	25,77	15,62

PROP SERIE ITALIA H=3,20 M

EXTENSION (m)	MINIMAL COLLAPSE LOAD (kN)	ADMISSIBLE LOAD (kN)
3,20	19,00	10,85
3,10	21,00	11,79
3,00	22,50	12,73
2,90	23,40	13,94
2,80	25,00	15,15
2,70	25,77	15,62
2,60	25,77	15,62
2,50	25,77	15,62
2,40	25,77	15,62
2,30	25,77	15,62
2,20	25,77	15,62
2,10	25,77	15,62
2,00	25,77	15,62
1,90	25,77	15,62
1,80	25,77	15,62

(*)NOTE: THE ADMISSIBLE LOAD HAVE BEEN CALCULATED ADOPTING A SECURITY COEFFICENT OF 1,65

PROP SERIE ITALIA H=3,00 M

EXTENSION (m)	MINIMAL COLLAPSE LOAD (kN)	ADMISSIBLE LOAD (kN)
3,00	19,90	12,06
2,90	21,80	13,21
2,80	22,50	13,64
2,70	23,40	14,18
2,60	24,00	15,15
2,50	25,77	15,62
2,40	25,77	15,62
2,30	25,77	15,62
2,20	25,77	15,62
2,10	25,77	15,62
2,00	25,77	15,62
1,90	25,77	15,62
1,80	25,77	15,62
1,70	25,77	15,62

PROP SERIE ITALIA H=2,50 M

EXTENSION (m)	MINIMAL COLLAPSE LOAD (kN)	ADMISSIBLE LOAD (kN)
2,50	25,77	15,62
2,40	25,77	15,62
2,30	25,77	15,62
2,20	25,77	15,62
2,10	25,77	15,62
2,00	25,77	15,62
1,90	25,77	15,62
1,80	25,77	15,62
1,70	25,77	15,62
1,60	25,77	15,62
1,50	25,77	15,62

PROP SERIE ITALIA H=1,80 M

EXTENSION (m)	MINIMAL COLLAPSE LOAD (kN)	ADMISSIBLE LOAD (kN)
1,80	25,77	15,62
1,70	25,77	15,62
1,60	25,77	15,62
1,50	25,77	15,62
1,40	25,77	15,62
1,30	25,77	15,62
1,20	25,77	15,62
1,10	25,77	15,62

(*)NOTE: THE ADMISSIBLE LOAD HAVE BEEN CALCULATED ADOPTING A SECURITY COEFFICENT OF 1,65

PROP SERIE ITALIA H=1,30 M

EXTENSION (m)	MINIMAL COLLAPSE LOAD (kN)	ADMISSIBLE LOAD (kN)
1,30	25,77	15,62
1,20	25,77	15,62
1,10	25,77	15,62
1,00	25,77	15,62
0,90	25,77	15,62
0,80	25,77	15,62

PROP SERIE ITALIA H=0,80 M

EXTENSION (m)	MINIMAL COLLAPSE LOAD (kN)	ADMISSIBLE LOAD (kN)
0,80	25,77	15,62
0,70	25,77	15,62
0,60	25,77	15,62
0,50	25,77	15,62

(*)NOTE: THE ADMISSIBLE LOAD HAVE BEEN CALCULATED ADOPTING A SECURITY COEFFICENT OF 1,65

ADJUSTABLE TELESCOPIC
PROPS "SERIE ITALIA"

I, the undersigned, Mr. Adriano Bonazza, as Legal Representative, certify that the underlying 10 types own-produced props entitled as:

SERIE ITALIA 8/5
SERIE ITALIA 13/8
SERIE ITALIA 18/11
SERIE ITALIA 25/15
SERIE ITALIA 30/17
SERIE ITALIA 32/20
SERIE ITALIA 35/20
SERIE ITALIA 40/22
SERIE ITALIA 45/24
SERIE ITALIA 50/28

Min/Max use height are respectively m 0.5/0.8, 0.8/1.3, 1.1/1.8, 1.5/2.5, 1.7/3.0, 1.8/3.2, 2.0/3.5, 2.2/4.0, 2.4/4.5 and 2.8/5.0 for the above mentioned types.

At the Material and structures laboratory of The Engineering Department at University of Perugia – Terni Branch loading, mechanical tests on pipes and pin materials, breaking strength test on the adjusting devices and on the system preventing the (accidental) release have been issued.

The test results are reported in these Test Certificated:

CERT. N. 145PF/EI.M OF 15.11.2005 – Crush strength test on props Serie ITALIA H= 5.0 m
CERT. N. 084PF/EI.M OF 15.3.2005- Crush strength test on props Serie ITALIA H= 4.5 m
CERT. N. 085PF/EI.M OF 15.3.2005- Crush strength test on props Serie ITALIA H= 4.0 m
CERT. N. 086PF/EI.M OF 15.3.2005- Crush strength test on props Serie ITALIA H= 3.5 m
CERT. N. 143PF/EI.M OF 15.11.2005- Crush strength test on props Serie ITALIA H= 3.2 m
CERT. N. 087PF/EI.M OF 15.3.2005- Crush strength test on props Serie ITALIA H= 3.0 m
CERT. N. 142PF/EI.M OF 14.7.2005- Crush strength test on props Serie ITALIA H= 2.5 m
CERT. N. 141PF/EI.M OF 14.7.2005- Crush strength test on props Serie ITALIA H= 1.8 m
CERT. N. 140PF/EI.M OF 14.7.2005- Crush strength test on props Serie ITALIA H= 1.3 m
CERT. N. 139PF/EI.M OF 14.7.2005- Crush strength test on props Serie ITALIA H= 0.8 m
CERT. N. 083PF/EI.M OF 15.3.2005- Tensile test on metal elements
CERT. N. 088PF/EI.M OF 15.3.2005- Breaking strength test in the adjusting devices
CERT. N. 089PF/EI.M OF 15.3.2005- Certification on ultimate tensile strength
CERT. N. 144PF/EI.M OF 15.11.2005- Certification on ultimate tensile strength

Given the results on props test, on the system preventing the unintentional release, on height adjustment and on the materials listed in the above-mentioned certificates;

Given tests and technical report;

I Declare that the own produced SERIE ITALIA can bear the loads hinted in the charts above listed

Porzano di Leno, 21-12-2005

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