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Use of C.A.M.P. equipment by users with maximum total weight heavier than 100 kg

FOREWORD

Certification of Personal Protective Equipment for falls from height and for work positioning conforming to European Regulation (UE) 2016/425 is carried out in accordance with proper harmonized EN standards.

The standards evaluate dynamic strength and/or dynamic performance through drop tests carried out with a standard mass of 100 kg; drop tests by the manufacturer with a heavier mass may be performed in some cases to determine if the equipment is suitable and safe for use by heavier users.

The C.A.M.P. R&D Department carried out a series of tests in order to determine whether and how C.A.M.P. equipment can be safely used by users with a total weight of more than 100 kg.

STATIC STRENGTH

The minimum static strength required by harmonized EN standards and declared by C.A.M.P. guarantees complete safety for workers weighing up to 150 kg. In fact, all breaking loads for C.A.M.P. P.P.E. are higher than 15 kN (1500 kg approx.), and in some cases up to 50 kN (5000 kg approx.), so the breaking load is always at least 10 times higher than the weight of the user.

DYNAMIC PERFORMANCE AND DYNAMIC STRENGTH

In order to guarantee the safety of the user, EN standards require that in a fall-arrest system, the fall-arrest force transmitted to the user's body must be kept below 6 kN (600 kg approx.).

This force limitation is defined by the current EN standards as the limit that prevents any major injury to the user.

Concerning the additional drop tests with a mass up to 150 kg, the C.A.M.P. R&D Dept. has considered this requirement of 6 kN as the maximum limit value to be respected during dynamic performance tests, prescribed for all devices having an energy absorbing function (i.e. energy absorbers, retractable fall arresters, rope fall arresters, cable fall arresters, etc.).

Test results also identified all the additional safety instructions in order to guarantee the absorption of the increased energy generated during a fall of a person weighing up to 150 kg.

With reference to the components of systems designed specifically for work positioning or rescue (equipment not designed for fall arrest), the C.A.M.P. R&D Dept. carried out (with a mass up to 150 kg) all the drop tests necessary to verify that the equipment meets the dynamic strength requirements prescribed by EN standards. The EN standards for work positioning and rescue equipment do not



give any specific force limit(s) during a fall, rather they instruct the user to avoid any fall(s) when using positioning or rescue equipment.

INSTRUCTIONS FOR USE

The dynamic performance and dynamic strength tests carried out by the C.A.M.P. R&D Dept. provide all of the necessary data to indicate the safety instructions and limitations of systems that use C.A.M.P. equipment for users weighing up to 150 kg.

The charts on the following pages provide additional instructions for every type of C.A.M.P. product:

1. The first column reports a short summary of the prescribed EN standards for the user's maximum weight.
2. The second column indicates the test results for each type of equipment to determine whether it can be used by people with a total weight between 100 and 120 kg. It also provides additional instructions and limitations in order to guarantee the correct and safe use of the equipment such as the minimum clearance distance required to prevent the user from hitting the ground during a fall.
3. The third column gives the same instructions as the second column for users with a total weight between 120 and 150 kg.
4. The fourth column lists all of the products for which the additional instructions and test results are valid.

Indications given by the chart can be summarized using the colour coding as defined below:



use is authorized without additional safety instructions



use is authorized only with additional safety instructions



use is not authorized













CONCLUSIONS












C.A.M.P. authorizes the use of specific C.A.M.P. products in fall-arrest, work positioning and rescue systems for users with a maximum total weight heavier than 100 kg (maximum 150 kg, fully equipped) only if:











- the choice of the proper equipment is done by consulting the chart supplied with this document, and by professionals trained in the specified weight range;
- the use of the equipment is done following all the additional safety instructions and limitations provided in the chart supplied with this document for the specified weight range, in addition to the normal instructions provided with the technical manual(s) supplied with every product;
- the fall-arrest system, positioning system, or the rescue system is assembled exclusively using C.A.M.P. equipment whose use is authorized for the specified weight range, in addition to the standard compatibility of the components used together as specified by EN standards and technical manual(s) supplied with every product.

C.A.M.P. SpA
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Quality manager

Instructions Type of equipment	1. EN standards instructions	2. Total Weight 100-120 kg	3. Total Weight 120-150 kg	4. Instructions valid for:
Harnesses EN361, EN358, EN813	<p>EN361 standard does not prescribe any weight limit for the user.</p> <p>For belts for work positioning, the EN358 standard prescribe 150 kg as maximum value of use.</p> <p>EN813 standard prescribes that dynamic tests are made with the maximum weight declared by the manufacturer.</p>	 Use is authorized <ul style="list-style-type: none"> • <u>EN361 attachment points for fall-arrest.</u> Safety depends on the energy absorbing system used in combination with the harness: check that the system is suitable for this weight. • <u>EN358 attachment points for work positioning.</u> Additional tests by C.A.M.P. R&D Dept. with masses up to 150 kg were successful. • The EN358 standard allows the use up to 150 kg. Check that the devices for work positioning used in combination with the harness are suitable for this weight. • <u>EN813 attachment points for suspension.</u> Certification was carried out for a weight limit of 150 kg. Check that the devices used in combination with the harness are suitable for this weight. 		<p>196205 Access Sit, 2163T Tree Access, 2193/219301/219302 GT, 216501 GT Sit, 216601 GT Chest, 094111 Golden Top Plus Alu, 094112 Golden Top Evo Alu 090113 Golden Top Evo Alu Black, 092111 Golden Top Plus, 3200 FRX, 090703 Liberty Black, 0930 Golden Chest, 298202 Air Rescue Evo Sit, 298201 Air Rescue Evo Chest, 126501 Gravity, 2120 Orbital, 2121 Quantum, 2168/216801 Swiftly Vest, 2167/216701 Swiftly Light, 1247021 Vertical 2, 01061 Vertical 2 Plus, 09221 Empire, 12751 Basic Duo, 12981 Basic, 1268 Easy Belt.</p>
	<p>EN12841B standard prescribes that dynamic tests are made with the maximum weight declared by the manufacturer.</p>	 Use is authorized <u>Turbochest EN12841B.</u> Certification was carried out for a weight limit of 120 kg. Check that the devices used in combination with the harness are suitable for this weight.	 Use is not authorized <u>Turbochest EN12841B.</u> Certification was carried out for a weight limit of 120 kg. Check that the devices used in combination with the harness are suitable for this weight.	<p>2780 GT Turbo</p>
	<p>ANSI Z359.11 standard prescribes that tests are made with 140 Kg.</p>	 Use is authorized Certification was carried out for a weight limit of 140 kg.	 Use is authorized up to 140 kg Certification was carried out for a weight limit of 140 kg.	<p>216901/2661 GT XT 266103 GT XT Black 266203 Access XT Black 2664 Focus Vest XT 2663 Focus Light XT, 3124 Tree Access XT, 3125 Tree Access ST</p>
Lanyards EN355 with absorber Retexo ref.5000	<p>EN355 standard does not prescribe any weight limit for the user.</p>	 Use is authorized Certification was carried out for a weight limit of 130 kg.	 Over 130 kg, use is authorized when the length of the lanyard, connectors included, is shorter than 175 cm. Additional tests by C.A.M.P. R&D Dept. showed that for this weight and this length the maximum force during the fall is lower than 6 kN and the extension of the energy absorber is lower than 160 cm. Minimum clearance distance must be 5.85 m below the anchor point.	<p>5000 Retexo 72502xx Retexo Gyro Rewind 70501xx Retexo Rewind Single 70502xx Retexo Rewind Double 52502xx Retexo Gyro Rope 50501xx Retexo Rope Single 50502xx Retexo Rope Double (with maximum length as specified in columns 2 and 3)</p>
Lanyards with Shock Absorber ref.2029 EN355	<p>EN355 standard does not prescribe any weight limit for the user.</p>	 Use is authorized when the length of the lanyard, connectors included, is shorter than 175 cm. Additional tests by C.A.M.P. R&D Dept. showed that for this weight and this length the maximum force during the fall is lower than 6 kN and the extension of the energy absorber is lower than 135 cm. Minimum clearance distance must be 5.6 m below the anchor point.	 Use is authorized when the length of the lanyard, connectors included, is shorter than 135 cm. Additional tests by C.A.M.P. R&D Dept. showed that for this weight and this length the maximum force during the fall is lower than 6 kN and the extension of the energy absorber is lower than 140 cm. Minimum clearance distance must be 5.25 m below the anchor point.	<p>2029 Shock Absorber, 50301xx Single Rope Lanyards, 50302xx Double Rope Lanyards, 51301xx Adjustable Rope Lanyards Double, 70301xx Single Rewind Lanyards, 70302xx Double Rewind Lanyards. (with maximum length as specified in columns 2 and 3)</p>
Lanyards EN354	<p>EN354 standard does not prescribe any weight limit for the user.</p>	 Use is authorized When lanyard is used assembled with an energy absorber for fall-arrest purposes, check that the absorber is suitable for this weight.		<p>2030 Rope Lanyards, 2030F Webbing Lanyards, 203003F Extension Lanyard, 2034 Truck Loop, 2035 Easy Anchor, 2032 Anchor Webbing, 320101 Fireyard, 3199 Express Fire, 3130 Express Sling 2132/3376 Anchor Cable, 2046 Access Ring 34 mm, 204601 Access Ring 45 mm, 2142 Omino Heli, 2143 Omino Heli Plus</p>

Instructions Type of equipment	1. EN standards instructions	2. Total Weight 100-120 kg	3. Total Weight 120-150 kg	4. Instructions valid for:
Adjustable Lanyards EN358	EN 358 standard prescribes that tests are made with the maximum weight declared by the manufacturer.	Use is authorized Certification was carried out for a weight limit of 150 kg.		203007/0701 Adjustable Rope Lanyards, 2031 Rope Adjuster, 2097 Druid Lanyard, 2060 Cable Lanyard, 2061 Cable Adjuster, 2133 Dynavario.
Temporary Anchor Devices EN795/B / PPE-R 11.135	EN795/B standard does not prescribe any weight limit for the user.	Use is authorized Safety depends on the energy absorbing system used in combination with the device: check that the system is suitable for this weight.		2034 Truck Loop, 1040 Express Ring, 3130 Express Sling, 3199 Express Fire 2035 Easy Anchor, 2032 Anchor Webbing, 1269 Multianchor, 1393 Swivel, 2030 Rope Lanyards, 2030F Webbing Lanyards, 2140 Herbol, 2132/3376 Anchor Cable, 3260 Gyro1, 2940 Gyro3, 3109 Gyro4, 3259 Enigma
Temporary Lifeline EN795/B	EN795/B standard does not prescribe any weight limit for the user.	Use is authorized In order to keep the bending of the lifeline into the values specified on the technical manual, take the following precautions: - use the lifeline by one person only, consider the bending specified for mass of 200 kg; - check that the system used in combination with the anchor is suitable for this weight.		1095 Temporary Lifeline 18 m, 109501 Temporary Lifeline 30 m.
Connectors EN362	EN362 standard do not prescribe any weight limit for the user.	Use is authorized Safety depends on the energy absorbing system used in combination with the connector: check that the system is suitable for this weight.		2017, 0984, 098401, 0986, 0925, 0995, 0981, 1176, 0671, 1455, 1878, 1456, 1877, 187701, 187702, 2123, 2124, 2125, 1115, 1136, 1183, 1184, 1363, 1364, 1365, 1309, 1380, 1381, 1373, 1374, 1375, 0691, 0934, 0939, 0935, 0949, 0955, 0991, 0961, 0992, 2145, 2146, 2147, 2148, 2149, 292101, 2921, 2922, 2923, 2924, 2926, 2925, 2929, 3106, 2927, 3141, 3142, 3370.
Cobra 2 Retractable Fall Arrester EN360	EN360 standard does not prescribe any weight limit for the user.	Use with fall factor lower than 1 is authorized Additional tests by C.A.M.P. R&D Dept. showed that for this weight the maximum force during the fall is lower than 6 kN. Minimum clearance distance must be 2.4 m below user's feet. Use with fall factor higher than 1 is not authorized.	Use with fall factor lower than 1 is authorized Additional tests by C.A.M.P. R&D Dept. showed that for this weight the maximum force during the fall is lower than 6 kN. Minimum clearance distance must be 2.7 m below user's feet. Use with fall factor higher than 1 is not authorized.	2074 Cobra 2.
Cobra 6 Retractable Fall Arrester EN360	EN360 standard does not prescribe any weight limit for the user.	Use is authorized Certification was carried out for a weight limit of 120 kg for vertical use. Horizontal use not allowed.	Only vertical use is authorized. Horizontal use is not allowed Additional tests by C.A.M.P. R&D Dept. showed that for this weight in the vertical use there are not performance variation. Avoid creation of any slack of cable. Horizontal use is not allowed.	2075 Cobra 6
"Old" Cobra 6-10-15-20-32 Retractable Fall Arresters EN360	EN360 standard does not prescribe any weight limit for the user.	Only vertical use is authorized. Horizontal use is not allowed Additional tests by C.A.M.P. R&D Dept. showed that for this weight in the vertical use there are not performance variation. Avoid creation of any slack of cable. Horizontal use is not allowed for people with weight higher than 100 kg.		2076 Cobra 10, 2077 Cobra 15, 2078 Cobra 20, 2099 Cobra 32.
"New" Cobra 10-15-20-30 Retractable Fall Arresters EN360	EN360 standard does not prescribe any weight limit for the user.	Use is authorized Certification was carried out for a weight limit of 120 kg for both vertical and horizontal use.	Only vertical use is authorized. Horizontal use is not allowed Additional tests by C.A.M.P. R&D Dept. showed that for this weight in the vertical use there are not performance variation. Avoid creation of any slack of cable. Horizontal use is not allowed for people with weight higher than 120 kg.	3137 Cobra 10, 3138 Cobra 15, 3139 Cobra 20, 3140 Cobra 30

Instructions Type of equipment	1. EN standards instructions	2. Total Weight 100-120 kg	3. Total Weight 120-150 kg	4. Instructions valid for:
Giant Descender EN341-EN12841 EN15151-ANSI	EN341/EN12841 standards prescribe that dynamic tests are made with the maximum weight declared by the manufacturer. EN15151 does not prescribe any weight limit for the user. ANSI Z359.4 limits weight at 141 kg.	 Use is allowed except as belay device Certification was carried out for a weight limit higher than 120 kg for all standards. Limit to 100 kg when used like belay device only.	 Only descender/ascender uses are authorized. Fall arrester/belay device uses are not allowed. Certification was carried out for a weight limit of 200/250 kg for descender and ascender uses. ANSI use must be limited to 141 kg. Fall arrester and belay device uses are not allowed.	0997 Giant
Druid Descender EN341-EN12841/C	EN341 and EN12841 standards prescribe that dynamic tests are made with the maximum weight declared by the manufacturer.	 Use is authorized Certification was carried out for a weight limit of 120 kg.	 Use is authorized for rescue by expert users only The device is suitable for use by experts in rope access rescue up to 200 kg.	2232 Druid, 2233 Druid Pro
Druid Pro Fire Descender kit EN12841/C EN358 EN353-2 EN795-B EN341/2A	EN12841, EN358 and EN341 standards prescribe that dynamic tests are made with the maximum weight declared by the manufacturer. EN353 and EN795/B standards does not prescribe any weight limit for the user.	 Use is authorized Certification was carried out for a weight limit of 150 kg.		3202 Druid Pro Fire
I-Block Descender EN341-EN12841/C	EN341 and EN12841 standards prescribe that dynamic tests are made with the maximum weight declared by the manufacturer.	 Use is authorized Certification carried out with mass of 130kg for EN341 and mass of 200kg for EN12841/C. Check weight restrictions for ropes with diameter <10mm on the instruction leaflet.		1388 I-Block Evo
Turbohand, Turbohand Pro, Turbochest, Solo 2 Ascenders EN12841/B	EN12841 standard prescribes that dynamic tests are made with the maximum weight declared by the manufacturer.	 Use is authorized Certification was carried out for a weight limit of 120 kg (Turbochest, Turbohand/Turbohand Pro) and 140 kg (Solo2).	 Use is authorized For use up to 150 kg connection lanyard length must be limited to 0.5 m and work position must be always lower than the ascender position.	2256 Turbochest 2257 Solo2 2634 Turbohand 263401 Turbohand Black 2635 Turbohand Pro
Lift Ascender EN12841/B	EN12841 standard prescribes that dynamic tests are made with the maximum weight declared by the manufacturer.	 Use is authorized Certification was carried out for a weight limit of 100 kg (fall factor 1 drop test with connection by lanyard L=1 m). For use up to 150 kg connection lanyard length must be limited to 0.5 m and work position must be always lower than the ascender position.		1175 Lift
Goblin Rope Fall Arrester EN12841/A-B EN353-2	EN353-2 standard does not prescribe any weight limit for the user. EN12841 standard prescribes that dynamic tests are made with the maximum weight declared by the manufacturer.	 Use is authorized Certification was carried out for a weight limit of 150 kg for use with single connector. Certification was carried out for a weight limit of 120 kg for use with Goblin Lanyard 26 cm. Not use Goblin Lanyard 40 cm and 74 cm.	 Use is authorized Certification was carried out for a weight limit of 150 kg for use with single connector. Certification for rescue use was carried out for a weight limit of 200 kg. For use with people with weight up to 150 kg, take proper actions in order to avoid any slack of rope that might cause additional dynamic loads. Use only single connector or Goblin Lanyard 26 cm. Not use Goblin Lanyard 40 cm and 74 cm.	0999 Goblin

Instructions Type of equipment	1.EN standards instructions	2. Total Weight 100-120 kg	3. Total Weight 120-150 kg	4. Instructions valid for:
Blin Kit Rope Fall Arrester EN353-2	EN353-2 standard does not prescribe any weight limit for the user.	 Only vertical use is authorized. Horizontal use is not allowed. Additional tests by C.A.M.P. R&D Dept. showed that for this weight in the vertical use the standard requirements are satisfied. Avoid creation of any slack of rope. Horizontal use is not allowed for people with weight higher than 100 kg.		2565 Blin Kit
Cable Fall Arrester Kit ref.1317.01 EN353-2	EN353-2 standard does not prescribe any weight limit for the user.	 Use is authorized Additional tests by C.A.M.P. R&D Dept. with masses up to 150 kg were successful. Minimum clearance distance must be 2.7 m below user's feet. Never use the fall arrester alone, without the energy absorber ref. 1029.01.		131701 Cable Fall Arrester Kit.
Tripod Evo EN795/B	EN795/B standard does not prescribe any weight limit for the user.	 Use is authorized Safety depends on the devices used in combination with the tripod: check that the devices are suitable for this weight.		1883 Tripod Evo.
Rescue Lifting Device EN1496	EN 14968 standard prescribes that tests are made with the maximum weight declared by the manufacturer.	 Use is authorized Certification was carried out for a weight limit of 140 kg.	 Use is authorized up to 140 kg Certification was carried out for a weight limit of 140 kg.	0284 Rescue Lifting Device 20 m, 028401 Rescue Lifting Device 25 m.
Rescue Lifting Device EN354	EN354 standard does not prescribe any weight limit for the user.	 Use is authorized Certification was carried out for a weight limit of 120 kg.	 Use is not authorized Certification was carried out for a weight limit of 120 kg.	3122 Gravity Rescue Ratchet
Pulleys EN12278	EN 12278 standard prescribes that rotation must be guaranteed for weight of 2 kN (200 kg approx.).	 Use is authorized Declared working load limit is higher than 200 kg.		2152 Sphinx, 2153 Sphinx Pro, 2154 Tethys, 2155 Tethys Pro, 2156 Dryad, 2157 Driad Pro, 2158 Naiad, 2159 Naiad Pro, 2160 Janus, 2161 Janus Pro, 1025 Wing 2, 3121 Flyte, 3185 Turbolock 0108 Andry
Low Stretch Ropes EN1891	EN1891 standard does not prescribe any weight limit for the user.	 Use is authorized Safety depends on the devices used in combination with the rope: check that the system is suitable for this weight.		2810/2810A Iridium 10.5 mm, 2811/2811A Iridium 11 mm, 2808 Iridium 9 mm, 2809/2809A Iridium 10 mm, 2812/2812A Iridium 12.5 mm, 2813/2814 Iridium Heatcore 10.5/11 mm 2815/2816 Prium 10.5/11 mm 2817 Frazen 12.2 mm, 0811 Blazer 11 mm
Rescue Triangles EN1498	EN 1498 standard prescribes that dynamic tests are made with the maximum weight declared by the manufacturer.	 Use is authorized Certification was carried out for a weight limit of 100 kg. Additional tests by C.A.M.P. R&D Dept. with masses up to 150 kg were successful.		2050 Angel.