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最大総重量が 100kg を超えるユーザーによる C.A.M.P.製品の使用について

序文

高所でのワークポジショニング用および墜落に対する個人用保護具の認証は、欧州指令(UE) 2016/425 に基づいた EN 基準に則って行われています。

この規格では、標準質量 100 kg で実施される落下テストを通じて衝撃荷重および/または性能を評価します。場合によっては、メーカーがさらに重い質量で落下テストを実施して、器材がより重いユーザーの使用に適しており安全であるかどうかを判断します。

C.A.M.P.社研究開発部門は、総重量が 100 kg を超えるユーザーが C.A.M.P. 製品を安全に使用できるかどうか、またその場合どのように使用できるかを判断するために、一連のテストを実施しました。

静荷重強度

C.A.M.P.社は EN 規格に適合した、C.A.M.P.社 P.P.E.(個人用保護具)製品のすべてにおいて静荷重強度最大 150 kg の使用者の完全な安全性を保証します。

実際、製品のすべての破壊荷重は、15 kN (約 1500 kg) を超え、場合によっては最大 50 kN (約 5000 kg) を超えるため、最小破壊荷重は常にユーザーの体重の少なくとも 10 倍の安全マージンがあります。

動的性能と衝撃荷重に対する強度

ユーザーの安全を保証するために、EN 規格では、墜落制止システムにおいて、ユーザーの身体に伝わる墜落制止力を 6 kN (約 600 kg) 未満に抑えることを義務付けています。

この衝撃荷重の制限は、現在の EN 規格では、ユーザーに重大な傷害を負わせない制限として定義されています。

最大 150kg の質量による追加の墜落試験に関して、C.A.M.P.社研究開発部門は、この 6 kN の要件を、エネルギー吸収機能を持つすべてのデバイス（エネルギー吸収装置、格納式墜落制止装置、ロープ式墜落制止装置、ケーブル式墜落制止装置など）に規定されている動的性能試験中に遵守すべき最大制限値と見なしています。

試験結果により、最大 150 kg の体重の人の墜落時に発生する増加エネルギーの吸収を保証するための追加の安全指示もすべて特定されています。

ワークポジショニングまたはレスキュー用に特別に設計されたシステム（墜落制止用に設計されていない機器）のコンポーネントに関しては、C.A.M.P.社研究開発部門は、この 6 kN の要件を、エネルギー吸収機能を持つすべてのデバイス（エネルギー吸収装置、格納式墜落制止装置、ロープ式墜落制止装置、ケーブル式墜落制止装置など）に規定されている動的性能テスト中に遵守すべき最大制限値と見なしています。研究開発部門は、デバイスが EN 規格で規定されている動的強度要件を満たしていることを確認するために必要なすべての落下テスト（最大質量 150 kg）を実施しました。ワークポジショニングおよびレスキューデバイスの EN 規格では、落下時の特定の衝撃荷重の制限は規定されておらず、ポジショニングデバイスまたはレスキューデバイスを使用する際に落下を避けるようにユーザーに指示しています。



製品の使用方法

C.A.M.P.社研究開発部門が実施した動的性能および衝撃荷重に対する強度試験により、体重 150 kg までのユーザー向けの C.A.M.P. 機材を使用するシステムの安全指示と制限を示すために必要なすべてのデータを提供します。

次のページのチャートには、C.A.M.P. 製品の各モデルに関する追加の指示が記載されています。

1. 最初の列には、ユーザーの最大体重に対する規定の EN 規格の簡単な概要が記載されています。
2. 2 番目の列には、総重量が 100 ~ 120 kg の人が使用できるかどうかを判断するための、各モデルの機材の試験結果が示されています。また、墜落時にユーザーが地面にぶつからないようにするために必要な最小クリアランス距離など、機材を正しく安全に使用するための追加の指示と制限も記載されています。
3. 3 番目の列には、総重量が 120 ~ 150 kg のユーザー向けの 2 番目の列と同じ指示が記載されています。
4. 4 列目には、追加の指示と試験結果が有効なすべての製品がリストアップされています。

チャートで示される指示は、以下に定義される色分けを使用して要約できます:



追加の安全指示なしで使用が許可されています



追加の安全指示がある場合のみ使用が許可されています



使用は許可されていません
























結論












C.A.M.P. は、最大総重量が 100 kg を超える（完全装備で最大 150 kg）ユーザーの落下防止、ワークポジショニング、レスキューシステムにおける特定の C.A.M.P. 製品の使用を、次の場合にのみ許可します。











- 適切な機材の選択は、本書に付属するチャートを参照して、指定された重量範囲の訓練を受けた専門家によって行ってください。
- 機材の使用は、各製品に付属する技術マニュアルで提供される通常の指示に加えて、指定された重量範囲について本書に付属するチャートで提供されるすべての追加の安全指示と制限に従って行ってください。
- 落下防止システム、ワークポジショニングシステム、またはレスキューシステムは、EN 規格および各製品に付属する技術マニュアルで指定されているように、一緒に使用されるコンポーネントの標準的な互換性に加えて、指定された重量範囲で使用が許可されている C.A.M.P. 機材のみを使用して構成してください。

C.A.M.P. SpA
アントニオ・コデガ
品質管理マネージャー

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 a 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 Arresters 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 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 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	EN1496 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	EN12278 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 Wing2, 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	EN1498 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.