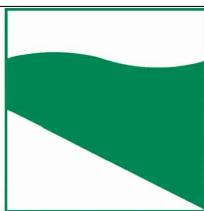




PROTEZIONE CIVILE  
Presidenza del Consiglio dei Ministri  
Dipartimento della Protezione Civile



Regione Emilia-Romagna



CONFERENZA DELLE REGIONI E  
DELLE PROVINCE AUTONOME

Attuazione dell'articolo 11 della legge 24 giugno 2009, n. 77

# MICROZONAZIONE SISMICA

## Prove penetrometriche con sismocono

Regione Emilia-Romagna  
Comune di Busseto



Regione Emilia-Romagna	<b>Soggetto realizzatore</b>  <b>ENGEO</b> S.r.l. ENGINEERING GEOLOGY www.engeo.it <b>Direzione tecnica</b> Dott. Geol. Carlo Caleffi Dott. Geol. Francesco Cerutti <b>Collaboratori</b> Dott. Geol. Matteo Baisi Dott.ssa Geol. Alessandra Cantoni Dott. Geol. Andrea Conti Dott.ssa Geol. Melinda Raimondo	Data Maggio 2022  <b>MS3</b>
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**FERRARA DEPARTMENT**

Via Annibale Zucchini, 69 - 44122 Ferrara (FE)

Tel.: +39 0532 56771 - Fax.: +39 0532 56119

SOCOTEC ITALIA Srl - P.Iva 01872430468

Headquarters: Via Bariola, 101-103 - 20020 Lainate (MI)

Tel.: +39 02 9375 0000 - Fax: +39 02 9375 0099

[www.socotec.it](http://www.socotec.it)**COMMITTENTE: ENGE O S.r.l. - Via Suor Maria Adorni, 2 - 43121 Parma****CANTIERE: Via Luigi Illica - Busseto (PR)**

PROVA N°: SCPTU 1 PROF. FALDA (m da p.c.): 3.40 PUNTA: Tecnopenta G1-CPL2IN (matr. 200317)[a = 0.66]

DATA: 28/02/22 PREFORO (m da p.c.): 0.02 LAT. (WGS 84): 44.984749° LONG. (WGS 84): 10.043411°

COMMESSA: 21711FE/22 C. SITO N°: SF220179 del 01/03/21 OPERATORE: L. Formisano

prof. m	qc Mpa	fs kPa	U kPa	incl. gradi	prof. m	qc Mpa	fs kPa	U kPa	incl. gradi	prof. m	qc Mpa	fs kPa	U kPa	incl. gradi	prof. m	qc Mpa	fs kPa	U kPa	incl. gradi	prof. m	qc Mpa	fs kPa	U kPa	incl. gradi
0.04	1.23	20.13	22.67	0.76	2.04	2.87	147.35	84.00	1.32	4.04	1.45	98.17	276.00	2.00	6.04	2.20	52.58	598.67	2.61	8.04	8.05	56.73	59.33	3.27
0.06	1.18	28.02	20.00	0.69	2.06	3.06	155.90	85.33	1.32	4.06	1.39	92.50	280.67	2.00	6.06	2.22	51.03	635.33	2.62	8.06	7.38	55.28	55.33	3.27
0.08	1.14	32.46	16.00	0.69	2.08	3.11	165.01	82.67	1.32	4.08	1.35	87.39	284.67	2.02	6.08	2.30	47.25	684.67	2.63	8.08	6.85	52.83	52.67	3.29
0.10	1.11	40.24	11.33	0.75	2.10	3.12	173.56	81.33	1.33	4.10	1.42	83.83	296.00	2.02	6.10	2.42	47.03	790.00	2.64	8.10	6.63	50.17	51.33	3.29
0.12	1.13	49.35	10.67	0.79	2.12	3.11	182.22	74.67	1.35	4.12	1.50	80.50	312.67	2.04	6.12	2.58	46.58	823.33	2.65	8.12	6.68	45.61	52.00	3.29
0.14	1.18	58.13	12.00	0.77	2.14	2.98	188.33	67.33	1.35	4.14	1.61	75.50	344.00	2.04	6.14	2.76	46.92	886.00	2.66	8.14	7.25	42.27	57.33	3.30
0.16	1.13	65.58	9.33	0.68	2.16	2.87	195.55	64.00	1.35	4.16	1.73	70.83	384.00	2.05	6.16	2.87	49.47	880.67	2.67	8.16	8.17	42.60	62.67	3.30
0.18	1.11	70.91	1.33	0.74	2.18	2.78	201.21	63.33	1.36	4.18	1.86	65.83	443.33	2.06	6.18	3.00	54.92	873.33	2.68	8.18	9.18	39.60	63.33	3.31
0.20	1.30	73.35	4.67	0.69	2.20	2.67	207.54	60.67	1.37	4.20	1.99	62.17	453.33	2.07	6.20	2.98	59.59	856.00	2.69	8.20	9.85	39.38	51.33	3.32
0.22	1.05	70.68	4.00	0.68	2.22	2.55	208.07	75.33	1.37	4.22	2.12	60.72	498.00	2.07	6.22	2.98	68.81	851.33	2.70	8.22	10.07	37.43	20.00	3.34
0.24	1.23	74.80	1.33	0.76	2.24	2.41	205.84	53.33	1.40	4.24	2.25	67.09	487.33	2.10	6.24	2.99	73.27	847.33	2.70	8.24	10.26	40.65	19.33	3.34
0.26	1.49	74.80	2.00	0.76	2.26	2.34	204.84	56.00	1.39	4.26	2.22	76.75	410.67	2.11	6.26	2.86	81.83	848.00	2.70	8.26	10.22	38.87	19.33	3.35
0.28	1.27	71.47	8.00	0.77	2.28	2.34	202.50	56.67	1.40	4.28	2.24	87.87	434.67	2.11	6.28	2.91	89.27	832.67	2.70	8.28	9.84	29.76	16.00	3.36
0.30	1.02	71.91	5.33	0.77	2.30	2.32	198.06	59.33	1.41	4.30	2.24	97.31	442.67	2.13	6.30	2.91	101.27	848.00	2.71	8.30	9.52	29.10	16.00	3.36
0.32	1.09	73.70	4.00	0.76	2.32	2.29	191.94	62.00	1.41	4.32	2.24	106.42	449.33	2.12	6.32	2.81	110.16	784.00	2.72	8.32	9.65	30.65	18.67	3.37
0.34	1.05	74.36	2.00	0.79	2.34	2.21	187.49	60.00	1.43	4.34	2.26	113.76	452.67	2.14	6.34	2.70	119.49	778.67	2.72	8.34	10.01	33.87	22.67	3.37
0.36	1.06	74.26	0.67	0.78	2.36	2.16	179.49	60.67	1.42	4.36	2.30	117.64	454.67	2.15	6.36	2.70	124.82	781.33	2.73	8.36	10.26	36.32	27.33	3.38
0.38	1.06	75.93	-2.67	0.79	2.38	2.16	170.93	64.67	1.43	4.38	2.25	120.75	453.33	2.15	6.38	2.65	127.26	790.00	2.72	8.38	10.18	40.54	30.00	3.40
0.40	1.09	79.70	-3.33	0.80	2.40	2.19	161.92	67.33	1.44	4.40	2.24	119.31	448.67	2.16	6.40	2.60	125.82	800.00	2.73	8.40	9.68	43.76	28.00	3.40
0.42	1.09	82.15		0.79	2.42	2.19	158.03	66.67	1.44	4.42	2.19	118.08	398.67	2.16	6.42	2.68	121.48	808.00	2.75	8.42	9.29	40.87	28.00	3.42
0.44	1.14	79.60		0.80	2.44	2.12	163.58	66.00	1.46	4.44	2.06	116.42	244.00	2.16	6.44	2.73	115.15	812.00	2.75	8.44	9.25	39.43	30.67	3.43
0.46	1.31	79.71	-5.33	0.81	2.46	2.06	166.36	68.00	1.47	4.46	1.97	112.97	244.67	2.17	6.46	2.76	107.48	816.00	2.75	8.46	9.42	40.20	34.67	3.43
0.48	1.20	78.61	-2.67	0.81	2.48	2.06	164.79	72.00	1.46	4.48	1.92	110.19	272.00	2.18	6.48	2.80	100.36	796.67	2.75	8.48	9.83	42.31	41.33	3.44
0.50	1.16	77.83		0.82	2.50	2.05	164.35	79.33	1.48	4.50	1.95	108.63	298.00	2.18	6.50	2.80	100.14	795.33	2.75	8.50	10.50	43.31	49.33	3.44
0.52	1.14	73.50	-0.67	0.87	2.52	2.10	160.56	88.00	1.48	4.52	2.44	106.18	326.00	2.18	6.52	2.60	105.13	804.00	2.75	8.52	10.70	41.64	54.67	3.45
0.54	1.19	70.39	-0.67	0.82	2.54	2.11	153.45	86.00	1.48	4.54	2.15	107.18	291.33	2.19	6.54	2.48	107.46	788.00	2.76	8.54	10.54	40.86	54.67	3.45
0.56	1.24	72.50	3.33	0.84	2.56	2.19	152.44	90.00	1.48	4.56	2.36	108.62	304.00	2.19	6.56	2.47	106.13	779.33	2.77	8.56	10.18	40.86	52.67	3.45
0.58	1.27	77.06	5.33	0.86	2.58	2.24	151.77	92.67	1.49	4.58	2.04	114.62	173.33	2.20	6.58	2.42	110.46	772.00	2.77	8.58	9.45	40.52	49.33	3.46
0.60	1.29	82.62	7.33	0.85	2.60	2.28	151.21	96.00	1.49	4.60	1.90	121.06	193.33	2.20	6.60	2.46	114.57	774.67	2.78	8.60	9.32	36.08	42.00	3.47
0.62	1.24	85.95	8.67	0.86	2.62	2.36	153.09	100.00	1.50	4.62	1.81	121.95	213.33	2.21	6.62	2.56	116.90	782.67	2.77	8.62	7.08	29.18	34.67	3.47
0.64	1.22	88.17	14.00	0.87	2.64	2.47	153.65	104.00	1.50	4.64	1.91	121.72	229.33	2.22	6.64	2.67	114.89	788.67	2.78	8.64	5.95	27.29	27.33	3.48
0.66	1.23	90.84	15.33	0.88	2.66	2.47	155.09	108.00	1.52	4.66	2.04	118.28	262.00	2.23	6.66	2.67	110.11	782.67	2.79	8.66	4.86	27.51	22.67	3.49
0.68	1.21	92.62	16.67	0.88	2.68	2.47	158.52	111.33	1.52	4.68	2.16	115.05	278.00	2.24	6.68	2.55	110.77	774.67	2.79	8.68	4.05	29.07	18.00	3.50
0.70	1.21	93.18	16.67	0.90	2.70	2.45	160.08	112.00	1.52	4.70	2.04	110.27	267.33	2.24	6.70	2.49	112.99	768.00	2.80	8.70	3.39	31.62	18.00	3.50
0.72	1.15	93.96	16.67	0.90	2.72	2.34	162.52	108.67	1.52	4.72	2.13	105.60	278.00	2.25	6.72	2.39	117.21	760.67	2.80	8.72	2.84	32.17	14.00	3.50
0.74	1.10	93.74	18.67	0.90	2.74	2.23	168.29	112.00	1.52	4.74	2.29	100.71	48.67	2.26	6.74	2.36	119.21	764.00	2.80	8.74	2.38	31.95	10.67	3.52
0.76	1.10	92.18	16.67	0.89	2.76	2.13	171.18	111.33	1.53	4.76	2.41	102.71	85.33	2.25	6.76	2.33	116.65	741.33	2.80	8.76	2.01	31.17	8.00	3.52
0.78	1.10	92.07	16.67	0.92	2.78	2.10	175.84	112.67	1.53	4.78	2.32	102.82	129.33	2.26	6.78	2.36	114.54	722.00	2.81	8.78	1.68	27.84	5.33	3.54
0.80	1.12	92.18	18.00	0.92	2.80	2.00	179.39	118.67	1.53	4.80	2.47	104.04	168.00	2.26	6.80	2.36	117.98	734.67	2.82	8.80	1.35	25.39	3.33	3.54
0.82	1.15	90.29	20.00	0.91	2.82	1.95	178.94	121.33	1.54	4.82	2.74	103.93	241.33	2.27	6.82	2.40	120.53	736.67	2.83	8.82	1.06	25.83	1.33	3.55
0.84	1.13	89.52	20.67	0.91	2.84	1.95	174.38	119.33	1.54	4.84	2.98	104.04	282.00	2.27	6.84	2.44	120.64	741.33	2.84	8.84	0.93	26.05	1.33	3.55
0.86	0.94	60.51	20.67	0.92	2.86	1.93	169.27	122.00	1.54	4.86	3.11	103.48	190.00	2.28	6.86	2.45	118.19	748.00	2.85	8.86	0.88	25.17	4.67	3.56
0.88	1.14	83.43	10.67	0.91	2.88	1.90	164.15	124.67																

**FERRARA DEPARTMENT**

Via Annibale Zucchini, 69 - 44122 Ferrara (FE)

Tel.: +39 0532 56771 - Fax.: +39 0532 56119

SOCOTEC ITALIA Srl - P.Iva 01872430648

Headquarters: Via Bariola, 101-103 - 20020 Lainate (MI)

Tel.: +39 02 9375 0000 - Fax: +39 02 9375 0099

[www.socotec.it](http://www.socotec.it)**COMMITTENTE: ENGE O S.r.l. - Via Suor Maria Adorni, 2 - 43121 Parma****CANTIERE: Via Luigi Illica - Busseto (PR)**

PROVA N°: SCPTU 1 PROF. FALDA (m da p.c.): 3.40

DATA: 28/02/22 PREFORO (m da p.c.): 0.02 LAT. (WGS 84): 44.984749° LONG. (WGS 84): 10.043411°

COMMESSA: 21711FE/22 C. SITO N°: SF220179 del 01/03/21 OPERATORE: L. Formisano

prof. m	qc Mpa	fs kPa	U kPa	incl. gradi	prof. m	qc Mpa	fs kPa	U kPa	incl. gradi	prof. m	qc Mpa	fs kPa	U kPa	incl. gradi	prof. m	qc Mpa	fs kPa	U kPa	incl. gradi	prof. m	qc Mpa	fs kPa	U kPa	incl. gradi
10.04	10.86	42.91	84.00	3.95	12.04	15.51	72.28	104.67	4.60	14.04	21.66	115.28	118.67	5.48	16.04	14.00	70.91	81.33	6.22	18.04	16.32	69.38	128.67	8.73
10.06	10.57	43.58	82.67	3.96	12.06	15.21	73.06	104.67	4.61	14.06	21.39	113.39	118.67	5.49	16.06	14.08	69.24	79.33	6.22	18.06	17.09	70.10	107.33	8.76
10.08	10.36	45.36	82.67	3.97	12.08	14.97	74.28	105.33	4.61	14.08	20.65	111.62	111.33	5.50	16.08	14.24	67.35	79.33	6.22	18.08	17.44	78.99	104.00	8.79
10.10	10.17	45.46	82.00	3.97	12.10	14.75	74.83	107.33	4.63	14.10	19.88	108.62	104.00	5.51	16.10	14.40	65.80	79.33	6.23	18.10	17.19	65.22	100.00	8.82
10.12	10.04	44.91	84.00	3.98	12.12	14.49	73.39	108.00	4.63	14.12	19.61	106.06	105.33	5.51	16.12	14.59	64.91	80.67	6.23	18.12	17.06	55.66	106.67	8.85
10.14	9.84	42.57	82.67	3.98	12.14	14.33	71.16	110.00	4.64	14.14	19.41	100.06	107.33	5.52	16.14	14.83	61.47	82.67	6.25	18.14	16.41	50.00	104.00	8.88
10.16	9.36	42.01	78.00	3.99	12.16	14.19	68.05	110.67	4.65	14.16	19.44	94.94	112.00	5.52	16.16	15.02	59.46	84.00	6.25	18.16	16.60	60.78	104.00	8.89
10.18	8.93	40.13	75.33	4.00	12.18	14.09	65.71	111.33	4.65	14.18	19.61	92.49	119.33	5.54	16.18	15.39	59.24	86.00	6.25	18.18	17.19	65.78	117.33	8.91
10.20	8.74	39.13	76.67	4.00	12.20	14.14	63.27	114.67	4.65	14.20	19.58	88.15	120.00	5.55	16.20	15.99	64.35	94.00	6.26	18.20	17.05	65.56	114.00	8.93
10.22	8.83	39.81	52.67	4.03	12.22	13.98	61.49	88.67	4.66	14.22	18.51	84.41	77.33	5.57	16.22	16.17	66.49	94.00	6.27	18.22	16.04	71.62	112.00	8.95
10.24	10.23	43.26	60.00	4.05	12.24	14.32	54.60	86.00	4.67	14.24	18.85	80.75	62.67	5.57	16.24	17.42	66.95	96.00	6.28	18.24	16.00	73.62	112.67	8.97
10.26	11.45	43.48	64.00	4.06	12.26	14.59	53.83	88.00	4.68	14.26	18.99	80.87	56.00	5.57	16.26	18.11	68.17	96.67	6.28	18.26	16.30	69.83	118.67	8.99
10.28	12.35	39.81	54.67	4.06	12.28	15.05	54.61	92.67	4.68	14.28	18.99	83.76	52.67	5.58	16.28	18.81	69.39	97.33	6.28	18.28	16.59	58.06	120.00	9.00
10.30	13.23	41.37	48.00	4.07	12.30	15.76	57.05	102.67	4.70	14.30	18.82	86.55	50.00	5.59	16.30	18.40	70.73	96.00	6.29	18.30	16.56	58.39	115.33	9.01
10.32	13.94	44.93	44.67	4.08	12.32	16.81	58.39	114.67	4.71	14.32	18.63	87.11	50.00	5.60	16.32	17.59	71.18	86.67	6.29	18.32	16.81	58.28	124.67	9.01
10.34	14.37	46.71	48.00	4.09	12.34	18.00	57.61	127.33	4.72	14.34	18.23	89.55	47.33	5.59	16.34	16.61	69.96	80.67	6.30	18.34	16.34	60.84	124.67	9.03
10.36	14.23	38.26	48.67	4.10	12.36	19.16	59.61	138.00	4.73	14.36	18.23	88.77	48.00	5.61	16.36	16.91	68.51	88.00	6.30	18.36	16.56	54.17	134.67	9.05
10.38	14.10	30.26	50.00	4.11	12.38	19.72	58.83	138.00	4.74	14.38	18.20	90.55	48.67	5.61	16.38	17.43	77.17	98.00	6.32	18.38	16.31	50.84	134.67	9.06
10.40	14.20	35.48	54.67	4.12	12.40	19.81	59.94	136.67	4.75	14.40	18.09	88.88	48.00	5.62	16.40	19.19	75.50	124.67	6.33	18.40	16.34	47.28	144.67	9.09
10.42	14.31	42.82	60.67	4.13	12.42	19.59	64.28	134.67	4.76	14.42	18.23	86.54	50.00	5.63	16.42	20.73	70.72	136.67	6.34	18.42	16.48	49.17	152.00	9.10
10.44	14.35	50.59	66.67	4.14	12.44	19.07	65.50	134.00	4.77	14.44	18.18	82.76	50.00	5.65	16.44	22.18	72.28	145.33	6.36	18.44	16.73	41.72	164.00	9.11
10.46	14.29	57.26	70.67	4.14	12.46	18.65	72.49	130.67	4.77	14.46	18.15	80.54	51.33	5.65	16.46	22.22	59.05	123.33	6.37	18.46	17.11	45.94	184.00	9.13
10.48	13.91	61.81	72.00	4.16	12.48	18.56	81.60	133.33	4.77	14.48	18.01	76.65	51.33	5.66	16.48	21.94	68.27	111.33	6.37	18.48	17.51	49.16	197.33	9.16
10.50	13.38	62.70	73.33	4.16	12.50	18.70	84.82	139.33	4.77	14.50	17.85	74.54	51.33	5.68	16.50	22.08	62.94	121.33	6.40	18.50	17.38	53.16	197.33	9.18
10.52	12.86	63.59	74.67	4.17	12.52	19.12	82.71	151.33	4.77	14.52	17.80	74.10	52.00	5.68	16.52	21.90	52.05	122.67	6.40	18.52	17.57	48.83	204.67	9.19
10.54	12.27	58.58	74.00	4.16	12.54	19.36	81.70	162.67	4.79	14.54	17.72	71.54	52.67	5.70	16.54	20.81	64.60	114.00	6.44	18.54	18.01	48.27	117.33	9.21
10.56	11.73	57.02	73.33	4.18	12.56	19.39	106.81	180.67	4.81	14.56	17.72	70.87	53.33	5.70	16.56	19.16	63.04	104.67	6.48	18.56	18.35	48.38	117.33	9.22
10.58	11.04	55.13	70.00	4.19	12.58	18.72	100.80	140.67	4.83	14.58	17.74	69.65	55.33	5.72	16.58	18.44	55.04	108.00	6.50	18.58	18.14	49.27	118.00	9.25
10.60	10.22	52.78	66.00	4.19	12.60	17.66	126.24	114.67	4.84	14.60	17.72	68.87	56.67	5.73	16.60	18.27	50.04	128.67	6.52	18.60	18.70	58.15	118.00	9.23
10.62	9.21	50.78	58.67	4.19	12.62	17.23	129.91	107.33	4.84	14.62	17.64	67.54	57.33	5.75	16.62	17.14	47.60	110.67	6.54	18.62	18.14	55.71	115.33	9.26
10.64	7.82	50.11	48.00	4.20	12.64	17.05	122.24	111.33	4.86	14.64	17.48	68.43	58.67	5.75	16.64	16.77	41.15	118.00	6.57	18.64	18.08	48.82	140.67	9.27
10.66	6.66	50.45	40.00	4.20	12.66	16.80	118.34	116.00	4.87	14.66	17.33	69.10	59.33	5.76	16.66	17.04	38.82	133.33	6.61	18.66	16.85	73.48	118.67	9.31
10.68	5.61	51.00	32.67	4.21	12.68	16.40	109.23	118.00	4.87	14.68	17.26	68.54	60.67	5.77	16.68	17.60	25.25	143.33	6.63	18.68	16.72	80.58	120.00	9.32
10.70	4.70	50.88	26.00	4.21	12.70	16.22	109.10	125.33	4.88	14.70	16.86	67.87	59.33	5.79	16.70	19.09	31.81	163.33	6.71	18.70	16.37	87.91	122.00	9.34
10.72	3.94	50.77	19.33	4.21	12.72	16.18	100.75	129.33	4.89	14.72	16.28	74.76	56.00	5.79	16.72	19.78	40.58	166.00	6.80	18.72	16.05	86.91	137.33	9.37
10.74	3.19	52.10	14.00	4.21	12.74	16.16	85.63	132.67	4.90	14.74	15.59	73.65	52.00	5.80	16.74	21.36	29.02	167.33	6.85	18.74	16.88	96.91	154.00	9.41
10.76	2.88	50.77	11.33	4.21	12.76	16.27	77.62	139.33	4.91	14.76	14.78	73.53	48.00	5.81	16.76	22.75	35.13	167.33	6.87	18.76	17.16	94.46	182.67	9.44
10.78	2.61	50.10	8.00	4.22	12.78	16.52	75.51	138.00	4.91	14.78	14.24	74.53	45.33	5.83	16.78	23.97	64.35	180.67	6.89	18.78	16.34	112.46	167.33	9.48
10.80	2.29	53.32	5.33	4.21	12.80	16.72	73.50	140.00	4.92	14.80	13.75	73.98	42.67	5.83	16.80	24.34	74.79	181.33	6.93	18.80	15.61	130.01	152.67	9.48
10.82	2.05	57.10	4.67	4.21	12.82	16.83	73.27	139.33	4.93	14.82	13.50	73.08	42.67	5.85	16.82	24.57	79.11	170.00	6.95	18.82	15.89	122.79	167.33	9.50
10.84	1.73	64.65	4.00	4.23	12.84	16.79	74.05	144.00	4.95	14.84	13.35	68.53	44.00	5.85	16.84	24.92	56.77	164.00						



**FERRARA DEPARTMENT**

Via Annibale Zucchini, 69 – 44122 Ferrara (FE)

Tel.: +39 0532 56771 - Fax.: +39 0532 56119

SOCOTEC ITALIA Srl – P.Iva 01872430648

Headquarters: Via Bariola, 101-103 - 20020 Lainate (MI)

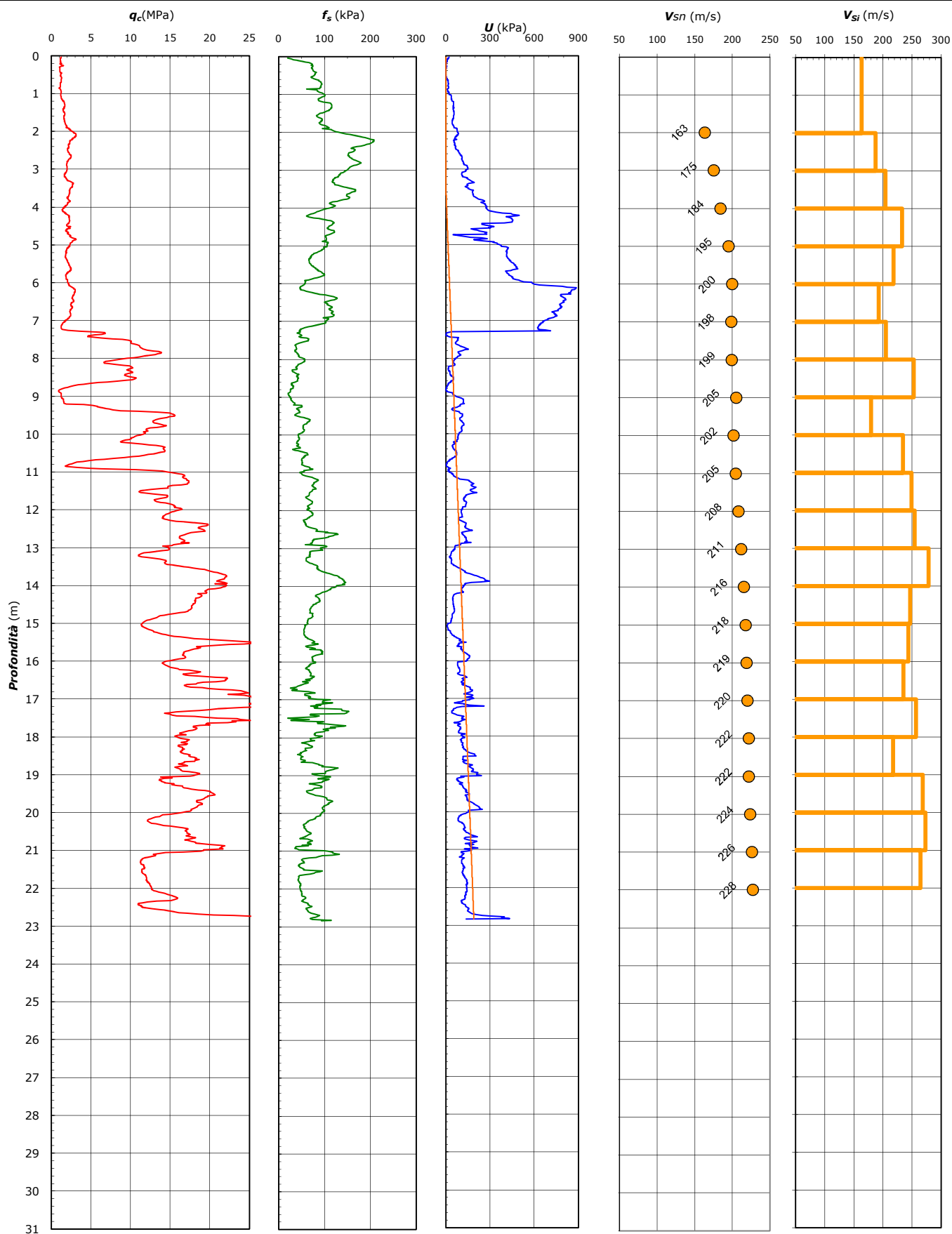
Tel.: +39 02 9375 0000 - Fax: +39 02 9375 0099

[www.socotec.it](http://www.socotec.it)**SOCOTEC****COMMITTENTE: ENGE S.r.l. - Via Suor Maria Adorni, 2 - 43121 Parma****CANTIERE:** Via Luigi Illica - Busseto (PR)

PROVA N°: SCPTU 1 PROF. FALDA (m da p.c.): 3.40 PUNTA: Tecnopenta G1-CPL2IN (matr. 200317)[a = 0.66]

DATA: 28/02/22 PREFORO (m da p.c.): 0.02 LAT. (WGS 84): 44.984749° LONG. (WGS 84): 10.043411°

COMMESSA: 21711FE/22 C. SITO N°: SF220179 del 01/03/21 OPERATORE: L. Formisano



**FERRARA DEPARTMENT**

Via Annibale Zucchini, 69 – 44122 Ferrara (FE)

Tel.: +39 0532 56771 - Fax.: +39 0532 56119

SOCOTEC ITALIA Srl – P.Iva 01872430648

Headquarters: Via Bariola, 101-103 - 20020 Lainate (MI)

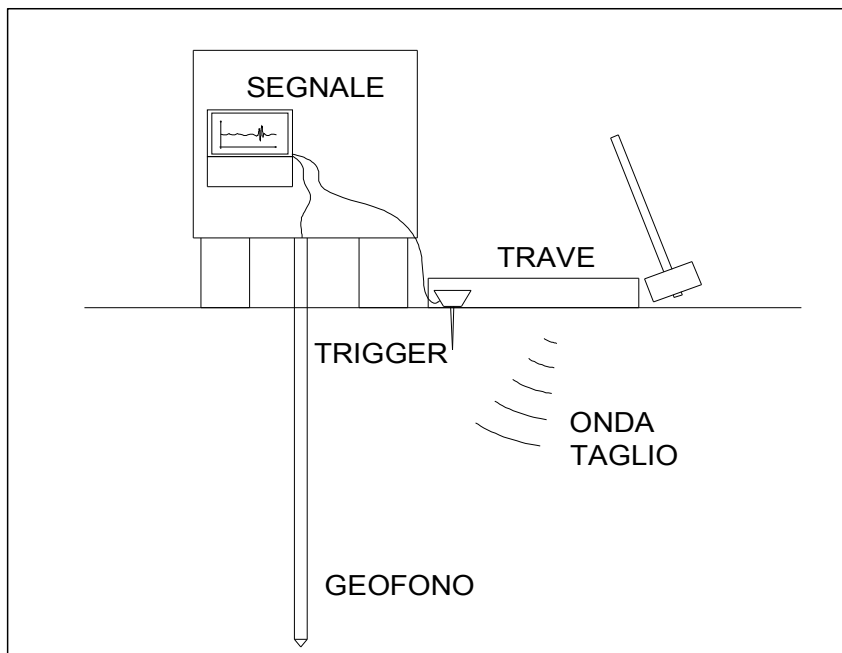
Tel.: +39 02 9375 0000 - Fax: +39 02 9375 0099

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PROVA N°: SCPTU 1 PROF. FALDA (m da p.c.): 3.40 PUNTA: Tecnopenta G1-CPL2IN (matr. 200317)[a = 0.66]

DATA: 28/02/22 PREFORO (m da p.c.): 0.02 LAT. (WGS 84): 44.984749° LONG. (WGS 84): 10.043411°

COMMESSA: 21711FE/22 C. SITO N°: SF220179 del 01/03/21 OPERATORE: L. Formisano

**Prova Down Hole ASTM D 7400**

Profondità (m)	Ts (ms)	L (m)	Vs (m/s)	Vis (m/s)
1.0	T0	1.41	-	-
2.0	5.04	2.24	163	163
3.0	9.98	3.16	175	187
4.0	14.69	4.12	184	204
5.0	18.88	5.10	195	233
6.0	23.38	6.08	200	219
7.0	28.51	7.07	198	193
8.0	33.33	8.06	199	205
9.0	37.26	9.06	205	253
10.0	42.79	10.05	202	180
11.0	47.04	11.05	205	234
12.0	51.04	12.04	208	249
13.0	54.96	13.04	211	254
14.0	58.54	14.04	216	279
15.0	62.59	15.03	218	247
16.0	66.68	16.03	219	244
17.0	70.93	17.03	220	235
18.0	74.83	18.03	222	257
19.0	79.43	19.03	222	217
20.0	83.15	20.02	224	268
21.0	86.80	21.02	226	273
22.0	90.58	22.02	228	265

CATEGORIA SOTTOSUOLO

-

**V<sub>s,30</sub> = - m/s**

- D = Distanza centro trave generatrice ond  
 Profondità = Profondità punta da piano campagna  
 Ts = Tempo percorrenza onda di taglio  
 L = Lunghezza percorso onda di taglio  
 Vs = Velocità onde di taglio da piano campagna alla profondità indic = 1.00 m  
 Vis = Velocità onde di taglio nello strato di terreno compreso fra le due profondità indicate

 Il Responsabile Prove in Sito:  
 dott. Massimo Romagnoli



**FERRARA DEPARTMENT****Via Annibale Zucchini, 69 – 44122 Ferrara (FE)****Tel.: +39 0532 56771 - Fax.: +39 0532 56119**

SOCOTEC ITALIA Srl – P.Iva 01872430648

Headquarters: Via Bariola, 101-103 - 20020 Lainate (MI)

Tel.: +39 02 9375 0000 - Fax: +39 02 9375 0099

[www.socotec.it](http://www.socotec.it)**COMMITTENTE: ENGEO S.r.l. - Via Suor Maria Adorni, 2 - 43121 Parma****CANTIERE: Via Luigi Illica - Busseto (PR)**

PROVA N°:	SCPTU 1	PROF. FALDA (m da p.c.):	3.40	PUNTA: Tecnopenta G1-CPL2IN (matr. 200317)[a = 0.66]
DATA:	28/02/22	PREFORO (m da p.c.):	0.02	LAT. (WGS 84): 44.984749° LONG. (WGS 84): 10.043411°
COMMESSA:	21711FE/22	C. SITO N°:	SF220179 del 01/03/21	OPERATORE: L. Formisano

**UBICAZIONE**

Località: Via Luigi Illica - Busseto (PR)





**FERRARA DEPARTMENT**

Via Annibale Zucchini, 69 – 44122 Ferrara (FE)

Tel.: +39 0532 56771 - Fax.: +39 0532 56119

SOCOTEC ITALIA Srl – P.Iva 01872430648

Headquarters: Via Bariola, 101-103 - 20020 Lainate (MI)

Tel.: +39 02 9375 0000 - Fax: +39 02 9375 0099

[www.socotec.it](http://www.socotec.it)**COMMITTENTE: ENGE0 S.r.l. - Via Suor Maria Adorni, 2 - 43121 Parma****CANTIERE: Via Ferdinando Provesi - Busseto (PR)**

PROVA N°: SCPTU 2 PROF. FALDA (m da p.c.):

DATA: 01/03/22

PREFORO (m da p.c.):

PUNTA: Tecnopenta G1-CPL2IN (matr. 200317)[a = 0.66]

LAT. (WGS 84): 44.977035°

LONG. (WGS 84): 10.040258°

COMMESSA: 23711FE/22

C. SITO N°: SF220191 del 04/03/22 OPERATORE: L. Formisano

prof. m	qc Mpa	fs kPa	U kPa	incl. gradi	prof. m	qc Mpa	fs kPa	U kPa	incl. gradi	prof. m	qc Mpa	fs kPa	U kPa	incl. gradi	prof. m	qc Mpa	fs kPa	U kPa	incl. gradi	prof. m	qc Mpa	fs kPa	U kPa	incl. gradi
0.02	1.53	10.83	41.00	0.53	2.02	1.24	43.75	55.00	1.08	4.02	1.36	88.62	227.00	1.82	6.02	1.65	57.39	161.00	2.64	8.02	1.91	49.30	523.00	3.52
0.04	1.90	13.39	26.33	0.39	2.04	1.26	48.30	59.67	1.09	4.04	1.41	88.95	234.33	1.83	6.04	1.68	56.50	162.33	2.65	8.04	1.96	44.63	527.00	3.53
0.06	2.30	16.17	23.00	0.82	2.06	1.27	54.08	63.00	1.09	4.06	1.45	87.73	239.67	1.83	6.06	1.71	56.50	163.00	2.66	8.06	2.28	41.85	551.00	3.54
0.08	2.31	22.28	27.00	0.66	2.08	1.29	57.85	64.33	1.10	4.08	1.53	85.72	243.67	1.84	6.08	1.73	56.61	163.00	2.67	8.08	2.70	40.41	574.33	3.54
0.10	2.06	25.83	23.00	0.40	2.10	1.29	60.41	71.00	1.11	4.10	1.59	83.94	245.00	1.84	6.10	1.73	57.50	166.33	2.68	8.10	2.64	35.52	281.00	3.55
0.12	2.01	28.16	24.33	0.44	2.12	1.29	62.85	75.67	1.11	4.12	1.63	82.39	244.33	1.85	6.12	1.76	58.72	165.67	2.68	8.12	2.23	38.52	160.33	3.57
0.14	1.90	31.39	23.67	0.41	2.14	1.29	64.52	79.00	1.11	4.14	1.63	81.50	244.33	1.86	6.14	1.78	63.39	166.33	2.69	8.14	2.01	43.19	178.33	3.57
0.16	1.72	30.83	20.33	0.48	2.16	1.28	66.51	82.33	1.12	4.16	1.67	80.94	245.00	1.87	6.16	1.78	67.83	167.67	2.71	8.16	1.74	42.19	200.33	3.59
0.18	1.58	33.94	21.00	0.52	2.18	1.28	68.96	86.33	1.12	4.18	1.70	80.94	250.33	1.88	6.18	1.82	71.83	168.33	2.72	8.18	1.58	40.41	255.67	3.60
0.20	1.49	35.61	19.00	0.53	2.20	1.25	70.18	87.00	1.13	4.20	1.70	82.82	254.33	1.89	6.20	1.84	75.39	169.67	2.73	8.20	1.39	33.63	261.67	3.60
0.22	1.36	37.28	16.33	0.53	2.22	1.26	74.49	103.00	1.13	4.22	1.77	88.82	277.67	1.89	6.22	1.91	86.74	171.67	2.74	8.22	1.24	34.74	265.00	3.61
0.24	1.25	36.17	15.67	0.52	2.24	1.24	75.49	103.67	1.13	4.24	1.78	90.82	277.00	1.90	6.24	1.85	89.74	171.67	2.75	8.24	1.39	38.20	267.67	3.63
0.26	1.14	37.28	15.67	0.51	2.26	1.24	74.38	103.67	1.13	4.26	1.80	91.60	276.33	1.91	6.26	1.85	91.86	171.67	2.76	8.26	1.33	38.98	267.67	3.64
0.28	1.09	38.06	15.00	0.55	2.28	1.26	73.48	105.67	1.14	4.28	1.80	92.60	278.33	1.92	6.28	1.85	91.96	170.33	2.77	8.28	1.30	35.20	267.67	3.65
0.30	1.06	37.51	13.00	0.54	2.30	1.24	73.15	108.33	1.15	4.30	1.78	90.82	278.33	1.93	6.30	1.82	90.41	168.33	2.77	8.30	1.25	31.54	266.33	3.66
0.32	1.03	36.29	12.33	0.55	2.32	1.23	72.48	109.00	1.14	4.32	1.78	89.26	277.00	1.93	6.32	1.77	86.96	169.67	2.78	8.32	1.22	28.98	263.00	3.67
0.34	1.03	35.74	11.67	0.54	2.34	1.22	72.15	110.33	1.15	4.34	1.75	87.71	277.00	1.94	6.34	1.81	84.63	171.67	2.79	8.34	1.14	28.76	260.33	3.68
0.36	1.03	35.74	11.00	0.55	2.36	1.19	72.15	111.67	1.15	4.36	1.72	86.71	273.67	1.95	6.36	1.81	82.63	171.67	2.80	8.36	1.14	25.65	261.67	3.70
0.38	1.00	35.52	9.00	0.55	2.38	1.19	72.81	113.00	1.16	4.38	1.70	84.26	274.33	1.96	6.38	1.78	82.51	175.00	2.81	8.38	1.15	22.54	262.33	3.70
0.40	0.92	33.86	8.33	0.56	2.40	1.19	72.47	113.00	1.17	4.40	1.70	83.36	277.67	1.96	6.40	1.81	83.06	175.67	2.81	8.40	1.25	20.54	265.00	3.72
0.42	0.86	32.42	7.67	0.56	2.42	1.17	72.14	115.00	1.17	4.42	1.76	85.03	279.67	1.97	6.42	1.84	84.40	177.67	2.83	8.42	1.44	20.42	269.00	3.72
0.44	0.75	31.53	5.67	0.57	2.44	1.17	71.91	114.33	1.17	4.44	1.79	86.14	287.67	1.97	6.44	1.86	86.06	179.00	2.83	8.44	1.61	20.42	269.00	3.73
0.46	0.66	30.10	5.00	0.57	2.46	1.15	72.24	115.67	1.18	4.46	1.93	83.80	293.00	1.98	6.46	2.19	88.73	185.00	2.84	8.46	1.60	23.54	263.67	3.74
0.48	0.58	27.77	4.33	0.58	2.48	1.15	73.02	116.33	1.19	4.48	2.01	82.58	292.33	1.99	6.48	2.37	89.06	189.00	2.85	8.48	1.41	23.76	255.67	3.76
0.50	0.55	24.99	3.67	0.59	2.50	1.17	73.46	115.67	1.20	4.50	1.96	80.91	281.67	2.00	6.50	2.19	85.61	180.33	2.86	8.50	1.23	21.20	251.00	3.77
0.52	0.57	23.22	2.33	0.60	2.52	1.15	74.23	116.33	1.20	4.52	2.01	80.90	289.67	2.01	6.52	2.08	84.83	181.00	2.87	8.52	1.16	19.98	248.33	3.78
0.54	0.63	20.89	2.33	0.61	2.54	1.12	75.34	116.33	1.20	4.54	2.02	82.35	295.67	2.01	6.54	2.00	82.05	181.00	2.87	8.54	1.14	19.54	248.33	3.79
0.56	0.65	19.56	1.67	0.62	2.56	1.07	75.89	116.33	1.21	4.56	1.98	85.12	299.67	2.02	6.56	2.08	83.27	186.33	2.89	8.56	1.16	18.20	248.33	3.80
0.58	0.68	18.45	1.67	0.64	2.58	1.04	76.56	117.67	1.22	4.58	2.01	88.56	303.00	2.04	6.58	1.93	78.94	185.00	2.89	8.58	1.16	18.21	248.33	3.81
0.60	0.70	19.12	2.33	0.65	2.60	1.00	76.78	120.33	1.23	4.60	1.91	91.23	294.33	2.03	6.60	1.93	77.83	195.67	2.90	8.60	1.09	18.10	245.00	3.83
0.62	0.73	20.90	4.33	0.65	2.62	0.96	77.33	120.33	1.24	4.62	1.91	93.45	291.00	2.04	6.62	2.00	78.71	202.33	2.91	8.62	1.06	16.76	244.33	3.84
0.64	0.75	21.57	5.00	0.65	2.64	0.91	77.88	120.33	1.24	4.64	1.97	95.22	303.00	2.06	6.64	1.95	79.38	201.00	2.91	8.64	1.06	14.54	245.00	3.85
0.66	0.75	22.79	7.00	0.66	2.66	0.88	78.88	122.33	1.25	4.66	1.94	96.11	313.67	2.05	6.66	1.93	79.60	204.33	2.92	8.66	1.06	14.32	245.00	3.86
0.68	0.75	23.57	8.33	0.67	2.68	0.87	78.99	123.00	1.26	4.68	1.94	95.67	311.00	2.07	6.68	1.98	82.60	208.33	2.93	8.68	1.13	13.99	247.67	3.87
0.70	0.78	23.90	9.00	0.68	2.70	0.82	78.87	125.67	1.27	4.70	1.87	95.55	319.00	2.07	6.70	1.99	83.15	209.67	2.94	8.70	1.24	13.88	251.67	3.88
0.72	0.78	23.90	9.67	0.69	2.72	0.81	76.65	126.33	1.27	4.72	1.84	95.44	323.00	2.08	6.72	2.01	85.70	212.33	2.95	8.72	1.43	14.99	255.67	3.90
0.74	0.85	23.24	11.67	0.70	2.74	0.87	74.76	127.67	1.28	4.74	1.79	95.43	321.67	2.09	6.74	2.01	86.59	215.67	2.96	8.74	1.59	17.10	256.33	3.91
0.76	0.96	22.35	12.33	0.70	2.76	0.90	72.75	129.00	1.29	4.76	1.78	95.43	325.00	2.10	6.76	2.02	89.70	219.00	2.97	8.76	1.68	21.10	252.33	3.92
0.78	0.77	19.57	11.67	0.71	2.78	0.96	69.97	130.33	1.29	4.78	1.78	93.76	328.33	2.11	6.78	2.05	91.92	219.67	2.98	8.78	1.68	26.33	245.67	3.93
0.80	0.70	19.80	12.33	0.73	2.80	0.96	66.86	129.67	1.31	4.80	1.77	91.20	326.33	2.12	6.80	2.07	96.47	222.33	2.98	8.80	1.67	26.55	242.33	3.94
0.82	0.70	20.91	12.33	0.74	2.82	0.95	65.97	130.33	1.31	4.82	1.76	90.31	328.33	2.12	6.82	1.97	89.92	223.00	2.99	8.82	1.57	29.33	222.33	3.95
0.84	0.74	22.02	13.67	0.74	2.84	0.96	66.19	132.33	1.32	4.84	1.68	89.87	329.00	2.13	6.84	2.00	100.25	225.00	3.00	8.84	1.43	29.11	218.33	3.95
0.86	0.77	22.91	19.00	0.75	2.86	0.99	67.41	133.00	1.33	4.86	1.66	86.75	325.00	2.13	6.86	2.05	109.92	233.67	3.02	8.86	1.24	27.77	219.67	3.97
0.8																								

**FERRARA DEPARTMENT**

Via Annibale Zucchini, 69 - 44122 Ferrara (FE)

Tel.: +39 0532 56771 - Fax.: +39 0532 56119

SOCOTEC ITALIA Srl - P.Iva 01872430648

Headquarters: Via Bariola, 101-103 - 20020 Lainate (MI)

Tel.: +39 02 9375 0000 - Fax: +39 02 9375 0099

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PROVA N°: SCPTU 2 PROF. FALDA (m da p.c.):

PUNTA: Tecnopenta G1-CPL2IN (matr. 200317)[a = 0.66]

DATA: 01/03/22

PREFORO (m da p.c.):

LAT. (WGS 84): 44.977035°

LONG. (WGS 84): 10.040258°

COMMESSA: 23711FE/22

C. SITO N°: SF220191 del 04/03/22 OPERATORE: L. Formisano

prof. m	qc Mpa	fs kPa	U kPa	incl. gradi	prof. m	qc Mpa	fs kPa	U kPa	incl. gradi	prof. m	qc Mpa	fs kPa	U kPa	incl. gradi	prof. m	qc Mpa	fs kPa	U kPa	incl. gradi	prof. m	qc Mpa	fs kPa	U kPa	incl. gradi
10.02	14.42	49.22	59.00	4.53	12.02	9.94	50.38	25.67	5.38	14.02	11.80	50.94	59.67	6.15	16.02	16.10	119.39	78.33	6.88	18.02	12.66	86.47	71.00	7.46
10.04	14.29	50.66	64.33	4.53	12.04	10.05	49.82	25.67	5.38	14.04	11.91	51.72	60.33	6.16	16.04	16.34	140.95	91.00	6.90	18.04	12.99	88.36	72.33	7.46
10.06	14.47	51.10	72.33	4.55	12.06	10.19	49.38	26.33	5.39	14.06	12.20	54.06	64.33	6.16	16.06	16.66	143.61	75.00	6.91	18.06	13.28	91.14	73.67	7.46
10.08	15.05	51.21	83.67	4.55	12.08	10.29	49.71	26.33	5.40	14.08	12.51	56.17	67.67	6.18	16.08	14.53	150.61	79.67	6.92	18.08	13.53	93.36	75.00	7.46
10.10	15.66	51.76	94.33	4.56	12.10	10.35	49.38	26.33	5.40	14.10	13.02	59.06	71.67	6.18	16.10	14.31	124.39	81.00	6.93	18.10	13.87	95.03	77.67	7.47
10.12	15.95	50.42	100.33	4.57	12.12	10.38	50.27	26.33	5.42	14.12	13.64	61.06	77.00	6.20	16.12	14.48	104.61	86.33	6.94	18.12	13.90	95.91	77.67	7.47
10.14	16.29	49.20	95.67	4.58	12.14	10.42	51.05	27.00	5.42	14.14	14.21	61.06	81.00	6.21	16.14	14.69	81.71	90.33	6.95	18.14	13.72	92.03	75.67	7.48
10.16	16.71	47.97	83.67	4.59	12.16	10.53	52.94	27.00	5.43	14.16	14.75	61.61	85.00	6.21	16.16	14.70	81.83	93.67	6.96	18.16	13.42	89.91	75.67	7.48
10.18	17.08	47.85	79.00	4.60	12.18	10.80	54.71	29.67	5.44	14.18	15.00	62.27	87.00	6.22	16.18	14.54	80.15	93.67	6.98	18.18	13.17	89.36	75.00	7.48
10.20	17.33	48.07	79.00	4.61	12.20	11.16	56.05	33.00	5.45	14.20	14.89	63.94	86.33	6.23	16.20	14.47	62.15	97.00	6.98	18.20	13.21	89.91	77.00	7.49
10.22	17.34	48.29	86.33	4.62	12.22	11.83	55.28	29.33	5.46	14.22	14.50	66.50	83.67	6.23	16.22	14.18	61.04	78.33	7.00	18.22	13.28	92.95	53.00	7.49
10.24	16.85	45.74	79.67	4.65	12.24	12.19	56.61	32.67	5.48	14.24	14.13	68.27	82.33	6.24	16.24	14.22	59.27	75.00	7.00	18.24	13.45	84.84	53.67	7.50
10.26	16.74	48.30	75.00	4.66	12.26	12.56	57.95	36.00	5.49	14.26	13.73	70.27	81.67	6.25	16.26	14.21	61.93	72.33	7.01	18.26	13.69	87.17	55.67	7.50
10.28	16.47	50.41	72.33	4.67	12.28	11.93	63.39	37.33	5.52	14.28	13.34	71.18	80.33	6.26	16.28	14.42	61.49	75.67	7.03	18.28	13.93	89.06	57.00	7.50
10.30	16.09	54.19	70.33	4.66	12.30	12.06	62.00	28.00	5.53	14.30	13.66	70.52	59.67	6.27	16.30	14.62	61.05	79.00	7.04	18.30	13.98	89.29	57.00	7.50
10.32	15.43	58.08	67.67	4.68	12.32	12.20	60.61	18.67	5.53	14.32	14.01	72.63	61.00	6.27	16.32	14.83	59.16	81.67	7.05	18.32	14.04	89.84	59.67	7.51
10.34	15.06	58.63	67.67	4.69	12.34	12.00	61.49	10.33	5.54	14.34	14.55	73.63	65.00	6.28	16.34	15.05	55.94	85.67	7.05	18.34	13.87	89.95	59.00	7.51
10.36	14.77	57.96	67.67	4.70	12.36	12.25	59.60	9.00	5.55	14.36	15.31	73.07	71.00	6.29	16.36	15.40	53.61	93.67	7.07	18.36	13.53	92.73	57.67	7.51
10.38	14.27	59.52	67.67	4.71	12.38	12.26	58.71	7.67	5.56	14.38	16.23	72.41	77.67	6.30	16.38	15.75	52.94	97.00	7.08	18.38	13.39	95.06	59.67	7.52
10.40	14.23	59.06	70.33	4.72	12.40	12.10	58.60	7.67	5.56	14.40	16.98	72.63	83.67	6.31	16.40	16.11	52.38	100.33	7.09	18.40	13.40	97.61	62.33	7.52
10.42	14.28	57.39	71.67	4.73	12.42	11.95	57.82	7.00	5.57	14.42	17.84	72.63	92.33	6.32	16.42	16.59	51.49	104.33	7.10	18.42	13.48	98.50	65.00	7.52
10.44	14.36	56.06	73.67	4.73	12.44	11.71	56.82	7.67	5.58	14.44	18.74	73.96	101.67	6.32	16.44	16.81	51.05	108.33	7.11	18.44	13.34	97.06	66.33	7.52
10.46	14.51	54.39	74.33	4.75	12.46	11.39	56.59	7.67	5.59	14.46	19.39	75.18	109.00	6.33	16.46	17.13	49.82	113.00	7.12	18.46	12.83	97.27	64.33	7.52
10.48	14.54	54.27	71.67	4.75	12.48	11.07	57.15	7.67	5.59	14.48	19.69	78.06	115.67	6.34	16.48	17.05	51.16	112.33	7.13	18.48	12.26	95.05	62.33	7.53
10.50	14.65	54.38	71.00	4.77	12.50	10.80	56.81	7.00	5.59	14.50	19.69	83.40	120.33	6.35	16.50	16.87	52.93	114.33	7.14	18.50	11.64	90.60	60.33	7.53
10.52	14.86	53.49	72.33	4.77	12.52	10.63	55.92	6.33	5.61	14.52	19.61	87.95	126.33	6.36	16.52	16.54	54.26	114.33	7.15	18.52	11.19	87.49	59.67	7.53
10.54	15.22	53.93	75.00	4.78	12.54	10.45	54.92	5.67	5.61	14.54	19.39	91.17	129.67	6.37	16.54	16.17	55.59	115.00	7.16	18.54	10.87	87.26	59.67	7.53
10.56	15.63	54.93	75.67	4.79	12.56	10.32	53.80	3.67	5.62	14.56	19.07	94.06	133.67	6.37	16.56	16.00	57.04	116.33	7.17	18.56	10.65	87.70	60.33	7.53
10.58	16.32	55.93	79.00	4.80	12.58	10.10	53.02	3.00	5.62	14.58	18.39	96.27	132.33	6.38	16.58	15.98	57.59	119.67	7.18	18.58	10.52	86.92	61.00	7.53
10.60	16.73	55.48	77.67	4.80	12.60	9.83	52.35	2.33	5.63	14.60	17.41	98.13	130.33	6.39	16.60	15.49	57.81	115.67	7.19	18.60	10.57	84.14	63.67	7.54
10.62	16.93	55.25	77.67	4.82	12.62	9.68	51.57	1.67	5.63	14.62	16.71	98.93	129.00	6.40	16.62	14.95	58.58	115.00	7.20	18.62	10.84	81.36	67.67	7.54
10.64	16.76	55.92	74.33	4.82	12.64	9.54	50.57	0.33	5.64	14.64	15.97	98.82	125.00	6.39	16.64	14.65	60.70	115.67	7.21	18.64	11.34	79.13	73.67	7.54
10.66	16.25	56.03	71.00	4.84	12.66	9.44	49.90	0.33	5.65	14.66	15.46	97.37	123.67	6.39	16.66	14.69	60.91	122.33	7.21	18.66	11.87	76.91	78.33	7.54
10.68	15.63	58.47	70.33	4.84	12.68	9.36	49.45	1.00	5.65	14.68	15.01	95.25	125.67	6.40	16.68	14.93	61.47	127.67	7.22	18.68	12.28	73.68	81.67	7.54
10.70	14.99	58.91	68.33	4.86	12.70	9.28	48.78	1.67	5.65	14.70	14.71	93.81	127.00	6.40	16.70	15.06	62.57	132.33	7.23	18.70	12.39	70.91	82.33	7.55
10.72	14.14	59.91	64.33	4.86	12.72	9.20	47.89	2.33	5.66	14.72	14.49	90.80	130.33	6.41	16.72	15.05	65.24	135.00	7.24	18.72	12.42	68.68	83.00	7.55
10.74	13.22	60.91	62.33	4.87	12.74	9.15	46.89	4.33	5.66	14.74	14.23	88.46	133.00	6.41	16.74	15.05	67.68	137.00	7.24	18.74	12.48	67.02	83.67	7.55
10.76	12.53	60.68	59.67	4.88	12.76	9.12	46.00	5.00	5.67	14.76	13.99	85.90	129.67	6.42	16.76	15.00	70.45	137.67	7.24	18.76	12.47	68.24	85.00	7.56
10.78	12.07	61.90	59.00	4.90	12.78	9.20	44.56	7.00	5.67	14.78	13.77	82.57	122.33	6.42	16.78	15.02	71.90	139.67	7.25	18.78	12.42	70.79	85.67	7.56
10.80	12.15	60.68	62.33	4.90	12.80	9.34	43.22	8.33	5.68	14.80	13.78	80.45	122.33	6.43	16.80	14.92	75.11	139.67	7.26	18.80	12.42	74.01	86.33	7.56
10.82	12.42	59.01	64.33	4.91	12.82	9.59	42.77	11.00	5.69	14.82	13.94	80.67	125.67	6.44	16.82	14.56	79.89	137.00	7.25	18.82	12.31	77.01	86.33	7.56
10.84	12.99	52.49	37.00	4.93	12.84	9.90	42.11	11.67	5.70	14.84	14.14	81.11	127.00	6.44	16.84	14.22	84.22	134.33	7.27	18.84				



**FERRARA DEPARTMENT**

Via Annibale Zucchini, 69 – 44122 Ferrara (FE)

Tel.: +39 0532 56771 - Fax.: +39 0532 56119

SOCOTEC ITALIA Srl – P.Iva 01872430648

Headquarters: Via Bariola, 101-103 - 20020 Lainate (MI)

Tel.: +39 02 9375 0000 - Fax: +39 02 9375 0099

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PROVA N°: SCPTU 2 PROF. FALDA (m da p.c.):

PUNTA: Tecnopenta G1-CPL2IN (matr. 200317)[a = 0.66]

DATA: 01/03/22

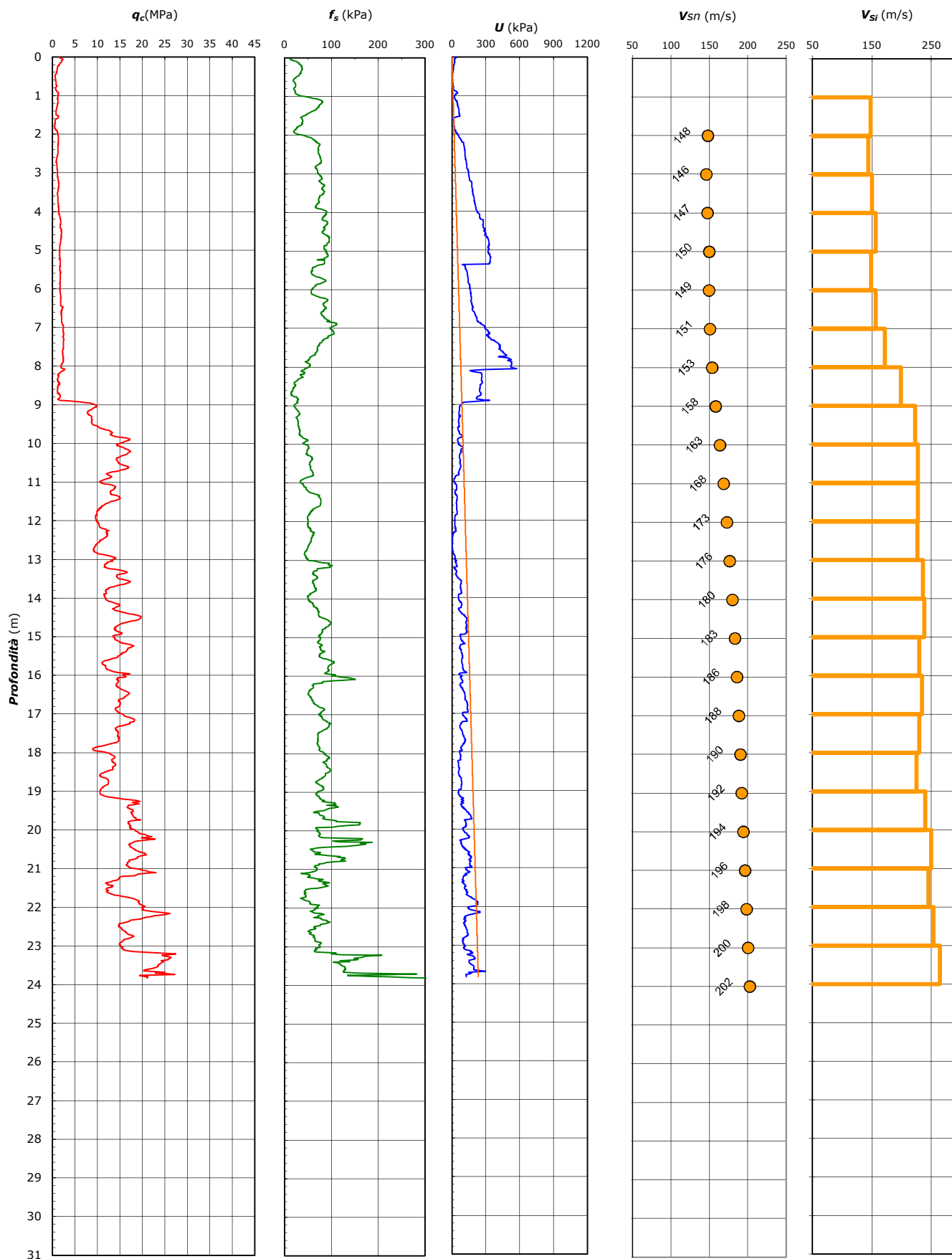
PREFORO (m da p.c.):

LAT. (WGS 84): 44.977035°

LONG. (WGS 84): 10.040258°

COMMESSA: 23711FE/22

C. SITO N°: SF220191 del 04/03/22 OPERATORE: L. Formisano



**FERRARA DEPARTMENT**

Via Annibale Zucchini, 69 – 44122 Ferrara (FE)

Tel.: +39 0532 56771 - Fax.: +39 0532 56119

SOCOTEC ITALIA Srl – P.Iva 01872430648

Headquarters: Via Bariola, 101-103 - 20020 Lainate (MI)

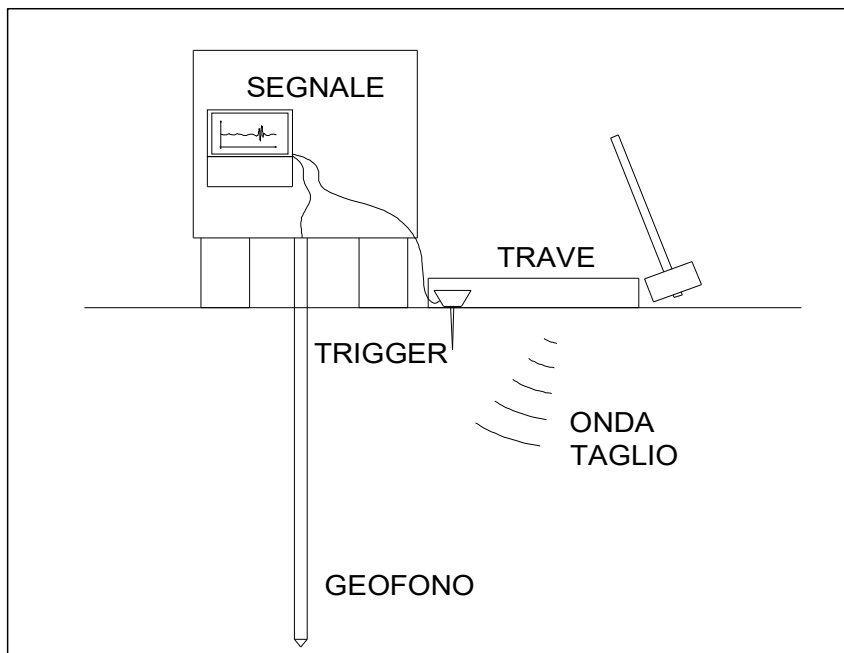
Tel.: +39 02 9375 0000 - Fax: +39 02 9375 0099

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PROVA N°: SCPTU 2 PROF. FALLA (m da p.c.): PUNTA: Tecnopenta G1-CPL2IN (matr. 200317)[a = 0.66]

DATA: 01/03/22 PREFORO (m da p.c.): LAT. (WGS 84): 44.977035° LONG. (WGS 84): 10.040258°

COMMESSA: 23711FE/22 C. SITO N°: SF220191 del 04/03/22 OPERATORE: L. Formisano

**Prova Down Hole ASTM D 7400**

Profondità (m)	Ts (ms)	L (m)	Vs (m/s)	Vis (m/s)
1.0	10	1.41	-	-
2.0	5.56	2.24	148	148
3.0	11.98	3.16	146	144
4.0	18.39	4.12	147	150
5.0	24.63	5.10	150	156
6.0	31.26	6.08	149	148
7.0	37.58	7.07	151	156
8.0	43.36	8.06	153	172
9.0	48.35	9.06	158	199
10.0	52.82	10.05	163	222
11.0	57.20	11.05	168	228
12.0	61.57	12.04	173	228
13.0	65.96	13.04	176	227
14.0	70.18	14.04	180	236
15.0	74.37	15.03	183	238
16.0	78.71	16.03	186	230
17.0	82.97	17.03	188	234
18.0	87.32	18.03	190	229
19.0	91.76	19.03	192	225
20.0	95.92	20.02	194	240
21.0	99.91	21.02	196	250
22.0	103.99	22.02	198	245
23.0	107.92	23.02	200	254
24.0	111.70	24.02	202	264

CATEGORIA SOTTOSUOLO

-

**V<sub>s,30</sub> = - m/s**

- D = Distanza centro trave generatrice ond  
 Profondità = Profondità punta da piano campagna  
 Ts = Tempo percorrenza onda di taglio  
 L = Lunghezza percorso onda di taglio  
 Vs = Velocità onde di taglio da piano campagna alla profondità indic = 1.00 m  
 Vis = Velocità onde di taglio nello strato di terreno compreso fra le due profondità indicate



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Via Annibale Zucchini, 69 – 44122 Ferrara (FE)

Tel.: +39 0532 56771 - Fax.: +39 0532 56119

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Headquarters: Via Bariola, 101-103 - 20020 Lainate (MI)

Tel.: +39 02 9375 0000 - Fax: +39 02 9375 0099

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**COMMITTENTE:** ENGEIO S.r.l. - Via Suor Maria Adorni, 2 - 43121 Parma

**CANTIERE:** Via Ferdinando Provesi - Busseto (PR)

PROVA N°: SCPTU 2 PROF. FALDA (m da p.c.):

PUNTA: Tecnopenta G1-CPL2IN (matr. 200317)[a = 0.66]

DATA: 01/03/22

PREFORO (m da p.c.):

LAT. (WGS 84): 44.977035°

LONG. (WGS 84): 10.040258°

COMMESSA: 23711FE/22

C. SITO N°: SF220191 del 04/03/22 OPERATORE: L. Formisano

UBICAZIONE

Località: Via Ferdinando Provesi - Busseto (PR)





**FERRARA DEPARTMENT**

Via Annibale Zucchini, 69 - 44122 Ferrara (FE)

Tel.: +39 0532 56771 - Fax.: +39 0532 56119

SOCOTEC ITALIA Srl - P.Iva 01872430468

Headquarters: Via Bariola, 101-103 - 20020 Lainate (MI)

Tel.: +39 02 9375 0000 - Fax: +39 02 9375 0099

[www.socotec.it](http://www.socotec.it)**COMMITTENTE: ENGE0 S.r.l. - Via Suor Maria Adorni, 2 - 43121 Parma****CANTIERE:** Via Partigiano d'Italia - Busseto (PR)

PROVA N°: SCPTU 3 PROF. FALDA (m da p.c.):

PUNTA: Tecnopenta G1-CPL2IN (matr. 200317)[a = 0.66]

DATA: 02/023/2022

PREFORO (m da p.c.):

0.90

LAT. (WGS 84): 44.983261°

LONG. (WGS 84): 10.050307°

COMMESSA: 23711FE/22

C. SITO N°: SFXXXXX del 07/03/22 OPERATORE: L. Formisano

prof. m	qc Mpa	fs kPa	U kPa	incl. gradi	prof. m	qc Mpa	fs kPa	U kPa	incl. gradi	prof. m	qc Mpa	fs kPa	U kPa	incl. gradi	prof. m	qc Mpa	fs kPa	U kPa	incl. gradi	prof. m	qc Mpa	fs kPa	U kPa	incl. gradi
0.92	1.42	91.14	11.98	0.72	2.92	5.98	238.45	118.26	1.32	4.92	2.46	66.43	400.72	2.18	6.92	10.07	27.81	57.21	2.90	8.92	8.06	23.59	11.17	3.69
0.94	1.42	98.25	11.98	0.54	2.94	6.26	238.23	105.24	1.32	4.94	2.30	69.09	388.51	2.18	6.94	9.99	31.92	55.59	2.90	8.94	8.09	25.37	11.17	3.69
0.96	1.42	106.14	10.35	0.66	2.96	6.12	241.90	95.47	1.33	4.96	2.29	67.32	384.44	2.19	6.96	10.01	36.14	46.63	2.91	8.96	8.10	27.59	11.17	3.70
0.98	1.38	106.14	8.72	0.80	2.98	6.07	239.90	80.01	1.33	4.98	2.16	65.32	377.11	2.20	6.98	9.98	36.25	40.12	2.91	8.98	8.07	28.48	11.17	3.72
1.00	1.38	103.25	4.65	0.88	3.00	5.93	241.56	76.75	1.34	5.00	2.08	60.88	371.41	2.20	7.00	9.67	37.58	33.61	2.93	9.00	8.01	28.59	11.17	3.72
1.02	1.35	100.13	5.93	0.74	3.02	5.77	241.67	71.05	1.35	5.02	1.95	56.54	362.46	2.20	7.02	9.02	38.25	28.72	2.95	9.02	7.96	28.93	11.17	3.73
1.04	1.32	96.35	10.81	0.61	3.04	5.64	242.22	89.77	1.35	5.04	1.87	52.43	353.51	2.21	7.04	7.89	34.91	23.03	2.95	9.04	7.85	29.03	11.17	3.74
1.06	1.29	96.91	10.81	0.76	3.06	5.59	239.88	106.87	1.36	5.06	1.86	48.55	351.07	2.22	7.06	6.24	32.91	13.25	2.95	9.06	7.79	29.14	11.17	3.75
1.08	1.29	99.13	10.00	0.74	3.08	5.67	235.21	108.49	1.38	5.08	1.91	42.55	353.51	2.21	7.08	4.72	31.58	5.11	2.96	9.08	7.74	29.14	10.35	3.76
1.10	1.27	104.34	10.00	0.75	3.10	5.80	225.66	91.40	1.38	5.10	2.02	40.88	355.95	2.22	7.10	4.29	42.57	6.75	2.97	9.10	7.74	28.59	9.53	3.77
1.12	1.25	107.12	11.63	0.74	3.12	5.86	219.98	64.54	1.40	5.12	2.13	39.44	365.72	2.23	7.12	4.75	68.79	17.33	2.99	9.12	7.67	28.36	8.72	3.78
1.14	1.25	107.89	13.25	0.76	3.14	5.90	213.87	49.07	1.40	5.14	2.83	38.88	410.49	2.23	7.14	5.27	98.46	24.65	2.99	9.14	7.58	27.25	8.72	3.79
1.16	1.23	105.23	13.25	0.75	3.16	6.11	206.86	41.75	1.41	5.16	4.50	39.66	502.47	2.24	7.16	6.99	102.57	45.81	3.00	9.16	7.44	26.14	8.72	3.79
1.18	1.25	103.34	18.14	0.76	3.18	6.19	204.86	36.86	1.43	5.18	5.81	32.55	447.57	2.24	7.18	8.27	94.79	54.77	3.01	9.18	7.29	25.14	8.72	3.79
1.20	1.25	101.45	20.58	0.76	3.20	6.06	205.86	31.98	1.43	5.20	6.69	30.99	74.31	2.25	7.20	9.13	88.34	59.65	3.02	9.20	7.13	25.25	9.53	3.81
1.22	1.35	86.54	23.84	0.76	3.22	6.24	197.65	21.39	1.44	5.22	7.33	28.36	62.09	2.25	7.22	9.76	65.79	44.19	3.03	9.22	6.69	24.70	14.42	3.82
1.24	1.40	87.99	25.47	0.75	3.24	5.86	195.43	4.30	1.44	5.24	7.22	28.92	49.07	2.25	7.24	10.16	69.01	42.56	3.04	9.24	6.57	23.59	16.05	3.81
1.26	1.40	87.99	28.72	0.76	3.26	5.55	207.54	9.19	1.45	5.26	6.98	29.25	45.00	2.27	7.26	9.97	72.46	39.31	3.04	9.26	6.50	23.48	16.86	3.83
1.28	1.42	87.20	27.91	0.77	3.28	5.47	205.20	11.63	1.46	5.28	6.73	29.81	44.19	2.27	7.28	9.67	58.01	36.86	3.05	9.28	6.60	23.26	16.86	3.84
1.30	1.42	87.32	28.72	0.76	3.30	5.13	206.65	5.11	1.46	5.30	6.52	30.36	45.00	2.28	7.30	9.40	47.24	32.79	3.06	9.30	6.91	24.26	14.42	3.85
1.32	1.43	88.98	29.53	0.78	3.32	5.03	209.09	17.33	1.47	5.32	6.29	28.14	45.81	2.28	7.32	9.07	40.24	31.17	3.06	9.32	7.28	24.93	11.98	3.85
1.34	1.45	88.09	30.35	0.78	3.34	4.79	210.20	18.95	1.48	5.34	6.16	28.70	47.45	2.30	7.34	8.87	34.13	30.35	3.07	9.34	7.52	27.37	10.35	3.86
1.36	1.49	89.09	31.98	0.80	3.36	4.76	208.87	23.84	1.49	5.36	6.11	29.25	51.51	2.30	7.36	8.65	36.13	30.35	3.08	9.36	7.96	28.04	7.91	3.86
1.38	1.52	94.64	34.42	0.79	3.38	4.47	210.53	26.28	1.51	5.38	6.05	29.58	55.59	2.31	7.38	8.54	35.79	31.17	3.09	9.38	8.53	28.03	3.84	3.87
1.40	1.57	98.31	36.86	0.80	3.40	4.34	207.63	33.61	1.51	5.40	6.02	30.58	58.84	2.32	7.40	8.53	34.13	32.79	3.09	9.40	9.06	27.03	1.39	3.88
1.42	1.60	99.08	37.67	0.81	3.42	4.18	206.85	38.49	1.53	5.42	6.02	30.92	63.73	2.33	7.42	8.59	33.46	35.23	3.10	9.42	9.55	30.14	1.05	3.88
1.44	1.66	100.19	37.67	0.81	3.44	4.09	204.18	45.00	1.54	5.44	6.02	31.03	67.79	2.34	7.44	8.51	31.57	36.05	3.11	9.44	9.98	35.03	3.49	3.89
1.46	1.68	102.19	40.93	0.81	3.46	3.97	203.52	50.70	1.55	5.46	6.05	31.03	72.68	2.35	7.46	8.52	29.57	37.67	3.12	9.46	10.33	36.48	5.93	3.90
1.48	1.68	104.19	41.75	0.81	3.48	3.96	204.07	62.09	1.56	5.48	6.13	31.36	78.37	2.36	7.48	8.70	30.01	40.93	3.12	9.48	10.22	33.92	5.11	3.90
1.50	1.69	104.63	41.75	0.83	3.50	3.96	206.62	74.31	1.57	5.50	6.09	31.36	81.63	2.37	7.50	8.97	30.01	45.81	3.14	9.50	9.82	29.59	3.49	3.90
1.52	1.69	106.62	43.77	0.82	3.52	3.96	208.17	79.19	1.58	5.52	5.55	32.91	75.12	2.38	7.52	9.44	29.67	53.14	3.14	9.52	9.40	27.36	1.86	3.92
1.54	1.74	109.29	46.63	0.83	3.54	3.94	209.39	82.45	1.58	5.54	4.44	40.13	63.73	2.39	7.54	9.79	30.45	58.03	3.15	9.54	9.15	27.03	1.05	3.93
1.56	1.74	113.84	51.51	0.85	3.56	3.97	209.50	90.59	1.58	5.56	3.69	51.91	58.84	2.40	7.56	9.97	31.23	60.47	3.16	9.56	9.10	28.81	2.67	3.93
1.58	1.74	115.61	53.95	0.85	3.58	3.71	217.05	128.85	1.60	5.58	3.38	72.57	63.73	2.41	7.58	10.08	31.23	56.40	3.17	9.58	9.15	32.25	5.93	3.94
1.60	1.70	115.28	58.03	0.87	3.60	3.76	216.71	132.91	1.60	5.60	3.12	94.79	64.54	2.42	7.60	10.14	30.89	53.14	3.17	9.60	9.24	34.14	8.37	3.95
1.62	1.68	114.83	61.28	0.87	3.62	3.77	213.93	136.17	1.61	5.62	2.88	108.45	66.98	2.43	7.62	10.06	31.00	49.89	3.18	9.62	9.45	34.92	12.44	3.95
1.64	1.70	113.05	62.09	0.88	3.64	3.85	212.15	141.87	1.61	5.64	2.96	109.01	75.12	2.44	7.64	9.89	31.56	49.89	3.19	9.64	9.75	35.03	16.51	3.96
1.66	1.76	114.82	64.54	0.89	3.66	3.96	208.03	148.38	1.61	5.66	3.21	100.12	84.89	2.44	7.66	9.66	32.00	49.89	3.21	9.66	10.12	34.58	19.77	3.96
1.68	1.92	116.04	70.23	0.91	3.68	4.06	203.92	158.15	1.62	5.68	3.40	89.89	97.10	2.46	7.68	9.36	32.12	47.45	3.21	9.68	10.28	32.47	21.39	3.97
1.70	2.00	120.26	90.59	0.90	3.70	4.23	196.81	163.03	1.63	5.70	3.56	83.66	105.24	2.46	7.70	8.93	31.89	45.00	3.22	9.70	10.11	32.13	22.21	3.97
1.72	2.19	120.48	92.21	0.92	3.72	4.23	192.69	162.22	1.64	5.72	3.70	77.99	111.75	2.47	7.72	8.50	33.22	43.37	3.23	9.72	10.02	32.80	23.84	3.98
1.74	2.25	119.04	80.82	0.93	3.74	4.24	187.80	161.41	1.64	5.74	3.72	77.43	119.89	2.47	7.74	8.25	35.00	43.37	3.24	9.74	10.00	32.57	25.47	3.99
1.76	2.37	118.02	70.23	0.93	3.76	4.34	186.35	164.66	1.65	5.76	3.70	76.76	121.52	2.47	7.76	8.30	36.33	45.81	3.24	9.76	9.94	33.13	26.28	4.00
1.78	2.64	120.35	87.33	0.92	3.78	4.51	185.35	168.73	1.66															

**FERRARA DEPARTMENT**

Via Annibale Zucchini, 69 - 44122 Ferrara (FE)

Tel.: +39 0532 56771 - Fax: +39 0532 56119

SOCOTEC ITALIA Srl - P.Iva 01872430648

Headquarters: Via Bariola, 101-103 - 20020 Lainate (MI)

Tel.: +39 02 9375 0000 - Fax: +39 02 9375 0099

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PROVA N°: SCPTU 3 PROF. FALDA (m da p.c.):

PUNTA: Tecnopenta G1-CPL2IN (matr. 200317)[a = 0.66]

DATA: 02/023/2022

PREFORO (m da p.c.):

0.90

LAT. (WGS 84):

44.983261°

LONG. (WGS 84):

10.050370°

COMMESSA: 23711FE/22

C. SITO N°: SFXXXXX del 07/03/22

OPERATORE:

L. Formisano

prof. m	qc Mpa	fs kPa	U kPa	incl. gradi	prof. m	qc Mpa	fs kPa	U kPa	incl. gradi	prof. m	qc Mpa	fs kPa	U kPa	incl. gradi	prof. m	qc Mpa	fs kPa	U kPa	incl. gradi	prof. m	qc Mpa	fs kPa	U kPa	incl. gradi
10.92	15.36	42.50	81.63	4.47	12.92	16.19	72.22	96.29	5.28	14.92	15.70	78.13	40.12	5.98	16.92	13.59	62.05	132.10	6.39	18.92	14.86	68.46	118.26	6.57
10.94	15.17	47.50	81.63	4.48	12.94	16.45	78.44	101.17	5.29	14.94	15.78	78.69	36.05	5.99	16.94	13.87	54.12	47.45	6.39	18.94	15.06	72.34	129.66	6.59
10.96	14.90	50.50	79.19	4.49	12.96	16.61	82.89	105.24	5.29	14.96	15.80	79.80	32.79	6.00	16.96	14.06	52.24	42.56	6.40	18.96	15.17	84.79	128.03	6.60
10.98	15.21	49.83	84.07	4.50	12.98	16.91	84.78	111.75	5.29	14.98	15.77	80.36	29.53	6.01	16.98	14.27	52.02	40.93	6.40	18.98	15.21	101.93	102.79	6.61
11.00	15.25	48.05	84.89	4.50	13.00	16.99	84.11	115.01	5.30	15.00	15.70	80.92	27.09	6.02	17.00	14.54	52.91	39.31	6.41	19.00	14.58	83.04	71.87	6.63
11.02	15.04	47.50	84.07	4.53	13.02	16.65	84.77	111.75	5.31	15.02	15.86	81.03	27.91	6.03	17.02	14.81	53.47	38.49	6.41	19.02	14.66	102.93	66.17	6.65
11.04	14.78	47.16	86.51	4.53	13.04	16.03	87.33	108.49	5.32	15.04	16.09	80.92	29.53	6.05	17.04	15.01	51.70	37.67	6.42	19.04	15.22	102.94	72.68	6.65
11.06	14.37	52.83	84.07	4.53	13.06	15.40	89.44	106.05	5.32	15.06	16.32	79.25	31.17	6.05	17.06	15.18	51.59	37.67	6.45	19.06	15.55	89.38	75.93	6.65
11.08	14.11	49.82	83.26	4.54	13.08	15.09	90.77	107.68	5.33	15.08	16.51	77.26	32.79	6.07	17.08	15.42	54.03	39.31	6.45	19.08	15.46	82.72	73.49	6.66
11.10	13.67	49.26	80.82	4.55	13.10	15.01	90.65	113.38	5.33	15.10	16.58	74.70	32.79	6.07	17.10	15.80	60.70	44.19	6.46	19.10	15.87	71.61	82.45	6.65
11.12	13.22	49.59	79.19	4.56	13.12	15.04	90.76	119.89	5.34	15.12	16.50	73.03	32.79	6.08	17.12	16.25	60.26	47.45	6.47	19.12	16.39	59.70	88.96	6.63
11.14	12.70	56.70	78.37	4.58	13.14	15.01	88.65	123.96	5.34	15.14	16.42	71.92	32.79	6.09	17.14	16.45	66.26	53.14	6.48	19.14	17.00	47.24	99.54	6.62
11.16	12.49	58.92	81.63	4.58	13.16	14.93	86.31	127.21	5.35	15.16	16.31	71.25	33.61	6.09	17.16	17.28	77.15	79.19	6.49	19.16	18.09	35.45	123.96	6.61
11.18	12.41	63.81	85.70	4.59	13.18	14.79	83.53	129.66	5.35	15.18	16.07	71.15	31.98	6.11	17.18	16.74	56.04	58.84	6.43	19.18	18.06	36.89	126.40	6.60
11.20	12.31	63.81	86.51	4.61	13.20	14.75	80.64	132.91	5.36	15.20	15.83	71.26	32.79	6.12	17.20	16.91	61.48	62.09	6.30	19.20	18.33	44.11	131.29	6.60
11.22	12.41	61.82	53.95	4.62	13.22	14.97	78.74	136.17	5.37	15.22	15.63	72.26	32.79	6.13	17.22	17.30	60.71	69.42	6.23	19.22	19.80	92.11	163.03	6.60
11.24	12.48	65.15	53.95	4.62	13.24	16.02	75.66	85.70	5.37	15.24	15.45	72.14	33.61	6.13	17.24	17.68	58.38	75.93	6.22	19.24	21.03	81.00	191.52	6.60
11.26	12.40	68.93	51.51	4.63	13.26	16.60	78.43	91.40	5.39	15.26	15.47	71.81	35.23	6.13	17.26	17.45	57.82	73.49	6.20	19.26	22.66	77.67	233.03	6.60
11.28	12.54	71.26	53.14	4.64	13.28	17.00	78.43	95.47	5.39	15.28	15.66	72.59	40.12	6.15	17.28	16.93	57.26	70.23	6.21	19.28	24.49	90.89	294.09	6.62
11.30	12.42	72.93	51.51	4.65	13.30	17.14	79.10	98.73	5.40	15.30	16.04	74.37	45.81	6.16	17.30	16.15	60.48	63.73	6.20	19.30	25.73	118.78	325.83	6.62
11.32	12.22	75.82	49.89	4.67	13.32	17.22	79.99	101.98	5.41	15.32	16.32	73.81	50.70	6.17	17.32	15.39	56.48	60.47	6.19	19.32	27.03	107.90	355.13	6.63
11.34	12.10	79.93	49.07	4.68	13.34	17.41	82.66	107.68	5.43	15.34	16.67	80.37	54.77	6.17	17.34	14.94	55.15	59.65	6.18	19.34	27.43	101.35	345.37	6.64
11.36	11.72	86.82	47.45	4.70	13.36	17.75	85.88	114.19	5.43	15.36	16.93	90.14	63.73	6.17	17.36	14.48	55.25	57.21	6.18	19.36	27.37	85.35	182.57	6.65
11.38	11.43	95.04	47.45	4.71	13.38	18.25	91.43	120.71	5.45	15.38	17.74	77.81	70.23	6.18	17.38	14.20	56.48	57.21	6.18	19.38	26.41	87.13	157.33	6.65
11.40	11.32	98.26	48.26	4.72	13.40	18.47	95.87	123.96	5.45	15.40	18.61	75.36	84.89	6.18	17.40	13.89	57.03	56.40	6.18	19.40	25.16	91.80	153.27	6.65
11.42	11.35	99.25	49.89	4.72	13.42	18.43	101.10	127.21	5.45	15.42	18.72	64.47	83.26	6.20	17.42	13.62	57.70	56.40	6.18	19.42	23.13	81.37	125.59	6.67
11.44	11.44	99.03	53.14	4.72	13.44	18.55	105.09	132.91	5.46	15.44	18.99	61.92	92.21	6.20	17.44	13.50	58.03	57.21	6.17	19.44	24.17	109.92	135.35	6.67
11.46	11.81	98.03	59.65	4.73	13.46	18.84	105.20	138.61	5.47	15.46	18.47	58.70	99.54	6.21	17.46	13.53	56.91	60.47	6.18	19.46	24.90	69.81	150.01	6.68
11.48	12.36	97.69	67.79	4.74	13.48	19.25	105.75	145.94	5.47	15.48	18.43	57.14	101.98	6.21	17.48	13.59	58.13	62.91	6.18	19.48	18.44	20.15	54.77	6.68
11.50	12.77	96.58	72.68	4.75	13.50	19.79	106.19	153.27	5.48	15.50	18.45	53.58	105.24	6.22	17.50	13.70	56.24	65.35	6.18	19.50	16.13	120.15	51.51	6.69
11.52	12.96	94.57	75.93	4.76	13.52	20.39	107.19	165.47	5.49	15.52	18.61	56.47	111.75	6.23	17.52	13.92	55.02	68.61	6.19	19.52	15.63	138.26	58.03	6.69
11.54	12.94	95.68	77.56	4.77	13.54	20.74	106.19	163.03	5.48	15.54	18.94	62.13	120.71	6.23	17.54	14.11	54.35	71.87	6.19	19.54	15.34	143.04	58.84	6.70
11.56	12.91	96.79	79.19	4.79	13.56	20.78	105.96	158.15	5.48	15.56	19.10	68.13	127.21	6.23	17.56	14.32	54.13	74.31	6.20	19.56	15.10	142.48	58.03	6.71
11.58	12.79	97.68	80.01	4.80	13.58	20.75	106.40	154.89	5.47	15.58	18.99	73.80	131.29	6.24	17.58	14.49	54.57	77.56	6.21	19.58	15.02	133.70	57.21	6.71
11.60	12.56	99.56	79.19	4.80	13.60	20.75	107.62	160.59	5.46	15.60	18.78	73.79	134.54	6.24	17.60	14.54	54.02	78.37	6.21	19.60	15.00	115.25	55.59	6.72
11.62	12.26	102.67	79.19	4.81	13.62	20.70	110.39	166.29	5.47	15.62	18.49	74.01	135.35	6.25	17.62	14.64	52.91	80.01	6.22	19.62	15.17	88.13	57.21	6.73
11.64	12.04	105.23	79.19	4.81	13.64	20.43	112.72	171.99	5.46	15.64	18.09	75.23	135.35	6.26	17.64	14.73	52.69	81.63	6.22	19.64	15.35	70.45	60.47	6.73
11.66	11.83	105.78	80.01	4.82	13.66	20.09	114.71	177.69	5.46	15.66	18.04	78.56	142.68	6.26	17.66	14.89	52.91	84.07	6.22	19.66	15.58	60.89	62.91	6.74
11.68	11.64	105.78	80.01	4.82	13.68	19.93	114.60	189.08	5.47	15.68	18.15	84.12	151.63	6.27	17.68	15.18	55.57	88.15	6.23	19.68	15.72	63.00	65.35	6.75
11.70	11.51	103.77	81.63	4.83	13.70	18.80	112.81	200.47	5.47	15.70	18.22	85.34	157.33	6.28	17.70	15.46	57.24	92.21	6.23	19.70	15.78	61.10	66.98	6.75
11.72	11.30	102.10	81.63	4.84	13.72	17.97	112.25	215.13	5.47	15.72	18.25	85.33	164.66	6.28	17.72	15.78	59.57	97.10	6.23	19.72	15.69	58.43	66.17	6.76
11.74	11.16	101.32	82.45	4.85	13.74	17.95	111.81	228.97	5.48	15.74	18.15	83.22	168.73	6.28	17.74	16.13	61.35	102.79	6.23	19.74	15.53	59.54	64.54	6.77
11.76																								



**FERRARA DEPARTMENT**

Via Annibale Zucchini, 69 – 44122 Ferrara (FE)

Tel.: +39 0532 56771 - Fax.: +39 0532 56119

SOCOTEC ITALIA Srl – P.Iva 01872430648

Headquarters: Via Bariola, 101-103 - 20020 Lainate (MI)

Tel.: +39 02 9375 0000 - Fax: +39 02 9375 0099

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PROVA N°: SCPTU 3 PROF. FALDA (m da p.c.):

PUNTA: Tecnopenta G1-CPL2IN (matr. 200317)[a = 0.66]

DATA: 02/023/2022

PREFORO (m da p.c.):

0.90

LAT. (WGS 84): 44.983261°

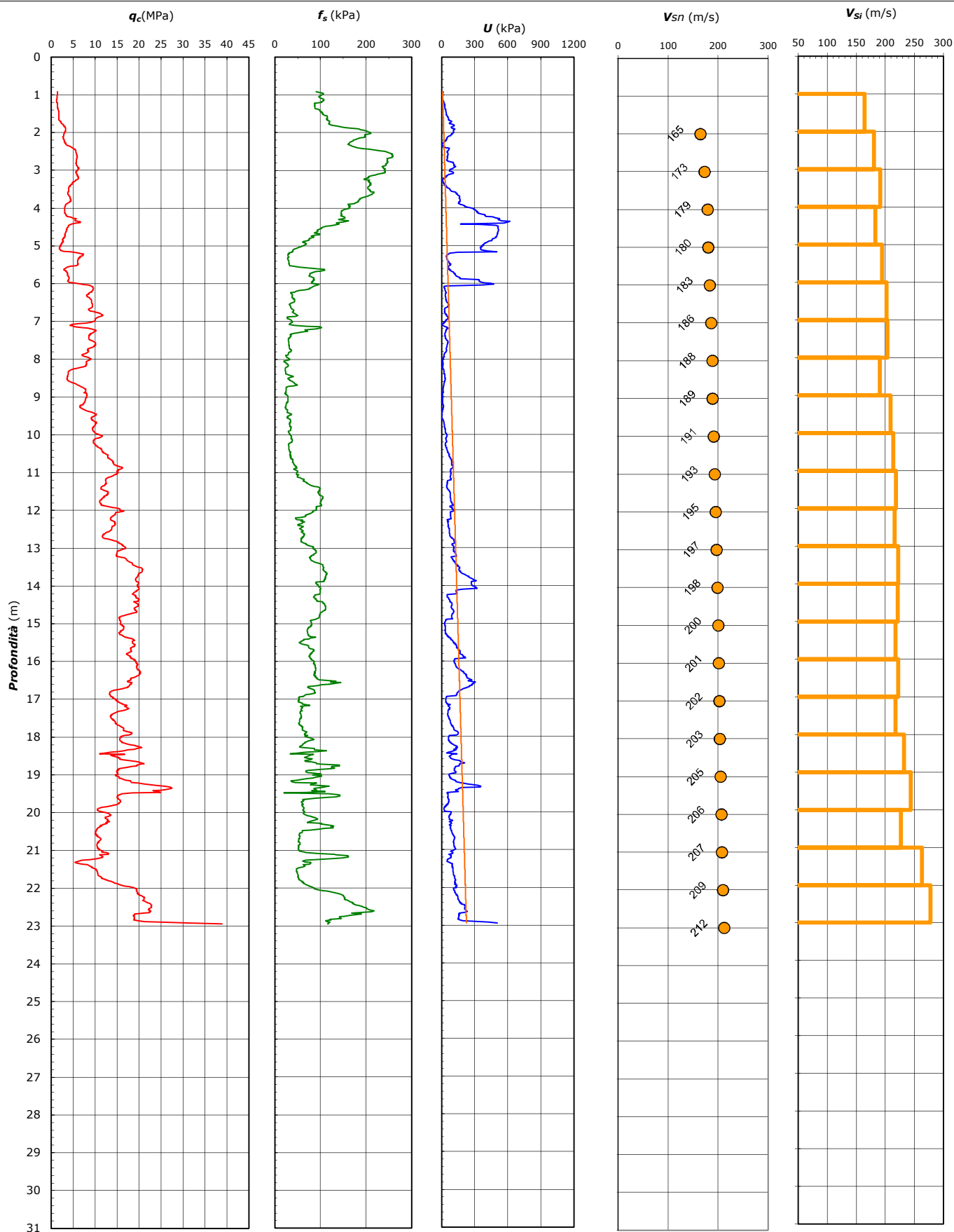
LONG. (WGS 84): 10.050307°

COMMESSA: 23711FE/22

C. SITO N°: SFXXXXX del 07/03/22

OPERATORE:

L. Formisano



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Via Annibale Zucchini, 69 – 44122 Ferrara (FE)

Tel.: +39 0532 56771 - Fax.: +39 0532 56119

SOCOTEC ITALIA Srl – P.Iva 01872430648

Headquarters: Via Bariola, 101-103 - 20020 Lainate (MI)

Tel.: +39 02 9375 0000 - Fax: +39 02 9375 0099

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PROVA N°: SCPTU 3 PROF. FALLA (m da p.c.):

PUNTA: Tecnopenta G1-CPL2IN (matr. 200317)[a = 0.66]

DATA: 02/023/2022

PREFORO (m da p.c.):

0.90

LAT. (WGS 84): 44.983261°

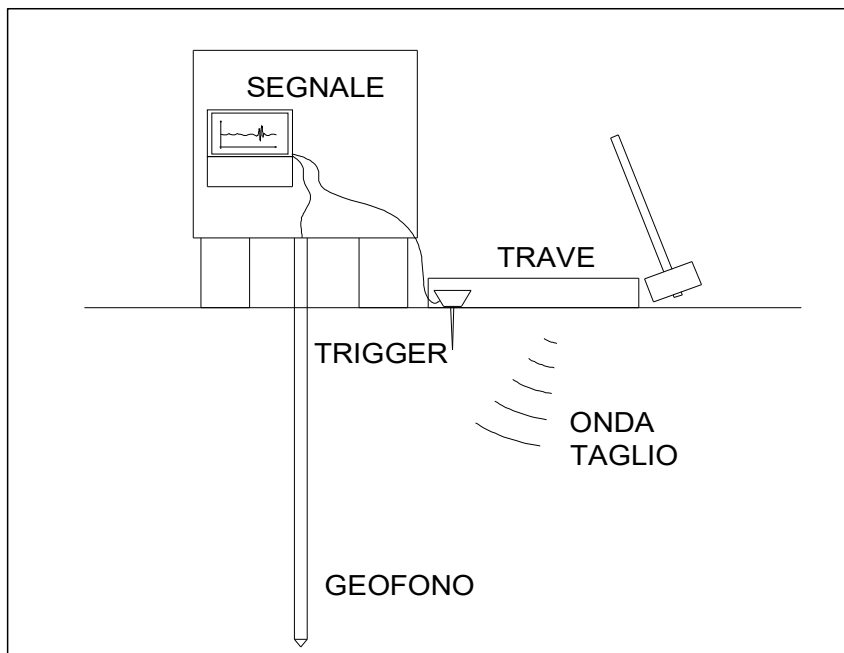
LONG. (WGS 84): 10.050307°

COMMESSA: 23711FE/22

C. SITO N°: SFXXXXX del 07/03/22

OPERATORE:

L. Formisano

**Prova Down Hole ASTM D 7400**

Profondità (m)	Ts (ms)	L (m)	Vs (m/s)	Vis (m/s)
1.0	10	1.41	-	-
2.0	5.00	2.24	165	165
3.0	10.13	3.16	173	181
4.0	15.14	4.12	179	191
5.0	20.48	5.10	180	183
6.0	25.53	6.08	183	195
7.0	30.43	7.07	186	202
8.0	35.29	8.06	188	204
9.0	40.51	9.06	189	190
10.0	45.26	10.05	191	209
11.0	49.92	11.05	193	214
12.0	54.49	12.04	195	218
13.0	59.11	13.04	197	216
14.0	63.60	14.04	198	222
15.0	68.10	15.03	200	222
16.0	72.70	16.03	201	217
17.0	77.19	17.03	202	222
18.0	81.79	18.03	203	217
19.0	86.09	19.03	205	232
20.0	90.19	20.02	206	244
21.0	94.59	21.02	207	227
22.0	98.38	22.02	209	263
23.0	101.98	23.02	212	278

CATEGORIA SOTTOSUOLO

-

**V<sub>s,30</sub> = m/s**

- D = Distanza centro trave generatrice ond  
 Profondità = Profondità punta da piano campagna  
 Ts = Tempo percorrenza onda di taglio  
 L = Lunghezza percorso onda di taglio  
 Vs = Velocità onde di taglio da piano campagna alla profondità indic = 1.00 m  
 Vis = Velocità onde di taglio nello strato di terreno compreso fra le due profondità indicate



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Via Annibale Zucchini, 69 – 44122 Ferrara (FE)

Tel.: +39 0532 56771 - Fax.: +39 0532 56119

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Headquarters: Via Bariola, 101-103 - 20020 Lainate (MI)

Tel.: +39 02 9375 0000 - Fax: +39 02 9375 0099

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**COMMITTENTE:** ENGEО S.r.l. - Via Suor Maria Adorni, 2 - 43121 Parma

**CANTIERE:** Via Partigiano d'Italia - Busseto (PR)

PROVA N°: SCPTU 3 PROF. FALDA (m da p.c.): PUNTA: Tecnopenta G1-CPL2IN (matr. 200317)[a = 0.66]

DATA: 02/023/2022 PREFORO (m da p.c.): 0.90 LAT. (WGS 84): 44.983261° LONG. (WGS 84): 10.050307°

COMMESSA: 23711FE/22 C. SITO N°: SFXXXXX del 07/03/22 OPERATORE: L. Formisano

UBICAZIONE

Località: Via Partigiano d'Italia - Busseto (PR)





**FERRARA DEPARTMENT**

Via Annibale Zucchini, 69 - 44122 Ferrara (FE)

Tel.: +39 0532 56771 - Fax.: +39 0532 56119

SOCOTEC ITALIA Srl - P.Iva 01872430648

Headquarters: Via Bariola, 101-103 - 20020 Lainate (MI)

Tel.: +39 02 9375 0000 - Fax: +39 02 9375 0099

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PROVA N°: SCPTU 4 PROF. FALDA (m da p.c.):

PUNTA: Tecnopenta G1-CPL2IN (matr. 200317)[a = 0.66]

DATA: 28/02/22

PREFORO (m da p.c.):

0.70

LAT. (WGS 84): 44.934993°

LONG. (WGS 84): 10.000558°

COMMESSA: 23711FE/22

C. SITO N°: SF220180 del 01/03/22 OPERATORE: L. Formisano

prof. m	qc Mpa	fs kPa	U kPa	incl. gradi	prof. m	qc Mpa	fs kPa	U kPa	incl. gradi	prof. m	qc Mpa	fs kPa	U kPa	incl. gradi	prof. m	qc Mpa	fs kPa	U kPa	incl. gradi	prof. m	qc Mpa	fs kPa	U kPa	incl. gradi
0.72	1.02	11.13	7.33	0.86	2.72	1.88	92.55	596.67	1.58	4.72	3.08	106.36	771.33	2.62	6.72	1.62	46.72	840.67	3.48	8.72	1.28	50.63	325.33	4.43
0.74	1.32	9.68	6.00	0.65	2.74	1.91	94.67	612.00	1.58	4.74	3.00	108.81	777.33	2.62	6.74	1.64	46.94	840.00	3.48	8.74	1.11	47.85	317.33	4.43
0.76	1.39	14.46	10.67	0.79	2.76	1.94	96.77	620.00	1.60	4.76	2.91	109.25	786.67	2.63	6.76	1.64	47.94	840.00	3.49	8.76	1.03	46.30	316.67	4.44
0.78	1.45	19.24	15.33	0.96	2.78	1.99	98.66	660.67	1.60	4.78	2.87	108.36	792.00	2.64	6.78	1.62	48.72	838.00	3.49	8.78	0.98	42.63	318.67	4.46
0.80	1.45	23.79	18.67	1.05	2.80	2.05	99.32	650.00	1.61	4.80	2.46	85.91	780.67	2.64	6.80	1.56	50.16	838.00	3.51	8.80	1.20	37.41	322.00	4.47
0.82	1.44	24.30	56.00	0.89	2.82	2.02	99.99	659.33	1.62	4.82	2.72	103.67	850.67	2.64	6.82	1.66	46.51	822.67	3.54	8.82	1.06	36.52	324.00	4.47
0.84	1.43	24.80	93.33	0.74	2.84	1.99	101.65	658.67	1.63	4.84	2.61	98.89	842.00	2.65	6.84	1.72	46.29	824.67	3.53	8.84	1.63	40.76	315.33	4.49
0.86	1.44	35.86	52.00	0.91	2.86	1.97	104.87	660.00	1.64	4.86	2.44	96.00	833.33	2.67	6.86	1.72	46.95	824.67	3.54	8.86	1.82	42.98	326.00	4.50
0.88	1.44	41.97	48.67	0.89	2.88	1.92	106.09	666.67	1.65	4.88	2.24	91.77	822.67	2.66	6.88	1.74	47.18	826.67	3.56	8.88	2.00	41.09	326.00	4.51
0.90	1.40	48.98	55.33	0.90	2.90	1.92	109.53	661.33	1.66	4.90	2.04	87.88	814.00	2.67	6.90	1.75	45.07	825.33	3.57	8.90	1.97	52.76	322.67	4.52
0.92	1.42	55.54	74.67	0.89	2.92	2.05	114.28	582.67	1.68	4.92	1.91	85.22	808.00	2.68	6.92	1.74	45.51	823.33	3.58	8.92	1.81	57.64	318.67	4.53
0.94	1.40	61.54	78.67	0.91	2.94	1.97	115.72	602.00	1.68	4.94	1.80	80.43	803.33	2.68	6.94	1.71	46.51	822.00	3.59	8.94	1.73	59.53	314.67	4.54
0.96	1.59	66.77	112.67	0.90	2.96	1.88	116.94	637.33	1.70	4.96	1.67	77.10	798.67	2.69	6.96	1.64	47.51	819.33	3.60	8.96	1.71	59.20	316.67	4.55
0.98	1.74	67.10	118.00	0.91	2.98	1.83	115.27	652.67	1.71	4.98	1.62	75.99	795.33	2.69	6.98	1.61	47.73	818.00	3.61	8.98	1.65	56.64	314.67	4.55
1.00	1.88	65.55	85.33	0.91	3.00	1.65	111.94	664.67	1.72	5.00	1.54	74.87	792.00	2.70	7.00	1.66	46.29	819.33	3.62	9.00	1.49	56.53	310.67	4.57
1.02	1.60	64.00	80.67	0.92	3.02	1.64	106.49	667.33	1.73	5.02	1.46	72.65	790.00	2.70	7.02	1.66	47.18	820.67	3.63	9.02	1.30	56.76	306.00	4.58
1.04	1.55	64.11	98.00	0.90	3.04	1.60	103.05	667.33	1.73	5.04	1.37	67.43	786.00	2.70	7.04	1.66	48.96	822.67	3.65	9.04	1.13	55.31	305.33	4.58
1.06	1.55	63.00	100.00	0.92	3.06	1.68	97.38	673.33	1.74	5.06	1.27	63.09	784.67	2.72	7.06	1.71	47.75	797.33	3.65	9.06	1.16	62.20	306.67	4.60
1.08	1.50	63.56	102.67	0.92	3.08	1.65	90.59	686.67	1.75	5.08	1.27	58.64	785.33	2.72	7.08	1.66	48.97	794.00	3.66	9.08	1.14	59.76	308.67	4.60
1.10	1.47	62.56	92.00	0.92	3.10	1.62	85.37	702.00	1.75	5.10	1.24	56.09	788.67	2.74	7.10	1.65	48.75	790.00	3.67	9.10	1.14	55.98	310.00	4.61
1.12	1.36	63.12	90.67	0.94	3.12	1.60	80.48	718.00	1.77	5.12	1.22	52.98	791.33	2.74	7.12	1.63	50.52	789.33	3.67	9.12	1.16	50.43	310.67	4.63
1.14	1.30	65.68	85.33	0.94	3.14	1.65	76.81	742.00	1.78	5.14	1.22	47.86	792.00	2.76	7.14	1.65	51.75	791.33	3.68	9.14	1.21	45.54	312.67	4.63
1.16	1.22	65.68	90.67	0.96	3.16	1.68	72.80	743.33	1.79	5.16	1.24	44.86	795.33	2.76	7.16	1.66	50.86	792.00	3.70	9.16	1.33	41.09	320.67	4.64
1.18	1.20	65.35	82.00	0.95	3.18	1.72	67.02	744.00	1.81	5.18	1.19	44.53	794.00	2.77	7.18	1.61	51.19	790.00	3.71	9.18	1.63	37.98	329.33	4.65
1.20	1.16	64.12	79.33	0.96	3.20	1.82	64.24	748.67	1.81	5.20	1.12	43.86	790.00	2.78	7.20	1.55	51.86	788.67	3.71	9.20	1.67	36.54	330.00	4.66
1.22	1.09	60.99	46.00	0.97	3.22	2.02	66.35	797.33	1.84	5.22	1.42	41.22	710.67	2.80	7.22	1.55	51.19	788.67	3.72	9.22	1.65	41.31	329.33	4.66
1.24	1.09	62.21	47.33	0.98	3.24	2.05	66.35	795.33	1.85	5.24	1.39	42.44	711.33	2.81	7.24	1.55	49.63	789.33	3.74	9.24	1.76	46.09	336.67	4.66
1.26	1.11	63.65	48.67	0.97	3.26	2.09	71.02	797.33	1.86	5.26	1.48	43.77	718.67	2.82	7.26	1.55	47.74	792.00	3.74	9.26	1.97	45.98	346.00	4.68
1.28	1.12	65.10	50.00	0.97	3.28	2.12	77.46	806.00	1.87	5.28	1.82	44.11	741.33	2.84	7.28	1.55	47.19	793.33	3.75	9.28	2.27	46.87	357.33	4.68
1.30	1.19	72.10	50.00	0.99	3.30	2.12	85.46	810.00	1.88	5.30	2.16	43.66	767.33	2.84	7.30	1.55	46.19	792.67	3.76	9.30	2.98	56.76	386.67	4.68
1.32	1.19	71.87	52.67	0.99	3.32	2.12	89.79	800.67	1.89	5.32	2.26	45.33	775.33	2.85	7.32	1.49	45.63	791.33	3.77	9.32	4.17	69.31	420.00	4.70
1.34	1.16	72.32	56.67	1.00	3.34	2.15	94.13	804.67	1.89	5.34	2.34	50.44	786.00	2.87	7.34	1.47	44.74	791.33	3.78	9.34	4.95	73.31	166.00	4.71
1.36	1.11	71.65	60.67	1.02	3.36	2.13	100.68	792.00	1.90	5.36	2.42	55.89	796.67	2.88	7.36	1.45	42.52	789.33	3.79	9.36	5.41	88.42	59.33	4.72
1.38	1.14	70.98	60.67	1.02	3.38	2.07	106.68	792.67	1.92	5.38	2.45	60.44	801.33	2.90	7.38	1.39	41.08	786.00	3.80	9.38	5.68	90.76	73.33	4.73
1.40	1.18	72.31	63.33	1.04	3.40	2.05	107.12	779.33	1.92	5.40	2.47	66.44	802.67	2.91	7.40	1.33	40.41	782.00	3.81	9.40	5.71	86.87	81.33	4.74
1.42	1.22	71.20	64.67	1.04	3.42	2.02	104.23	762.00	1.93	5.42	2.37	75.00	803.33	2.92	7.42	1.31	39.52	781.33	3.82	9.42	5.57	79.09	88.00	4.74
1.44	1.23	71.09	64.67	1.06	3.44	1.89	103.89	736.00	1.93	5.44	2.34	81.77	804.00	2.92	7.44	1.36	37.52	784.00	3.83	9.44	5.47	62.75	93.33	4.75
1.46	1.18	70.53	64.67	1.07	3.46	1.81	100.34	734.67	1.93	5.46	2.29	88.33	806.67	2.93	7.46	1.44	35.19	788.67	3.85	9.46	5.41	44.97	99.33	4.75
1.48	1.14	71.86	66.00	1.09	3.48	1.87	97.11	755.33	1.95	5.48	2.24	91.66	806.67	2.95	7.48	1.53	34.63	795.33	3.86	9.48	5.44	34.31	104.00	4.76
1.50	1.15	72.19	70.67	1.08	3.50	1.95	96.22	772.00	1.95	5.50	2.18	94.54	806.67	2.95	7.50	1.53	34.41	797.33	3.87	9.50	5.62	28.19	102.67	4.77
1.52	1.10	72.64	72.00	1.10	3.52	2.01	95.88	445.33	1.96	5.52	2.16	97.66	808.67	2.96	7.52	1.57	32.52	796.67	3.88	9.52	5.87	30.64	79.33	4.78
1.54	1.04	74.64	77.33	1.11	3.54	2.22	92.55	372.67	1.97	5.54	2.11	96.32	810.67	2.97	7.54	1.53	35.85	796.67	3.89	9.54	6.14	33.86	74.00	4.79
1.56	0.99	75.30	76.67	1.11	3.56	2.20	89.43	432.00	1.98	5.56	2.08	94.76	812.00	2.97	7.56	1.64	36.96	804.67	3.89	9.56	6.12	36.52	70.67	4.80

**FERRARA DEPARTMENT**

Via Annibale Zucchini, 69 – 44122 Ferrara (FE)

Tel.: +39 0532 56771 - Fax.: +39 0532 56119

SOCOTEC ITALIA Srl – P.Iva 01872430648

Headquarters: Via Bariola, 101-103 - 20020 Lainate (MI)

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PROVA N°: SCPTU 4 PROF. FALDA (m da p.c.):

PUNTA: Tecnopenta G1-CPL2IN (matr. 200317)[a = 0.66]

DATA: 28/02/22

PREFORO (m da p.c.):

0.70 LAT. (WGS 84): 44.934993° LONG. (WGS 84): 10.000558°

COMMESSA: 23711FE/22

C. SITO N°: SF220180 del 01/03/22 OPERATORE: L. Formisano

prof. m	qc Mpa	fs kPa	U kPa	incl. gradi	prof. m	qc Mpa	fs kPa	U kPa	incl. gradi	prof. m	qc Mpa	fs kPa	U kPa	incl. gradi	prof. m	qc Mpa	fs kPa	U kPa	incl. gradi	prof. m	qc Mpa	fs kPa	U kPa	incl. gradi
10.72	12.23	55.62	119.33	5.37	12.72	16.52	149.90	184.67	6.34	14.72	17.38	55.84	62.67	7.18	16.72	13.51	100.10	123.33	7.66	18.72	23.47	57.83	145.33	7.89
10.74	11.87	55.95	114.67	5.37	12.74	15.69	149.11	168.00	6.34	14.74	17.84	59.06	70.00	7.19	16.74	13.14	98.65	118.67	7.67	18.74	23.80	64.39	144.00	7.91
10.76	11.25	55.73	108.00	5.39	12.76	15.07	135.00	160.00	6.35	14.76	18.09	62.51	77.33	7.20	16.76	13.06	98.08	117.33	7.68	18.76	24.37	87.83	122.00	7.92
10.78	10.65	56.50	104.00	5.40	12.78	14.67	129.22	158.00	6.35	14.78	17.92	64.28	78.00	7.21	16.78	13.17	89.08	118.00	7.69	18.78	25.91	88.16	155.33	7.93
10.80	10.37	58.28	105.33	5.40	12.80	14.40	125.76	156.67	6.36	14.80	17.63	70.73	82.67	7.22	16.80	13.26	73.41	116.00	7.70	18.80	26.34	100.16	144.00	7.95
10.82	9.82	62.06	92.67	5.43	12.82	14.11	122.65	156.00	6.37	14.82	16.95	69.84	81.33	7.23	16.82	13.69	72.97	119.33	7.71	18.82	26.86	86.60	168.00	7.98
10.84	10.28	54.73	90.00	5.44	12.84	13.68	112.65	106.67	6.38	14.84	16.22	70.72	80.67	7.25	16.84	13.86	72.74	118.67	7.70	18.84	27.32	81.60	200.00	7.98
10.86	10.32	51.07	86.67	5.44	12.86	13.59	108.10	101.33	6.39	14.86	15.48	75.61	80.67	7.26	16.86	14.71	70.46	69.33	7.74	18.86	26.74	92.71	188.67	7.98
10.88	10.28	49.29	84.00	5.45	12.88	13.18	103.55	93.33	6.40	14.88	14.91	66.16	81.33	7.28	16.88	15.06	71.47	56.00	7.75	18.88	26.48	74.27	188.67	7.99
10.90	10.57	51.63	89.33	5.46	12.90	12.89	99.99	90.67	6.40	14.90	14.23	67.06	74.67	7.28	16.90	16.13	75.36	64.00	7.75	18.90	25.39	49.60	138.00	7.98
10.92	11.40	51.96	104.67	5.47	12.92	12.79	96.77	92.67	6.40	14.92	14.28	82.17	78.00	7.30	16.92	17.19	79.25	72.00	7.76	18.92	22.32	62.05	92.67	7.96
10.94	12.19	52.85	116.00	5.49	12.94	12.62	92.66	90.00	6.41	14.94	14.12	82.39	74.67	7.31	16.94	18.32	86.48	85.33	7.78	18.94	19.06	100.50	62.67	7.94
10.96	12.33	50.18	110.00	5.50	12.96	12.51	89.10	90.67	6.42	14.96	14.39	90.06	78.67	7.31	16.96	20.64	103.04	114.67	7.79	18.96	18.02	111.27	79.33	7.93
10.98	11.76	47.40	96.00	5.51	12.98	12.37	87.43	92.00	6.42	14.98	15.12	92.28	90.67	7.33	16.98	22.56	253.25	146.67	7.71	18.98	17.01	104.71	70.67	7.92
11.00	10.84	45.29	86.00	5.53	13.00	12.41	86.32	95.33	6.43	15.00	16.34	84.17	108.00	7.34	17.00	23.39	311.91	133.33	7.57	19.00	15.20	152.16	56.00	7.92
11.02	9.90	43.07	78.00	5.54	13.02	12.44	85.10	98.00	6.44	15.02	17.75	78.50	130.00	7.35	17.02	24.90	217.90	155.33	7.48	19.02	13.99	230.60	57.33	7.92
11.04	9.12	42.18	72.00	5.54	13.04	12.63	83.76	103.33	6.45	15.04	18.47	76.05	143.33	7.36	17.04	20.27	173.43	115.33	7.46	19.04	13.97	197.38	62.00	7.92
11.06	8.60	42.51	68.00	5.55	13.06	12.86	82.21	108.67	6.47	15.06	18.71	72.38	150.67	7.36	17.06	17.60	219.52	104.00	7.44	19.06	13.80	168.15	64.00	7.92
11.08	8.33	43.73	69.33	5.57	13.08	12.98	81.76	114.00	6.47	15.08	18.93	75.05	163.33	7.38	17.08	17.12	243.97	128.67	7.45	19.08	13.72	147.26	67.33	7.95
11.10	8.41	44.06	72.00	5.57	13.10	13.05	82.32	117.33	6.48	15.10	18.96	76.93	172.67	7.39	17.10	16.88	251.41	144.00	7.44	19.10	13.86	142.37	71.33	7.95
11.12	9.28	45.98	41.33	5.60	13.12	13.14	81.54	121.33	6.49	15.12	18.51	80.86	76.67	7.40	17.12	17.12	240.41	154.00	7.43	19.12	13.67	129.60	45.33	7.96
11.14	9.45	48.54	40.67	5.62	13.14	13.24	80.76	125.33	6.51	15.14	18.51	85.31	74.00	7.40	17.14	17.26	230.63	161.33	7.42	19.14	14.28	91.60	52.00	7.97
11.16	9.77	55.65	47.33	5.64	13.16	13.29	79.16	38.00	6.52	15.16	18.72	89.86	77.33	7.41	17.16	17.79	202.08	177.33	7.41	19.16	14.68	66.94	54.67	7.98
11.18	9.93	49.76	46.00	5.65	13.18	13.55	81.05	38.67	6.54	15.18	18.99	93.42	84.00	7.42	17.18	18.76	179.86	207.33	7.42	19.18	15.17	63.06	58.67	7.98
11.20	9.63	36.43	44.00	5.66	13.20	13.80	82.61	40.00	6.54	15.20	19.21	94.75	92.00	7.42	17.20	19.61	126.53	210.67	7.41	19.20	15.22	61.17	59.33	7.99
11.22	9.09	28.87	37.33	5.66	13.22	13.99	82.95	42.00	6.54	15.22	19.30	95.52	100.67	7.43	17.22	19.98	109.31	214.00	7.41	19.22	14.69	59.06	57.33	8.01
11.24	8.56	28.21	34.00	5.67	13.24	14.18	83.28	44.00	6.55	15.24	19.18	95.19	106.67	7.44	17.24	20.59	95.09	198.67	7.40	19.24	14.31	59.50	54.67	8.01
11.26	7.83	28.99	28.00	5.68	13.26	14.23	84.83	48.00	6.56	15.26	18.98	95.85	114.00	7.46	17.26	20.60	95.87	206.00	7.41	19.26	13.88	60.50	55.33	8.01
11.28	7.41	29.99	28.00	5.69	13.28	14.29	85.39	49.33	6.57	15.28	18.68	97.62	122.00	7.45	17.28	20.62	96.65	213.33	7.42	19.28	13.82	59.61	52.67	8.01
11.30	7.58	31.99	31.33	5.70	13.30	14.21	85.83	51.33	6.58	15.30	18.80	99.39	140.00	7.46	17.30	20.62	101.65	212.00	7.42	19.30	13.96	60.17	60.00	8.02
11.32	7.83	36.43	34.67	5.71	13.32	14.10	86.60	53.33	6.59	15.32	18.75	100.16	154.67	7.47	17.32	20.68	110.43	214.67	7.42	19.32	14.10	60.72	67.33	8.03
11.34	8.37	39.76	40.00	5.73	13.34	13.70	92.60	52.00	6.58	15.34	18.82	101.16	171.33	7.47	17.34	20.84	119.54	217.33	7.43	19.34	13.85	63.28	66.67	8.04
11.36	8.91	43.09	45.33	5.74	13.36	13.24	91.60	49.33	6.58	15.36	18.86	101.04	187.33	7.48	17.36	21.02	122.10	219.33	7.44	19.36	13.87	61.28	70.00	8.05
11.38	9.04	43.43	46.00	5.76	13.38	15.94	92.82	103.33	6.56	15.38	18.94	100.81	202.00	7.48	17.38	21.33	123.87	232.00	7.45	19.38	13.82	61.71	74.00	8.05
11.40	8.96	37.65	44.67	5.76	13.40	14.21	97.04	69.33	6.55	15.40	19.05	100.58	216.67	7.49	17.40	21.63	123.65	240.00	7.46	19.40	13.90	58.94	78.00	8.06
11.42	8.42	33.98	40.67	5.77	13.42	13.75	130.47	79.33	6.57	15.42	18.98	99.35	229.33	7.50	17.42	21.71	123.86	234.00	7.46	19.42	13.93	58.94	81.33	8.07
11.44	7.91	29.43	33.33	5.77	13.44	13.95	128.14	82.00	6.56	15.44	18.60	99.57	233.33	7.51	17.44	21.63	124.97	233.33	7.46	19.44	14.20	60.49	88.67	8.08
11.46	7.39	30.87	30.67	5.79	13.46	14.46	123.69	92.00	6.55	15.46	18.34	100.57	238.00	7.51	17.46	21.58	127.40	236.67	7.47	19.46	14.24	63.82	93.33	8.09
11.48	7.25	35.10	30.67	5.79	13.48	15.09	130.24	104.67	6.56	15.48	18.42	101.23	248.67	7.52	17.48	21.35	131.07	235.33	7.47	19.48	14.56	61.83	98.00	8.10
11.50	7.42	39.76	33.33	5.80	13.50	15.88	131.13	118.00	6.56	15.50	18.67	101.44	262.67	7.54	17.50	21.11	133.17	232.67	7.48	19.50	14.99	64.38	105.33	8.10
11.52	7.60	41.76	34.67	5.81	13.52	16.74	121.57	133.33	6.57	15.52	18.80	100.11	265.33	7.54	17.52	20.97	136.94	228.67	7.48	19.52	15.91	69.16	119.33	8.12
11.54	8.02	41.21	38.67	5.83	13.54																			

**FERRARA DEPARTMENT**

Via Annibale Zucchini, 69 - 44122 Ferrara (FE)

Tel.: +39 0532 56771 - Fax.: +39 0532 56119

SOCOTEC ITALIA Srl - P.Iva 01872430648

Headquarters: Via Bariola, 101-103 - 20020 Lainate (MI)

Tel.: +39 02 9375 0000 - Fax: +39 02 9375 0099

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PROVA N°: SCPTU 4 PROF. FALDA (m da p.c.):

PUNTA: Tecnopenta G1-CPL2IN (matr. 200317)[a = 0.66]

DATA: 28/02/22

PREFORO (m da p.c.):

0.70

LAT. (WGS 84): 44.934993°

LONG. (WGS 84): 10.000558°

COMMESSA: 23711FE/22

C. SITO N°: SF220180 del 01/03/22 OPERATORE: L. Formisano

prof. m	qc Mpa	fs kPa	U kPa	incl. gradi	prof. m	qc Mpa	fs kPa	U kPa	incl. gradi	prof. m	qc Mpa	fs kPa	U kPa	incl. gradi	prof. m	qc Mpa	fs kPa	U kPa	incl. gradi	prof. m	qc Mpa	fs kPa	U kPa	incl. gradi
20.72	13.00	63.22	339.33	8.54	22.72	21.21	26.84	221.33	10.99	24.72	2.23	52.15	706.67	11.29	26.72	2.00	68.74	878.67	11.70	28.72	2.34	75.31	958.67	11.70
20.74	12.92	62.55	344.00	8.53	22.74	19.55	13.20	178.67	11.02	24.74	2.27	53.48	704.67	11.30	26.74	1.97	69.07	878.00	11.70	28.74	2.29	76.98	958.00	11.70
20.76	12.83	62.99	339.33	8.55	22.76	20.86	24.44	180.00	11.06	24.76	2.29	55.04	699.33	11.31	26.76	1.94	68.51	874.00	11.70	28.76	2.21	81.31	955.33	11.70
20.78	12.96	61.88	347.33	8.56	22.78	19.32	10.11	154.67	11.10	24.78	2.23	56.70	709.33	11.31	26.78	1.94	69.40	874.67	11.70	28.78	2.18	86.53	957.33	11.70
20.80	13.00	61.99	350.67	8.56	22.80	20.36	20.34	168.00	11.11	24.80	2.26	58.59	705.33	11.32	26.80	1.92	70.40	874.67	11.70	28.80	2.15	91.09	955.33	11.70
20.82	13.03	62.10	349.33	8.57	22.82	20.71	27.12	178.67	11.04	24.82	2.23	60.93	707.33	11.32	26.82	1.89	69.73	874.00	11.70	28.82	2.13	94.64	948.67	11.70
20.84	13.40	57.66	365.33	8.58	22.84	20.96	31.67	207.33	11.02	24.84	2.21	62.26	708.00	11.33	26.84	1.92	70.18	874.67	11.70	28.84	2.10	98.42	950.67	11.70
20.86	13.33	57.10	331.33	8.59	22.86	22.86	31.11	209.33	11.03	24.86	2.23	64.48	706.67	11.34	26.86	1.89	69.73	877.33	11.70	28.86	2.07	101.42	954.00	11.70
20.88	13.62	58.44	336.67	8.60	22.88	25.45	52.67	255.33	11.03	24.88	2.21	67.26	708.67	11.34	26.88	1.89	70.06	881.33	11.70	28.88	2.04	102.53	954.67	11.70
20.90	13.80	56.55	339.33	8.60	22.90	28.59	23.00	302.00	11.02	24.90	2.27	67.81	710.67	11.35	26.90	1.87	69.17	884.67	11.70	28.90	1.97	101.53	952.00	11.70
20.92	13.91	56.55	342.00	8.61	22.92	29.58	45.90	336.00	10.97	24.92	2.27	68.37	718.00	11.35	26.92	1.79	65.78	757.33	11.70	28.92	2.01	101.75	944.67	11.70
20.94	13.94	58.85	140.67	8.63	22.94	26.05	65.67	208.00	10.94	24.94	2.23	68.15	723.33	11.35	26.94	1.86	69.00	767.33	11.70	28.94	2.01	102.08	944.00	11.70
20.96	14.24	55.85	132.67	8.64	22.96	23.75	95.11	174.00	10.95	24.96	2.32	68.70	726.67	11.36	26.96	1.87	70.33	779.33	11.70	28.96	1.97	101.08	940.00	11.70
20.98	14.34	59.30	129.33	8.65	22.98	20.54	126.63	108.00	10.98	24.98	2.43	72.48	707.33	11.37	26.98	1.87	70.22	788.00	11.70	28.98	2.01	100.30	939.33	11.70
21.00	14.35	60.31	126.00	8.65	23.00	18.03	103.52	100.67	10.98	25.00	2.47	72.48	712.67	11.37	27.00	1.87	70.67	797.33	11.70	29.00	2.02	98.41	942.67	11.70
21.02	14.32	60.64	126.00	8.66	23.02	15.52	80.41	93.33	10.99	25.02	2.37	70.26	716.00	11.38	27.02	1.86	71.22	808.67	11.70	29.02	1.97	94.19	941.33	11.70
21.04	14.21	60.08	127.33	8.67	23.04	10.48	92.74	62.67	10.97	25.04	2.32	64.71	778.00	11.39	27.04	1.89	71.33	817.33	11.70	29.04	2.00	94.85	946.67	11.70
21.06	14.23	60.08	132.00	8.67	23.06	5.90	84.07	35.33	11.02	25.06	2.28	59.59	768.00	11.39	27.06	1.89	71.33	824.67	11.70	29.06	2.09	99.14	965.33	11.70
21.08	14.26	62.75	134.67	8.67	23.08	4.76	101.96	55.33	10.99	25.08	2.29	57.15	776.67	11.39	27.08	1.89	70.99	829.33	11.70	29.08	2.12	101.14	970.67	11.70
21.10	14.73	66.52	146.67	8.69	23.10	3.62	119.84	75.33	10.96	25.10	2.32	54.93	801.33	11.40	27.10	1.87	70.32	834.67	11.70	29.10	2.15	101.80	977.33	11.70
21.12	14.98	68.88	130.00	8.70	23.12	2.74	152.88	141.33	10.97	25.12	2.46	57.94	784.67	11.40	27.12	1.90	69.44	856.67	11.70	29.12	2.14	100.91	980.00	11.70
21.14	15.57	68.89	126.00	8.71	23.14	2.60	153.66	167.33	10.98	25.14	2.61	54.17	764.67	11.40	27.14	1.93	70.66	863.33	11.70	29.14	2.12	99.80	982.00	11.70
21.16	16.51	66.90	130.67	8.72	23.16	2.62	138.88	256.00	10.99	25.16	2.58	57.06	852.67	11.41	27.16	1.98	70.10	868.67	11.70	29.16	2.12	99.24	987.33	11.70
21.18	17.00	67.45	136.00	8.72	23.18	2.60	123.00	241.33	11.00	25.18	2.54	55.94	916.67	11.41	27.18	2.05	69.21	872.67	11.70	29.18	2.13	99.24	993.33	11.70
21.20	17.56	65.79	144.67	8.73	23.20	2.62	114.77	215.33	10.92	25.20	2.58	54.06	983.33	11.41	27.20	2.06	68.55	874.67	11.70	29.20	2.13	99.46	900.67	11.70
21.22	18.18	63.45	160.00	8.74	23.22	2.52	98.88	196.67	11.00	25.22	2.39	52.83	968.00	11.42	27.22	2.06	67.88	877.33	11.70	29.22	2.15	98.90	906.00	11.70
21.24	18.29	69.01	161.33	8.74	23.24	2.49	75.11	189.33	11.00	25.24	2.39	49.06	###	11.42	27.24	2.04	65.10	874.00	11.70	29.24	2.15	98.56	910.67	11.70
21.26	18.25	90.34	171.33	8.74	23.26	2.47	61.22	184.00	11.01	25.26	2.33	46.72	904.00	11.43	27.26	2.03	63.99	870.00	11.70	29.26	2.13	98.67	914.67	11.70
21.28	18.60	98.45	188.67	8.74	23.28	2.42	60.10	198.67	11.01	25.28	2.30	51.94	830.67	11.44	27.28	2.06	63.54	874.67	11.70	29.28	2.13	99.45	919.33	11.70
21.30	18.81	104.45	202.67	8.76	23.30	2.41	62.77	214.67	11.01	25.30	2.17	47.39	###	11.44	27.30	2.11	64.21	883.33	11.70	29.30	2.13	101.56	929.33	11.70
21.32	19.01	110.44	216.67	8.77	23.32	2.39	65.11	232.00	11.01	25.32	2.23	45.39	###	11.44	27.32	2.11	64.32	888.00	11.70	29.32	2.16	102.55	940.00	11.70
21.34	19.15	117.66	228.67	8.77	23.34	2.35	66.55	248.00	11.00	25.34	2.22	45.61	962.00	11.45	27.34	2.06	63.87	892.67	11.70	29.34	2.20	101.99	950.67	11.70
21.36	19.14	126.55	241.33	8.78	23.36	2.41	65.77	243.33	11.00	25.36	2.01	49.83	979.33	11.46	27.36	2.04	63.98	895.33	11.70	29.36	2.23	100.66	962.00	11.70
21.38	19.17	129.54	257.33	8.78	23.38	2.39	66.44	238.00	11.00	25.38	1.99	52.94	900.67	11.46	27.38	2.07	64.76	900.00	11.70	29.38	2.30	99.76	972.67	11.70
21.40	19.36	130.65	270.67	8.78	23.40	2.39	67.55	224.67	11.00	25.40	1.99	55.50	988.00	11.47	27.40	2.10	64.20	907.33	11.70	29.40	2.33	99.21	983.33	11.70
21.42	19.69	138.87	292.00	8.78	23.42	2.40	69.00	202.67	10.98	25.42	1.96	55.94	982.00	11.47	27.42	2.10	64.87	920.67	11.70	29.42	2.37	99.42	992.67	11.70
21.44	20.29	144.74	334.67	8.79	23.44	2.38	67.33	181.33	11.01	25.44	1.99	58.05	980.00	11.47	27.44	2.04	63.53	932.00	11.70	29.44	2.47	98.53	###	11.70
21.46	20.79	152.29	371.33	8.80	23.46	2.43	66.34	160.00	11.04	25.46	2.04	61.39	979.33	11.48	27.46	1.98	61.75	934.00	11.70	29.46	2.51	98.64	###	11.70
21.48	21.17	159.62	400.00	8.80	23.48	2.40	66.78	151.33	11.03	25.48	2.11	64.72	979.33	11.49	27.48	1.93	60.86	933.33	11.70	29.48	2.51	100.86	###	11.70
21.50	20.93	165.28	412.00	8.81	23.50	2.33	69.45	160.00	11.08	25.50	2.11	67.72	973.33	11.50	27.50	1.85	59.75	929.33	11.70	29.50	2.54	101.74	###	11.70
21.52	22.56	173.27	476.67	8.82	23.52	2.30	64.01	148.67	11.06	25.52	2.04	70.05	968.67	11.50	27.52	1.78	57.42	924.00	11.70	29.52	2.56	101.08	###	11.70
21.54	24.19	181.26	541																					

**FERRARA DEPARTMENT**

Via Annibale Zucchini, 69 – 44122 Ferrara (FE)

Tel.: +39 0532 56771 - Fax.: +39 0532 56119

SOCOTEC ITALIA Srl – P.Iva 01872430648

Headquarters: Via Bariola, 101-103 - 20020 Lainate (MI)

Tel.: +39 02 9375 0000 - Fax: +39 02 9375 0099

[www.socotec.it](http://www.socotec.it)**COMMITTENTE: ENGE S.r.l. - Via Suor Maria Adorni, 2 - 43121 Parma****CANTIERE:** Vicolo San Rocco - Busseto (PR)

PROVA N°: SCPTU 4 PROF. FALDA (m da p.c.):

PUNTA: Tecnopenta G1-CPL2IN (matr. 200317)[a = 0.66]

DATA: 28/02/22

PREFORO (m da p.c.):

0.70

LAT. (WGS 84):

44.934993°

LONG. (WGS 84):

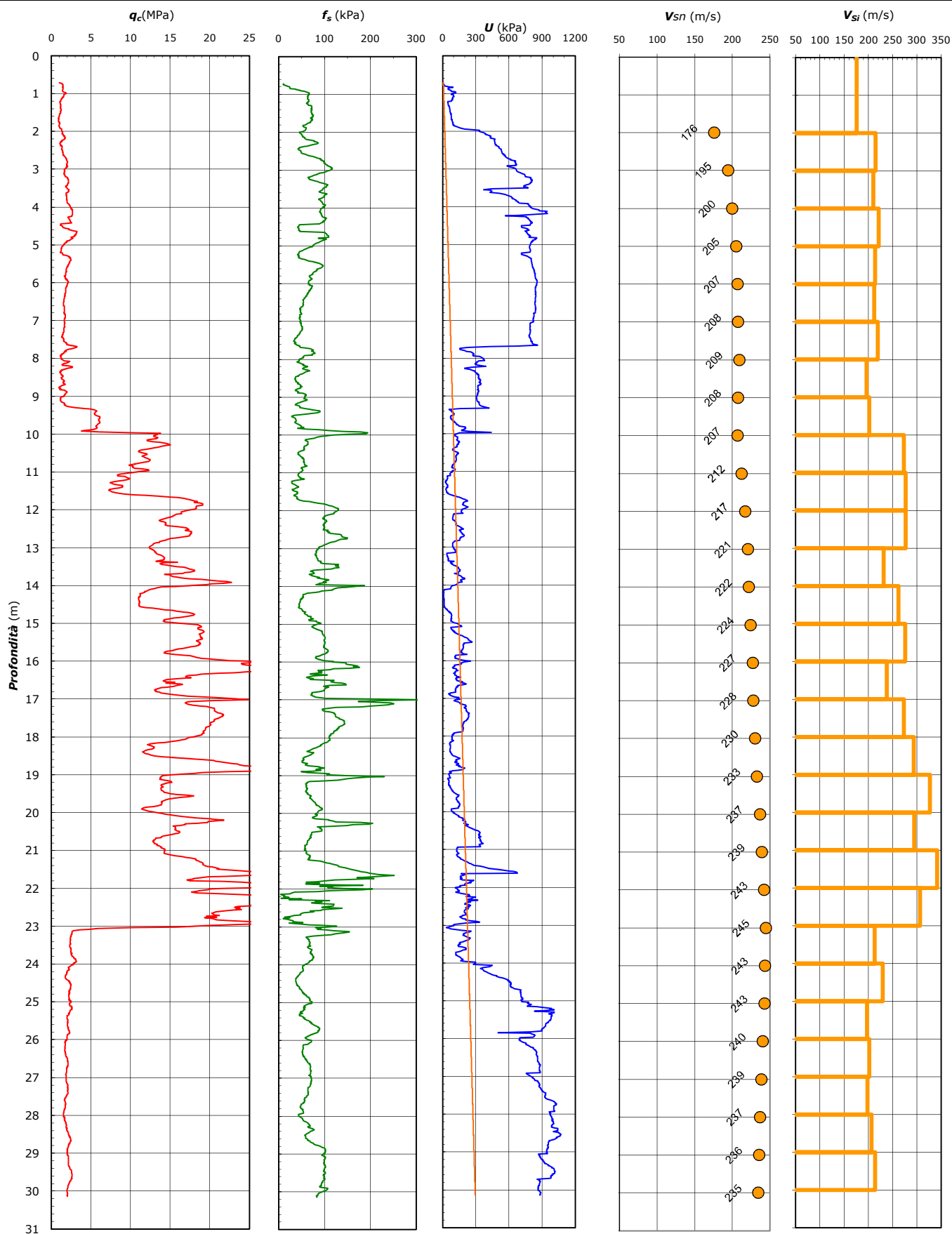
10.000558°

COMMESSA: 23711FE/22

C. SITO N°: SF220180 del 01/03/22

OPERATORE:

L. Formisano



**FERRARA DEPARTMENT**

Via Annibale Zucchini, 69 – 44122 Ferrara (FE)

Tel.: +39 0532 56771 - Fax.: +39 0532 56119

SOCOTEC ITALIA Srl – P.Iva 01872430648

Headquarters: Via Bariola, 101-103 - 20020 Lainate (MI)

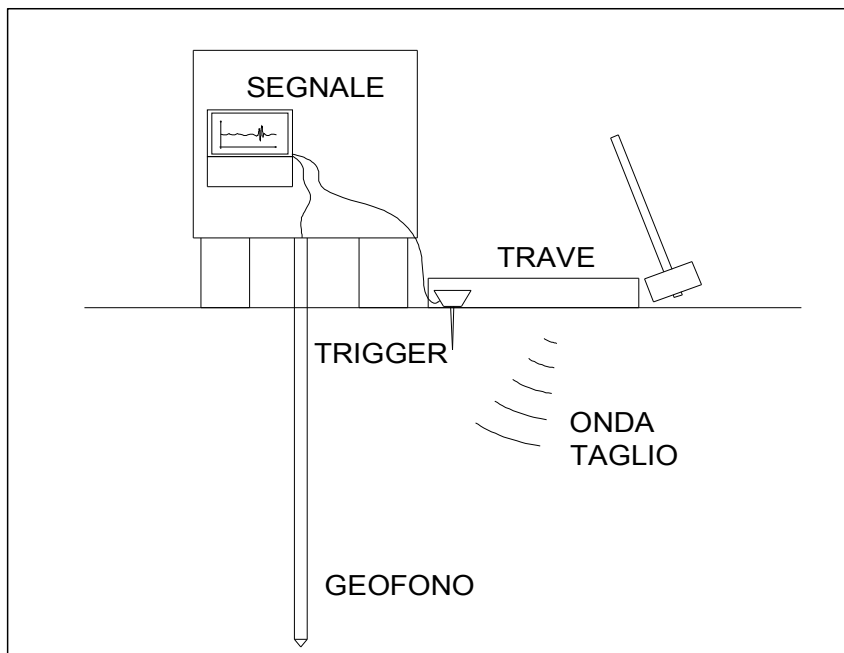
Tel.: +39 02 9375 0000 - Fax: +39 02 9375 0099

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PROVA N°: SCPTU 4 PROF. FALDA (m da p.c.): PUNTA: Tecnopenta G1-CPL2IN (matr. 200317)[a = 0.66]

DATA: 28/02/22 PREFORO (m da p.c.): 0.70 LAT. (WGS 84): 44.934993° LONG. (WGS 84): 10.000558°

COMMESSA: 23711FE/22 C. SITO N°: SF220180 del 01/03/22 OPERATORE: L. Formisano

**Prova Down Hole ASTM D 7400**

Profondità (m)	Ts (ms)	L (m)	Vs (m/s)	Vis (m/s)
1.0	T0	1.41	-	-
2.0	4.67	2.24	176	176
3.0	8.98	3.16	195	215
4.0	13.55	4.12	200	210
5.0	17.97	5.10	205	221
6.0	22.57	6.08	207	214
7.0	27.24	7.07	208	212
8.0	31.76	8.06	209	220
9.0	36.82	9.06	208	196
10.0	41.75	10.05	207	202
11.0	45.40	11.05	212	273
12.0	49.00	12.04	217	276
13.0	52.60	13.04	221	277
14.0	56.91	14.04	222	231
15.0	60.72	15.03	224	262
16.0	64.34	16.03	227	276
17.0	68.54	17.03	228	238
18.0	72.20	18.03	230	273
19.0	75.60	19.03	233	294
20.0	78.65	20.02	237	327
21.0	82.05	21.02	239	294
22.0	84.97	22.02	243	342
23.0	88.23	23.02	245	307
24.0	92.92	24.02	243	213
25.0	97.28	25.02	243	229
26.0	102.34	26.02	240	198
27.0	107.28	27.02	239	202
28.0	112.33	28.02	237	198
29.0	117.16	29.02	236	207
30.0	121.85	30.02	235	213

CATEGORIA SOTTOSUOLO

**C****V<sub>s,30</sub> = 235 m/s**

- D = Distanza centro trave generatrice ond  
 Profondità = Profondità punta da piano campagna  
 Ts = Tempo percorrenza onda di taglio  
 L = Lunghezza percorso onda di taglio  
 Vs = Velocità onde di taglio da piano campagna alla profondità indic = 1.00 m  
 Vis = Velocità onde di taglio nello strato di terreno compreso fra le due profondità indicate

Il Responsabile Prove in Sito:  
 dott. Massimo Romagnoli



**FERRARA DEPARTMENT**

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Tel.: +39 02 9375 0000 - Fax: +39 02 9375 0099

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**COMMITTENTE:** ENGE0 S.r.l. - Via Suor Maria Adorni, 2 - 43121 Parma

**CANTIERE:** Vicolo San Rocco - Busseto (PR)

PROVA N°: SCPTU 4 PROF. FALDA (m da p.c.):

PUNTA: Tecnopenta G1-CPL2IN (matr. 200317)[a = 0.66]

DATA: 28/02/22

PREFORO (m da p.c.):

0.70

LAT. (WGS 84):

44.934993°

LONG. (WGS 84):

10.000558°

COMMESSA: 23711FE/22

C. SITO N°: SF220180 del 01/03/22 OPERATORE: L. Formisano

UBICAZIONE

Località: Vicolo San Rocco - Busseto (PR)





**FERRARA DEPARTMENT**

Via Annibale Zucchini, 69 - 44122 Ferrara (FE)

Tel.: +39 0532 56771 - Fax.: +39 0532 56119

SOCOTEC ITALIA Srl - P.Iva 01872430648

Headquarters: Via Bariola, 101-103 - 20020 Lainate (MI)

Tel.: +39 02 9375 0000 - Fax: +39 02 9375 0099

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PROVA N°: SCPTU 5 PROF. FALDA (m da p.c.): 2.60

DATA: 04/03/22 PREFORO (m da p.c.): LAT. (WGS 84): 44.932719° LONG. (WGS 84): 9.999244°

COMMESSA: 23711FE/22 C. SITO N°: SF220215 del 10/03/22 OPERATORE: L. Formisano

prof. m	qc Mpa	fs kPa	U kPa	incl. gradi	prof. m	qc Mpa	fs kPa	U kPa	incl. gradi	prof. m	qc Mpa	fs kPa	U kPa	incl. gradi	prof. m	qc Mpa	fs kPa	U kPa	incl. gradi	prof. m	qc Mpa	fs kPa	U kPa	incl. gradi
0.02	1.05	16.39	5.86	1.15	2.02	1.20	97.05	30.28	0.92	4.02	1.73	98.44	440.53	1.31	6.02	1.40	82.14	564.26	2.09	8.02	0.72	39.14	440.53	2.73
0.04	1.43	18.83	10.74	1.15	2.04	1.20	98.61	31.09	0.93	4.04	1.68	100.44	443.79	1.31	6.04	1.40	82.69	567.52	2.11	8.04	0.70	36.47	438.91	2.75
0.06	1.66	28.61	9.93	1.16	2.06	1.30	98.27	31.91	0.97	4.06	1.70	101.55	447.05	1.31	6.06	1.41	82.02	569.15	2.13	8.06	0.72	33.36	439.72	2.74
0.08	1.88	34.83	8.30	1.18	2.08	1.36	97.27	32.72	1.01	4.08	1.70	101.66	447.86	1.30	6.08	1.45	80.91	569.15	2.13	8.08	0.75	29.70	439.72	2.74
0.10	2.12	40.94	2.60	1.15	2.10	1.39	97.04	35.16	0.97	4.10	1.73	104.77	455.19	1.30	6.10	1.52	82.13	565.89	2.13	8.10	0.75	28.47	441.35	2.78
0.12	2.33	49.94	6.67	1.14	2.12	1.47	97.60	41.67	1.02	4.12	1.73	107.55	459.25	1.32	6.12	1.45	84.58	518.68	2.16	8.12	0.75	28.92	443.79	2.77
0.14	2.38	59.83	5.86	1.12	2.14	1.45	97.93	47.37	1.01	4.14	1.70	109.10	464.95	1.34	6.14	1.46	86.91	524.37	2.17	8.14	0.78	28.48	446.23	2.74
0.16	2.09	69.05	4.23	1.15	2.16	1.47	98.26	59.58	0.99	4.16	1.68	109.10	473.91	1.33	6.16	1.54	90.69	543.10	2.18	8.16	0.85	28.03	450.30	2.79
0.18	2.03	86.38	2.60	1.15	2.18	1.50	101.37	70.17	1.03	4.18	1.66	111.21	477.17	1.32	6.18	1.46	92.24	523.56	2.19	8.18	0.86	28.37	449.49	2.78
0.20	2.12	100.16	0.16	1.15	2.20	1.56	104.92	66.09	0.99	4.20	1.65	112.87	479.61	1.34	6.20	1.46	91.80	473.91	2.21	8.20	0.93	29.81	447.05	2.78
0.22	2.01	101.50	7.98	1.11	2.22	1.50	106.92	63.65	0.99	4.22	1.76	111.98	483.67	1.33	6.22	1.40	92.35	478.79	2.21	8.22	0.83	32.04	443.79	2.76
0.24	1.92	111.28	8.79	1.12	2.24	1.54	106.69	53.07	1.03	4.24	1.65	111.87	487.75	1.35	6.24	1.46	93.57	482.05	2.26	8.24	0.80	33.04	440.53	2.77
0.26	1.68	118.73	11.23	1.12	2.26	1.56	106.80	42.49	1.00	4.26	1.69	110.52	500.77	1.34	6.26	1.35	93.80	473.09	2.26	8.26	0.77	33.49	434.83	2.79
0.28	1.57	122.51	12.05	1.10	2.28	1.61	107.24	38.42	1.02	4.28	1.69	108.53	503.21	1.36	6.28	1.30	93.79	465.77	2.29	8.28	0.75	34.71	431.58	2.80
0.30	1.50	122.30	13.68	1.10	2.30	1.62	110.35	40.05	1.02	4.30	1.83	106.42	508.09	1.36	6.30	1.28	94.57	481.23	2.27	8.30	0.72	35.04	429.14	2.81
0.32	1.48	123.63	13.68	1.10	2.32	1.70	113.35	43.30	1.02	4.32	1.90	104.30	519.49	1.35	6.32	1.28	95.91	481.23	2.32	8.32	0.69	35.04	426.69	2.82
0.34	1.47	120.86	14.49	1.11	2.34	1.71	116.90	45.75	1.03	4.34	1.91	102.08	517.05	1.36	6.34	1.20	98.01	489.37	2.30	8.34	0.72	33.60	425.88	2.82
0.36	1.44	116.53	15.31	1.11	2.36	1.74	117.56	47.37	1.04	4.36	1.89	102.86	517.05	1.38	6.36	1.19	98.46	496.70	2.30	8.36	0.69	33.82	424.25	2.83
0.38	1.47	108.98	16.93	1.11	2.38	1.73	123.12	47.37	1.05	4.38	1.86	102.41	530.89	1.37	6.38	1.22	95.45	499.14	2.34	8.38	0.71	32.71	424.25	2.83
0.40	1.47	100.43	17.75	1.08	2.40	1.63	128.78	47.37	1.04	4.40	1.89	100.29	525.19	1.36	6.40	1.22	91.34	501.59	2.33	8.40	0.79	30.38	427.51	2.82
0.42	1.41	98.43	19.37	1.09	2.42	1.47	133.11	44.93	1.08	4.42	1.84	99.84	517.05	1.39	6.42	1.27	87.45	504.84	2.33	8.42	0.84	30.38	429.14	2.82
0.44	1.39	97.21	19.37	1.09	2.44	1.34	134.99	42.49	1.05	4.44	1.72	98.51	488.56	1.43	6.44	1.31	83.23	515.42	2.33	8.44	0.84	31.05	428.33	2.81
0.46	1.35	97.55	20.19	1.07	2.46	1.25	135.99	42.49	1.08	4.46	1.60	97.51	454.37	1.45	6.46	1.31	81.78	530.89	2.33	8.46	0.84	31.61	427.51	2.84
0.48	1.27	97.11	21.82	1.05	2.48	1.13	137.10	42.49	1.07	4.48	1.57	94.17	449.49	1.45	6.48	1.30	81.12	529.26	2.33	8.48	0.84	33.05	425.88	2.82
0.50	1.21	97.11	22.63	1.08	2.50	1.07	135.43	42.49	1.07	4.50	1.49	91.06	469.03	1.47	6.50	1.44	78.34	526.82	2.36	8.50	0.84	34.05	426.69	2.83
0.52	1.21	96.01	22.63	1.07	2.52	0.99	132.64	43.30	1.11	4.52	1.46	88.28	464.14	1.46	6.52	1.39	78.67	512.98	2.35	8.52	0.87	35.50	429.95	2.85
0.54	1.21	93.79	24.26	1.07	2.54	0.92	126.31	44.11	1.11	4.54	1.43	83.16	509.73	1.46	6.54	1.30	80.45	506.47	2.34	8.54	0.88	35.50	429.95	2.83
0.56	1.23	90.79	23.45	1.07	2.56	0.92	115.75	44.93	1.13	4.56	1.49	78.39	536.59	1.45	6.56	1.26	79.23	497.51	2.36	8.56	0.90	34.28	429.95	2.82
0.58	1.22	87.69	23.45	1.05	2.58	0.90	106.63	53.89	1.13	4.58	1.39	69.83	430.77	1.45	6.58	1.17	78.11	489.37	2.36	8.58	0.89	36.61	427.51	2.82
0.60	1.24	83.14	24.26	1.08	2.60	0.92	96.41	55.51	1.12	4.60	1.23	65.27	426.69	1.47	6.60	1.11	76.89	490.19	2.36	8.60	0.85	37.16	423.44	2.83
0.62	1.22	78.93	23.45	1.07	2.62	0.93	86.18	57.14	1.11	4.62	1.25	62.71	438.91	1.47	6.62	0.95	74.67	491.81	2.38	8.62	0.81	36.72	421.00	2.87
0.64	1.26	75.82	23.45	1.05	2.64	0.92	76.07	59.58	1.12	4.64	1.25	61.05	444.61	1.49	6.64	0.95	70.67	495.07	2.37	8.64	0.84	35.05	421.00	2.87
0.66	1.26	72.16	20.19	1.06	2.66	0.95	67.29	62.03	1.14	4.66	1.28	63.38	450.30	1.50	6.66	1.01	66.00	501.59	2.39	8.66	0.84	34.28	421.00	2.87
0.68	1.26	67.83	20.19	1.05	2.68	0.93	62.18	70.98	1.12	4.68	1.41	68.49	451.93	1.50	6.68	1.06	60.44	505.65	2.39	8.68	0.87	33.83	422.63	2.86
0.70	1.33	64.28	19.37	1.07	2.70	1.07	58.84	82.37	1.12	4.70	1.47	75.16	456.81	1.48	6.70	1.09	54.89	500.77	2.41	8.70	0.87	34.06	423.44	2.87
0.72	1.44	64.29	18.56	1.07	2.72	1.12	57.06	92.14	1.13	4.72	1.55	81.16	465.77	1.50	6.72	1.10	52.67	499.95	2.40	8.72	0.89	34.28	424.25	2.87
0.74	1.44	61.96	18.56	1.05	2.74	1.18	55.17	107.61	1.18	4.74	1.66	84.38	486.12	1.50	6.74	1.09	53.00	501.59	2.42	8.74	0.89	34.84	425.07	2.88
0.76	1.33	60.08	20.19	1.05	2.76	1.23	55.17	116.56	1.16	4.76	1.80	86.94	495.07	1.51	6.76	1.06	54.78	504.03	2.43	8.76	0.89	35.39	425.07	2.89
0.78	1.24	59.86	20.19	1.05	2.78	1.25	55.06	124.70	1.20	4.78	1.68	88.16	497.51	1.48	6.78	1.17	54.45	504.84	2.42	8.78	0.90	35.17	427.51	2.88
0.80	1.21	58.20	18.56	1.04	2.80	1.23	54.84	127.96	1.17	4.80	1.71	86.71	510.54	1.53	6.80	1.14	55.45	506.47	2.42	8.80	0.90	34.06	428.33	2.91
0.82	1.18	58.87	10.42	1.05	2.82	1.23	54.84	128.77	1.20	4.82	1.80	84.60	497.51	1.53	6.82	1.12	56.89	506.47	2.41	8.82	0.94	33.28	428.33	2.90
0.84	1.17	58.32	6.35	1.05	2.84	1.20	58.50	132.84	1.22	4.84	1.88	82.05	377.85	1.53	6.84	1.12	57.34	502.40	2.44	8.84	0.90	35.06	426.69	2.93
0.86	1.20	56.89	5.54																					

**FERRARA DEPARTMENT**

Via Annibale Zucchini, 69 - 44122 Ferrara (FE)

Tel.: +39 0532 56771 - Fax.: +39 0532 56119

SOCOTEC ITALIA Srl - P.Iva 01872430648

Headquarters: Via Bariola, 101-103 - 20020 Lainate (MI)

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[www.socotec.it](http://www.socotec.it)**COMMITTENTE: ENGELO S.r.l. - Via Suor Maria Adorni, 2 - 43121 Parma****CANTIERE: Vico San Rocco - San Rocco (PR)**

PROVA N°: SCPTU 5 PROF. FALDA (m da p.c.): 2.60

DATA: 04/03/22

PREFORO (m da p.c.):

PUNTA: Tecnopenta G1-CPL2IN (matr. 200317)[a = 0.66]

COMMESSA: 23711FE/22

C. SITO N°: SF220215 del 10/03/22 OPERATORE: L. Formisano

LAT. (WGS 84): 44.932719°

LONG. (WGS 84): 9.999244°

prof. m	qc Mpa	fs kPa	U kPa	incl. gradi	prof. m	qc Mpa	fs kPa	U kPa	incl. gradi	prof. m	qc Mpa	fs kPa	U kPa	incl. gradi	prof. m	qc Mpa	fs kPa	U kPa	incl. gradi	prof. m	qc Mpa	fs kPa	U kPa	incl. gradi
10.02	2.09	167.75	766.13	3.30	12.02	1.49	78.89	358.32	3.68	14.02	1.40	77.06	587.05	4.25	16.02	1.88	88.14	736.83	4.83	18.02	1.76	71.72	797.31	5.36
10.04	2.14	164.08	769.39	3.29	12.04	1.66	77.78	379.49	3.70	14.04	1.36	80.06	585.43	4.28	16.04	1.88	88.81	765.32	4.83	18.04	1.66	71.27	791.26	5.36
10.06	2.19	159.41	766.13	3.29	12.06	1.38	72.45	357.51	3.69	14.06	1.33	83.39	584.61	4.28	16.06	1.88	88.14	784.85	4.84	18.06	1.65	66.16	963.93	5.38
10.08	2.30	151.07	740.90	3.32	12.08	1.36	70.00	368.90	3.72	14.08	1.33	89.17	582.99	4.28	16.08	1.84	90.47	800.32	4.83	18.08	1.60	62.72	783.23	5.40
10.10	2.33	147.07	739.27	3.32	12.10	1.44	68.23	387.63	3.71	14.10	1.30	97.05	585.43	4.29	16.10	1.84	93.14	808.46	4.85	18.10	1.53	64.27	797.88	5.39
10.12	2.30	146.85	772.65	3.30	12.12	1.49	68.34	399.83	3.71	14.12	1.31	101.05	590.31	4.29	16.12	1.84	96.58	814.97	4.85	18.12	1.49	67.71	797.88	5.41
10.14	2.31	144.29	791.37	3.33	12.14	1.52	64.23	420.19	3.72	14.14	1.33	101.05	594.38	4.30	16.14	1.87	98.35	822.30	4.86	18.14	1.49	69.71	801.13	5.42
10.16	2.34	141.62	791.37	3.32	12.16	1.41	66.00	431.58	3.74	14.16	1.39	98.72	601.71	4.31	16.16	1.89	97.91	820.67	4.87	18.16	1.46	69.71	801.95	5.40
10.18	2.34	140.06	796.25	3.33	12.18	1.44	64.78	431.58	3.74	14.18	1.50	93.49	610.66	4.30	16.18	1.89	97.47	819.86	4.87	18.18	1.47	66.49	801.13	5.40
10.20	2.29	138.84	764.51	3.35	12.20	1.38	62.11	449.49	3.73	14.20	1.58	89.83	615.55	4.29	16.20	1.87	99.13	817.41	4.89	18.20	1.47	66.71	799.51	5.39
10.22	2.29	131.50	753.11	3.33	12.22	1.38	60.45	477.98	3.74	14.22	1.64	88.93	604.15	4.31	16.22	1.84	99.13	814.16	4.87	18.22	1.42	67.38	794.63	5.40
10.24	2.30	119.08	750.67	3.35	12.24	1.44	58.45	504.84	3.74	14.24	1.68	90.38	609.85	4.32	16.24	1.84	101.02	812.53	4.89	18.24	1.39	68.60	792.99	5.40
10.26	2.48	128.31	766.13	3.35	12.26	1.52	56.34	529.26	3.74	14.26	1.63	95.93	615.55	4.32	16.26	1.73	103.02	803.58	4.90	18.26	1.41	67.71	793.81	5.39
10.28	2.70	125.97	696.13	3.36	12.28	1.61	51.78	540.65	3.75	14.28	1.60	101.60	613.10	4.33	16.28	1.71	104.46	796.25	4.90	18.28	1.45	67.60	796.25	5.39
10.30	2.54	121.08	434.02	3.37	12.30	1.64	49.78	541.47	3.76	14.30	1.58	103.59	615.55	4.32	16.30	1.62	104.79	777.53	4.93	18.30	1.49	66.38	794.63	5.41
10.32	2.89	117.42	457.63	3.37	12.32	1.61	50.67	532.51	3.80	14.32	1.59	107.48	649.73	4.32	16.32	1.52	104.24	766.13	4.91	18.32	1.55	67.93	800.32	5.42
10.34	2.94	117.31	263.89	3.37	12.34	1.57	53.67	528.45	3.79	14.34	1.66	108.81	662.75	4.32	16.34	1.46	101.68	757.99	4.91	18.34	1.74	65.82	809.27	5.42
10.36	2.75	116.42	340.41	3.38	12.36	1.49	58.78	533.33	3.79	14.36	1.72	111.25	687.99	4.33	16.36	1.39	101.12	753.93	4.94	18.36	1.77	65.60	772.65	5.42
10.38	2.92	110.64	476.35	3.39	12.38	1.44	59.56	528.45	3.79	14.38	1.83	112.14	733.57	4.32	16.38	1.31	99.12	750.67	4.93	18.38	1.63	65.38	630.19	5.41
10.40	3.14	108.86	517.05	3.39	12.40	1.41	62.23	523.56	3.78	14.40	1.92	111.47	744.15	4.33	16.40	1.28	95.45	748.23	4.93	18.40	1.53	64.82	648.92	5.40
10.42	3.32	106.64	506.47	3.40	12.42	1.36	67.23	516.23	3.79	14.42	2.08	110.36	736.01	4.33	16.42	1.28	88.23	747.41	4.93	18.42	1.88	68.60	670.89	5.43
10.44	3.11	102.64	390.88	3.41	12.44	1.35	70.01	517.05	3.80	14.44	2.08	108.80	718.92	4.32	16.44	1.30	77.56	745.79	4.95	18.44	1.90	69.27	552.05	5.43
10.46	3.55	96.19	527.63	3.41	12.46	1.36	68.34	521.12	3.81	14.46	2.06	106.24	740.09	4.33	16.46	1.27	73.12	742.53	4.95	18.46	1.68	76.60	546.35	5.41
10.48	3.35	96.53	489.37	3.41	12.48	1.30	67.23	512.98	3.82	14.48	1.97	108.46	736.83	4.32	16.48	1.27	66.78	719.73	4.95	18.48	1.68	79.27	569.15	5.41
10.50	4.25	104.74	317.62	3.40	12.50	1.24	64.79	508.09	3.83	14.50	2.00	109.69	744.15	4.32	16.50	1.23	60.56	720.55	4.94	18.50	1.68	82.93	648.11	5.42
10.52	3.30	111.74	241.11	3.40	12.52	1.24	60.90	508.09	3.82	14.52	2.01	112.46	757.18	4.34	16.52	1.19	60.34	713.23	4.95	18.52	1.68	86.15	658.69	5.41
10.54	2.68	122.85	214.24	3.42	12.54	1.19	57.12	504.84	3.85	14.54	2.00	118.02	762.88	4.33	16.54	1.12	62.12	708.34	4.97	18.54	1.71	89.27	671.71	5.40
10.56	2.44	131.07	243.55	3.43	12.56	1.17	52.57	503.21	3.85	14.56	2.06	121.57	773.46	4.37	16.56	1.11	66.45	705.90	4.98	18.56	1.80	91.93	687.99	5.43
10.58	2.36	132.85	334.71	3.42	12.58	1.24	50.35	510.54	3.86	14.58	2.05	122.57	762.88	4.36	16.58	1.09	68.56	706.71	4.98	18.58	2.01	91.15	703.45	5.43
10.60	2.39	137.29	407.97	3.43	12.60	1.39	51.24	547.17	3.85	14.60	2.04	124.12	773.46	4.37	16.60	1.11	69.01	713.23	4.99	18.60	2.01	88.82	425.88	5.43
10.62	2.39	135.74	409.60	3.43	12.62	1.70	45.24	613.91	3.86	14.62	2.06	119.23	770.21	4.35	16.62	1.12	67.67	720.55	4.99	18.62	1.91	91.82	481.23	5.43
10.64	2.34	134.40	409.60	3.45	12.64	1.81	43.13	642.41	3.88	14.64	2.14	116.45	806.83	4.35	16.64	1.17	62.12	725.43	5.00	18.64	1.88	94.81	614.73	5.44
10.66	2.44	129.07	421.81	3.46	12.66	1.98	45.13	652.99	3.89	14.66	2.18	111.23	797.07	4.37	16.66	1.22	56.67	742.53	4.99	18.66	1.97	89.29	639.15	5.43
10.68	2.58	128.39	426.69	3.46	12.68	1.84	51.02	641.59	3.90	14.68	2.31	106.23	793.81	4.37	16.68	1.27	53.24	819.86	5.00	18.68	1.91	88.26	637.52	5.44
10.70	2.48	129.28	421.81	3.45	12.70	1.71	57.91	626.13	3.93	14.70	2.33	109.33	792.18	4.37	16.70	1.32	48.24	826.37	5.01	18.70	1.81	93.37	640.78	5.44
10.72	2.61	131.17	433.21	3.46	12.72	1.49	61.69	625.31	3.90	14.72	2.34	113.99	801.13	4.40	16.72	1.41	43.46	832.07	5.01	18.72	1.72	93.81	665.20	5.44
10.74	2.88	125.39	456.81	3.47	12.74	1.49	66.46	627.75	3.93	14.74	2.34	118.88	811.72	4.40	16.74	1.46	44.46	845.09	5.04	18.74	1.67	93.70	675.78	5.47
10.76	2.48	126.50	421.81	3.48	12.76	1.41	69.24	622.87	3.93	14.76	2.28	126.33	829.63	4.40	16.76	1.49	46.91	864.63	5.02	18.76	1.59	93.03	672.53	5.47
10.78	2.15	134.16	421.81	3.47	12.78	1.40	67.35	615.55	3.95	14.78	2.31	130.77	845.09	4.38	16.78	1.56	48.13	880.09	5.03	18.78	1.64	96.03	680.67	5.48
10.80	2.08	124.27	411.23	3.49	12.80	1.37	66.69	609.03	3.93	14.80	2.36	132.44	836.95	4.40	16.80	1.56	49.91	894.75	5.06	18.80	1.62	96.14	687.99	5.48
10.82	2.13	119.49	420.19	3.50	12.82	1.35	63.91	607.41	3.95	14.82	2.37	138.21	772.65	4.41	16.82	1.57	50.80	898.81	5.04	18.82	1.59	93.03	688.81	5.48
10.84	2.16	113.05	425.88	3.52	12.84	1.35	60.24	604.15	3.96	14.84	2.34	135.99	725.43	4										

**FERRARA DEPARTMENT**

Via Annibale Zucchini, 69 – 44122 Ferrara (FE)

Tel.: +39 0532 56771 - Fax.: +39 0532 56119

SOCOTEC ITALIA Srl – P.Iva 01872430648

Headquarters: Via Bariola, 101-103 - 20020 Lainate (MI)

Tel.: +39 02 9375 0000 - Fax: +39 02 9375 0099

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PROVA N°: SCPTU 5 PROF. FALDA (m da p.c.): 2.60

PUNTA: Tecnopenta G1-CPL2IN (matr. 200317)[a = 0.66]

DATA: 04/03/22

PREFORO (m da p.c.):

LAT. (WGS 84): 44.932719°

LONG. (WGS 84): 9.999244°

COMMESSA: 23711FE/22

C. SITO N°: SF220215 del 10/03/22 OPERATORE: L. Formisano

prof. m	qc Mpa	fs kPa	U kPa	incl. gradi	prof. m	qc Mpa	fs kPa	U kPa	incl. gradi	prof. m	qc Mpa	fs kPa	U kPa	incl. gradi	prof. m	qc Mpa	fs kPa	U kPa	incl. gradi	prof. m	qc Mpa	fs kPa	U kPa	incl. gradi
20.02	1.22	56.06	666.01	5.70	22.02	2.72	95.41	919.17	5.66	24.02	1.15	67.63	586.24	5.99	26.02	1.54	54.96	581.35	6.18					
20.04	1.29	56.51	669.27	5.71	22.04	2.70	98.07	937.07	5.66	24.04	1.11	66.41	578.10	6.00	26.04	1.51	52.51	591.13	6.18					
20.06	1.33	56.84	672.53	5.70	22.06	2.75	94.85	944.40	5.66	24.06	1.08	66.85	572.40	6.00	26.06	1.43	52.74	619.61	6.21					
20.08	1.33	56.62	676.59	5.71	22.08	2.73	96.29	959.05	5.66	24.08	0.99	64.85	559.38	6.00	26.08	1.54	58.52	412.05	6.21					
20.10	1.37	55.51	681.48	5.71	22.10	2.70	98.96	989.17	5.69	24.10	0.94	62.74	553.68	6.01	26.10	1.59	53.07	746.60	6.19					
20.12	1.40	54.40	686.37	5.71	22.12	2.86	92.18	1000.6	5.67	24.12	0.91	58.07	550.43	6.00	26.12	1.94	47.63	1081.2	6.21					
20.14	1.51	56.95	692.87	5.73	22.14	2.81	87.51	948.47	5.68	24.14	0.89	54.41	545.54	6.00	26.14	2.20	46.86	1075.5	6.22					
20.16	1.56	47.31	658.69	5.70	22.16	2.72	91.84	956.61	5.69	24.16	0.88	52.30	543.10	6.00	26.16	2.40	50.86	1159.3	6.23					
20.18	1.49	61.73	687.99	5.73	22.18	2.52	94.06	895.56	5.69	24.18	0.86	49.96	540.65	6.02	26.18	2.63	54.31	1196.7	6.20					
20.20	1.42	76.16	717.29	5.73	22.20	2.38	101.51	917.54	5.71	24.20	0.86	46.85	536.59	6.02	26.20	2.88	59.31	1239.1	6.24					
20.22	1.41	67.73	679.03	5.71	22.22	2.40	96.06	965.57	5.72	24.22	0.85	45.19	533.33	6.02	26.22	2.96	60.87	1287.1	6.28					
20.24	1.40	59.31	640.78	5.71	22.24	2.36	90.61	993.24	5.72	24.24	0.85	43.74	531.70	6.05	26.24	2.93	63.54	1292.0	6.27					
20.26	1.39	62.53	639.97	5.72	22.26	2.38	89.17	1021.7	5.73	24.26	0.86	42.30	532.51	6.05	26.26	3.06	69.54	1333.5	6.27					
20.28	1.36	64.19	635.08	5.71	22.28	2.50	84.28	1017.7	5.74	24.28	0.86	41.63	536.59	6.08	26.28	3.36	75.98	1532.1	6.23					
20.30	1.31	64.75	633.45	5.71	22.30	2.43	78.83	997.31	5.74	24.30	0.90	39.08	540.65	6.08	26.30	3.71	76.43	1613.5	6.25					
20.32	1.26	65.31	631.83	5.71	22.32	2.36	74.61	985.91	5.75	24.32	0.94	35.86	543.10	6.08	26.32	3.96	77.54	1615.9	6.27					
20.34	1.23	63.64	628.57	5.72	22.34	2.27	76.28	978.59	5.76	24.34	0.98	34.19	543.10	6.09	26.34	3.92	78.32	1582.6	6.33					
20.36	1.20	61.08	626.13	5.73	22.36	2.19	77.16	974.52	5.76	24.36	0.96	34.86	539.84	6.09	26.36	3.87	83.99	1527.2	6.32					
20.38	1.17	58.75	624.50	5.71	22.38	2.03	78.94	972.07	5.78	24.38	0.95	35.42	534.15	6.09	26.38	3.68	94.21	1485.7	6.30					
20.40	1.15	55.64	626.94	5.71	22.40	2.11	72.83	1038.0	5.78	24.40	0.90	35.42	531.70	6.10	26.40	3.36	100.99	1462.9	6.33					
20.42	1.16	51.97	630.19	5.71	22.42	2.46	69.16	1128.4	5.77	24.42	0.88	33.65	532.51	6.10	26.42	3.16	104.10	1455.6	6.32					
20.44	1.13	48.19	634.27	5.72	22.44	2.85	67.72	1152.0	5.78	24.44	0.88	32.65	539.03	6.12	26.44	3.00	106.43	1506.1	6.31					
20.46	1.16	43.52	644.03	5.73	22.46	3.30	67.28	1206.5	5.77	24.46	0.88	32.65	547.98	6.10	26.46	2.98	100.87	1537.0	6.33					
20.48	1.23	40.75	652.99	5.73	22.48	3.67	73.95	1246.4	5.78	24.48	0.90	32.98	566.71	6.11	26.48	3.15	93.65	1576.1	6.36					
20.50	1.23	39.64	654.61	5.72	22.50	3.86	75.06	1213.0	5.78	24.50	0.92	33.10	591.94	6.12	26.50	3.17	87.54	1576.1	6.38					
20.52	1.23	39.64	661.13	5.74	22.52	3.84	85.39	1213.8	5.79	24.52	0.98	32.43	630.19	6.12	26.52	3.15	84.42	1576.9	6.31					
20.54	1.23	38.86	667.64	5.74	22.54	3.82	101.73	1223.6	5.79	24.54	1.03	31.43	645.66	6.11	26.54	3.22	80.09	1633.0	6.36					
20.56	1.29	38.19	674.97	5.73	22.56	3.86	113.39	1257.0	5.81	24.56	1.08	30.88	644.85	6.08	26.56	3.23	77.20	1637.1	6.33					
20.58	1.33	38.53	683.11	5.73	22.58	3.90	119.51	1286.3	5.81	24.58	1.09	32.99	644.03	6.08	26.58	3.15	76.42	1615.9	6.30					
20.60	1.39	38.19	692.06	5.74	22.60	3.86	126.95	1268.4	5.81	24.60	1.16	33.99	648.92	6.10	26.60	3.06	81.42	1690.8	6.31					
20.62	1.48	37.53	700.20	5.73	22.62	3.70	130.84	1244.0	5.81	24.62	1.16	35.55	649.73	6.11	26.62	3.15	80.20	1801.5	6.35					
20.64	1.57	40.31	714.04	5.73	22.64	3.58	138.83	1235.0	5.83	24.64	1.17	37.77	650.55	6.11	26.64	3.26	78.08	1783.6	6.37					
20.66	1.64	42.20	724.62	5.73	22.66	3.50	140.72	1231.7	5.83	24.66	1.21	38.77	657.87	6.10	26.66	3.39	78.53	1839.0	6.41					
20.68	1.64	46.20	731.13	5.74	22.68	3.55	139.83	1238.3	5.84	24.68	1.24	39.55	665.20	6.12	26.68	3.53	84.19	1826.8	6.46					
20.70	1.60	47.75	729.51	5.73	22.70	3.50	144.05	1241.5	5.84	24.70	1.33	39.88	687.17	6.12	26.70	3.61	85.08	1816.2	6.40					
20.72	1.55	49.31	727.88	5.74	22.72	3.52	149.38	1245.6	5.84	24.72	1.40	39.88	706.71	6.12	26.72	3.52	89.75	1799.9	6.35					
20.74	1.57	56.31	739.27	5.74	22.74	3.61	152.37	1255.3	5.84	24.74	1.45	42.77	742.53	6.14	26.74	3.42	94.42	1783.6	6.39					
20.76	1.57	59.64	745.79	5.74	22.76	3.64	152.03	1252.9	5.84	24.76	1.51	44.77	762.88	6.12	26.76	3.33	98.42	1783.6	6.43					
20.78	1.60	58.53	751.48	5.74	22.78	3.74	153.03	1263.5	5.84	24.78	1.59	44.55	769.39	6.14	26.78	3.48	98.30	1797.5	6.38					
20.80	1.57	61.31	757.18	5.75	22.80	3.85	149.36	1267.6	5.85	24.80	1.65	45.66	772.65	6.13	26.80	3.56	104.75	1842.2	6.39					
20.82	1.61	59.64	762.07	5.75	22.82	3.73	142.80	1250.5	5.85	24.82	1.65	48.00	776.71	6.13	26.82	3.74	103.64	1856.9	6.39					
20.84	1.61	60.53	764.51	5.74	22.84	3.61	144.58	1239.9	5.86	24.84	1.62	50.00	779.97	6.15	26.84	3.77	104.30	1845.5	6.47					
20.86	1.64	62.20	772.65	5.76	22.86	3.43	138.47	1215.5	5.86	24.86	1.62	46.88	773.46	6.16	26.86	3.80	104.96	1834.1	6.38					
20.88	1.60	55.65	733.57	5.75	22.88	3.24	142.02	1199.2	5.86	24.88	1.48	52.10	760.43	6.15	26.88	3.43	102.07	1763.3	6.44					
20.90	1.62	57.65	736.83	5.75	22.90	3.09	124.92	1123.5	5.86	24.90	1.40	53.77	753.93	6.16	26.90	3.15	106.96	1707.1	6.45					
20.92	1.62	62.21	732.76	5.76	22.92	2.98	124.70	1092.5	5.86	24.92	1.32	58.66	748.23	6.14	26.92	2.86	111.85	1651.0	6.42					
20.94	1.57	68.54	735.20	5.75	22.94	2.87	124.48	1061.6	5.88	24.94	1.43	54.00	744.15	6.13	26.94	2.75	111.52	1661.5	6.46					
20.96	1.58	67.76	736.83	5.75	22.																			

**FERRARA DEPARTMENT**

Via Annibale Zucchini, 69 – 44122 Ferrara (FE)

Tel.: +39 0532 56771 - Fax.: +39 0532 56119

SOCOTEC ITALIA Srl – P.Iva 01872430648

Headquarters: Via Bariola, 101-103 - 20020 Lainate (MI)

Tel.: +39 02 9375 0000 - Fax: +39 02 9375 0099

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PROVA N°: SCPTU 5 PROF. FALDA (m da p.c.): 2.60

PUNTA: Tecnopenta G1-CPL2IN (matr. 200317)[a = 0.66]

DATA: 04/03/22

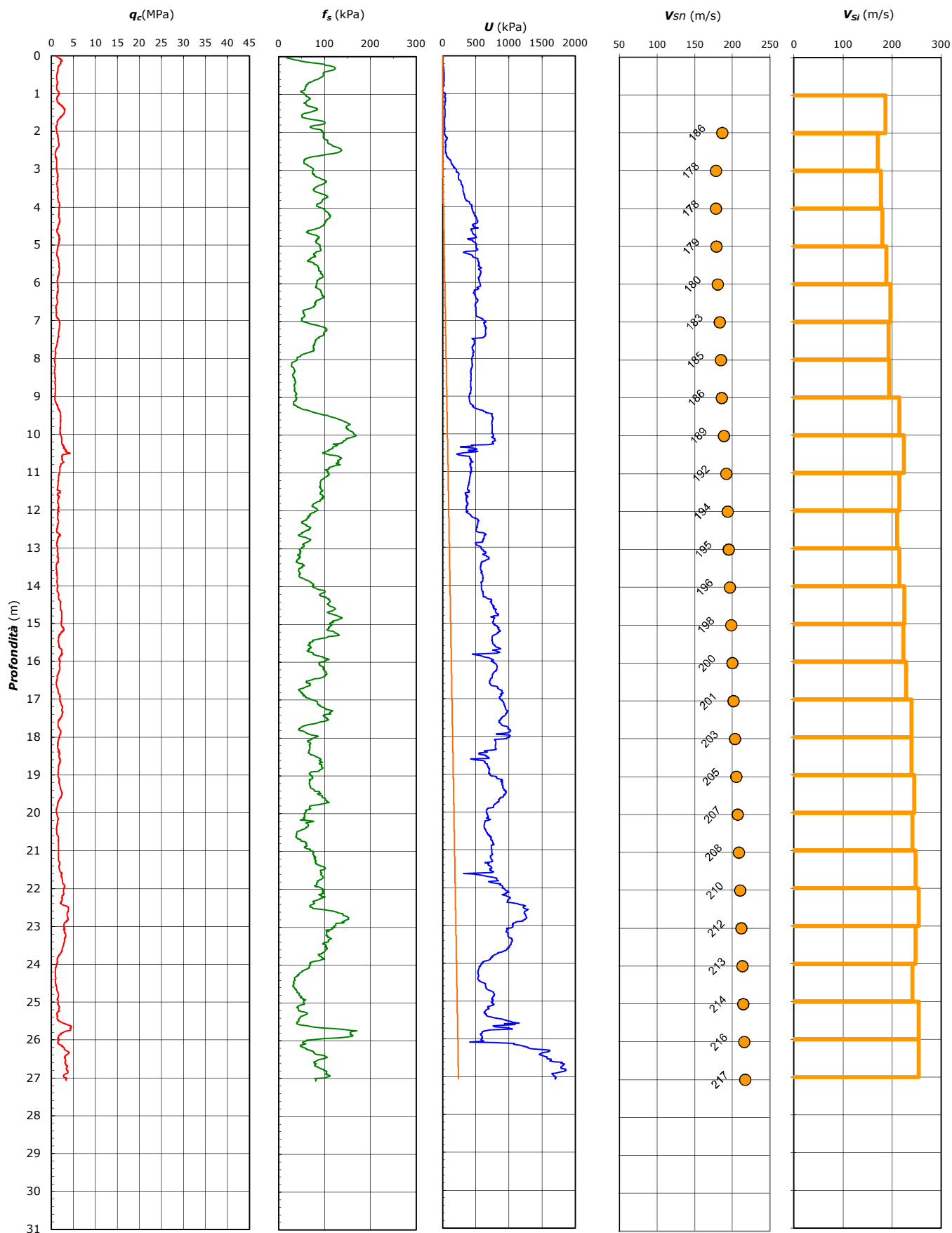
PREFORO (m da p.c.):

LAT. (WGS 84): 44.932719°

LONG. (WGS 84): 9.999244°

COMMESSA: 23711FE/22

C. SITO N°: SF220215 del 10/03/22 OPERATORE: L. Formisano



**FERRARA DEPARTMENT**

Via Annibale Zucchini, 69 – 44122 Ferrara (FE)

Tel.: +39 0532 56771 - Fax.: +39 0532 56119

SOCOTEC ITALIA Srl – P.Iva 01872430648

Headquarters: Via Bariola, 101-103 - 20020 Lainate (MI)

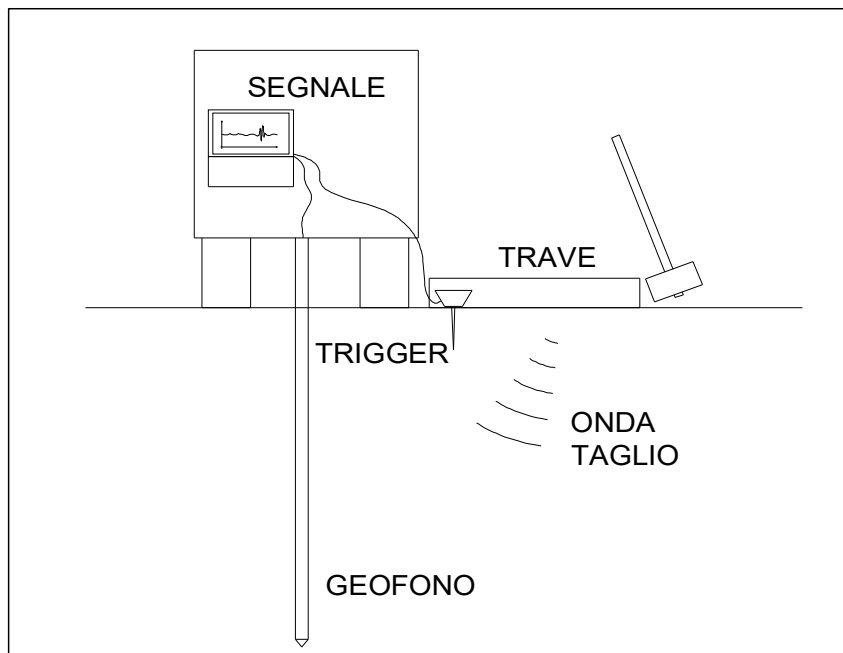
Tel.: +39 02 9375 0000 - Fax: +39 02 9375 0099

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**Prova Down Hole ASTM D 7400**

Profondità (m)	Ts (ms)	L (m)	Vs (m/s)	Vis (m/s)
1.0	10	1.41	-	-
2.0	4.41	2.24	186	186
3.0	9.82	3.16	178	171
4.0	15.22	4.12	178	178
5.0	20.63	5.10	179	180
6.0	25.87	6.08	180	188
7.0	30.90	7.07	183	196
8.0	36.03	8.06	185	193
9.0	41.17	9.06	186	193
10.0	45.80	10.05	189	215
11.0	50.23	11.05	192	225
12.0	54.87	12.04	194	215
13.0	59.60	13.04	195	211
14.0	64.24	14.04	196	215
15.0	68.67	15.03	198	225
16.0	73.15	16.03	200	223
17.0	77.52	17.03	201	228
18.0	81.69	18.03	203	239
19.0	85.86	19.03	205	239
20.0	89.93	20.02	207	245
21.0	94.06	21.02	208	242
22.0	98.09	22.02	210	248
23.0	102.03	23.02	212	254
24.0	106.06	24.02	213	248
25.0	110.19	25.02	214	242
26.0	114.11	26.02	216	255
27.0	118.04	27.02	217	255

CATEGORIA SOTTOSUOLO

**V<sub>s,30</sub> = m/s**

- D = Distanza centro trave generatrice ond  
 Profondità = Profondità punta da piano campagna  
 Ts = Tempo percorrenza onda di taglio  
 L = Lunghezza percorso onda di taglio  
 Vs = Velocità onde di taglio da piano campagna alla profondità indic = 1.00 m  
 Vis = Velocità onde di taglio nello strato di terreno compreso fra le due profondità indicate



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UBICAZIONE

Località: Vicolo San Rocco - San Rocco (PR)

