

ENGLISH



STANDARDS REGARDING OUR PRODUCTS

... EVERYTHING YOU WANTED TO KNOW BUT YOU HAVE NOT HAD THE TIME TO DEAL WITH!

From this year the majority of our products are certified CE or are comply with European standards. The drive to certify our products was given by market demand and by the desire to put pen to paper the fact that our product is of high quality.

Obviously we were well aware of the high level of resistance and "solidity" of our materials, already a long time ago; we didn't have to change them to "adapt" to the rules, because they were already well done...

With this operation we are committed to providing our customers a greater transparency, a clear information ad especially the quality guarantee of the products we sell.

At the moment there is not much awareness about certifications/compliance, and often we are content to have the famous "piece of paper" without understanding what it means.

It's also true that all the entire issue is, in some ways, a bit difficult and sometimes designed with ambiguous interpretation.

This text tries to clarify, explaining in simple terms, the meaning of these standards, applied to our products.

TO START...

To read a standards is necessary to learn the meaning of:

- ISO - *International Organization for Standardization*: is the most important world-wide organization for the definition of technical standards.
- CEN - *European Committee for Standardization* is a regulatory body that is intended to harmonize and produce technical standards (EN) in Europe in collaboration with national and international regulatory bodies such as the ISO.
- UNI - Italian National Organization for Standardization, a private, non -profit recognized by the State and the European Union, which for almost 100 years develops and publishes voluntary standards - UNI - in all areas of industry, trade and service. UNI represents Italy at the European standards organizations (CEN) and international (ISO) and organizes the participation of national delegations in the work of supranational standardization, with the aim of:

- promote the harmonization of the necessary standards for the functioning of the single market.
- Sustain and transpose the peculiarities of the Italian way of producing with specific techniques that enhance the experience and the tradition of the national production.

STANDARD

According with the EU 1025 Regulation of the European Parliament and of the Council of October 25th 2012 about the european standardization, "standard" means:

"a technical specification, adopted by a recognized standard body, for repeated or continuous application, which compliance is not compulsory, and which belongs to one of the following categories:

1. *International standard*: standard adopted by an International Organization for Standardization;
2. *European Standard*: a standard adopted by an European standard body.
3. *Harmonized standard*: an European standard adopted on the basis of a request from the Commission for the application of Union harmonization legislation.
4. *National Standard*: a standard adopted by a national standards Organization.

So, Standards, are documents that defined the characteristics (dimensional, performance, environmental, security, organization, etc.) of a product, process or service, according to the state of the art and are the results of the work of tens thousands experts in Italy and in the world. In a nutshell, are documents that specify "how to do things well", ensuring safety, respect for the environment and reliable performance.

To born, a standard must follow several steps: commissioning of the study, the drafting of the document, public inquiry and approval.

We postpone the reading of these procedures to the site of UNI.

PERSONAL PROTECTIVE EQUIPMENT (PPE)

PPE are personal protective equipment within the scope of Directive 89/686/EEC, supplemented with the changes made by directive 93/95 and by directive 93/68.

The Directive specifies the conditions governing the placing on the market and of the free movement within the Community, and the essential safety requirements which PPE must satisfy to preserve the health and ensure the safety of users.

Under this directive, the term "PPE" means any device or article design to be worn or held by a person, for protection against one or more risks that could endanger health and safety.

Are also considered PPE:

- a) set constituted by several devices or articles integrally combined by the manufacturer to protect

a person against one or more risks which can occur simultaneously.

b) a device or article of solidarity protection, separably or inseparably, of a individual non-protective device, worn or held by a person to execute a specific activity.

c) Interchangeable components of a PPE , indispensable for your satisfactory functioning and used exclusively for such equipment.

Is considered integral part of a PPE every connection system placed on the market with the PPE to connect it to a complementary external device, even in the case where the connection system is not intended to be worn or held permanently by the user durin the exposition period to the risk(s).

THE CERTIFICATION

Make standards do not mean to make certification. Certification is the procedure by stating, with a verification, that a product, a service, a process or a person satisfies specified requirements.

For the benefit of the competitiveness of enterprises, to guarantee the public administration and consumer protection , the European Union with the EC Regulation 765/20081 wanted that, in each Member State was a single entity for the accreditation of certification bodies.

In Italy is ACCREDIA that guarantees the certification UNI.

The “CE” certification is the procedure whereby the approved control body, or notified body, establishes and certifies that PPE model satisfies the provisions of this directive.

Only PPE can be CERTIFIED (based on the directive 89/686/EEC !!!).

In summary: to certificate a product we turn to a Notified Body which is recognized and in turn certificated, in Italy, by ACCREDIA.

The products sent to the Body are tested (in their laboratories or in other qualified laboratories that supported it) from highly qualified personnel, following all the steps described in the specific standard (eg. the tests required by EN 795 are obviously different from those required by EN 362).

These tests include test of static and dynamic strenght , deformation, corrosion resistance, verify of the dimension of the product, etc. ... and must all be successfully overcome. The Directive also requires the creation of a documentation accompanying the product, in turn verified by the notified body (eg. technical documentation, general information, inspection sheets, etc.)

If all tests are passed and the documentation meets the requirements, the notified body issues a test report (with all the results obtained with the tests) and a CE certificate or a compliance certificate of the product.

There are many notified body in Europe and in Italy; Raumer Srl has chosen the notified body n°2008 – DOLOMITICERT S.C.A.R.L.Z.I., from Longarone (BL). Our products are in fact marked CE2008.

HOW TO READ A STANDARD

Let's explain how to read a standards.

Eg.: What does UNI EN 795:2012 mean?

UNI: Italian National Organization for Standardization

EN: European Standard

795: identification code of the standard

2012: edition date of the standards; the standards UNI are in fact reviewed, when necessary, with the publication of new editions or updates. Is therefore important that users be sure of possessing the last edition and the updates.

We invite users to verify the existence of UNI standards corresponding to En or ISO, when mentioned in the normative references.

RESPECT THE EN (European) STANDARDS, APPROVED BY CEN (European standards Organizations), MEANS TO ENSURE THE CE CONFORMITY.

EUROPEAN STANDARDS FOR MOUNTAINEERING EQUIPMENTS AND ANTI FALL

Anchor devices, ropes, connectors/carabiners, harnesses, energy absorbers, etc., are mostly components and elements of safety systems whose failure can result in serious injury and even death.

They're classified by Directive 89/686/EEC as PPE of third category of risk and therefore are subject to detailed and strict standards.

Standards are made under the competence of the Technical Commission UNI.

CEN Standard distinguishes two main application areas:

"Business environment" - assigned to the Technical Committee TC160 on "Personal protective equipment against falls from a height".

"Recreational" - assigned to the Technical Committee TC136, entitled "Mountaineering equipment".

Many mountaineering equipments can simultaneously be comply to the specifics anti fall standards (eg. the connectors).

STANDARDS REGARDING TO RAUMER'S PRODUCTS

Bearing in mind what has been written in the previous section, we can identify 5 specific standards for products RAUMER, currently in production:

According to the CEN standard -

Secondo la normativa CEN - "Personal protective equipment against falls from a height" (TC 160):

- EN 795:2012 – Anchor devices

- EN 362:2005 – Connectors

Secondo la normativa CEN - "Mountaineering equipment" (TC 136):

- EN 12275: 2013 – Connectors
- EN 959:2007 – Rock anchors

Secondo la norma UNI:

- UNI 11578:2015 – Anchor devices for permanent installation

All these standards refer, by dated or undated reference, provisions from other publications (eg. EN 795:2012 refer to EN 365:2005 – general requirements for instruction for use, maintenance, periodic examination, repair, marking and packaging).

EN 795:2012

This standard refers to the following Raumer articles:

- Belay Group - Art. 218 – 180 – 312 – 535
- Rock Ø 10 e 12 – Art. 166 e 110
- Wing Ø 10 e 12 – Art. 170 e 171
- Wing + Ring (round o parallel) – Art. 536 – 402 – 147 – 148

These articles are CE marked as they fully comply by the requirements of EN 795:2012 (“Business Environment”).

The european standard 795 specifies in fact, the requirements for the performances and the test methods associated to the anchor devices for single user, which are **intended to be removable from the structure.**

These anchor devices incorporate stationary or movable (able to move) anchor points, designed for the connection of individual components of a system for protection against falls in accordance with EN 363. The standard also provides requirements for marking and instructions for use, as well as a guide for installation.

The anchor devices than the EN 795 are designed:

- to be removed from the base material, so they are REMOVABLE
- to be removed after work, so they're TEMPORARY
- to be transported and handled, on the installation site from the user, who makes generally use of his physical strength, so are TRANSPORTABLE

The standard defines many tipologies of anchors: A – B – C – D – E.

The articles listed above are all of type A, anchoring devices with one or more stationary points, during use and with the necessity of structural(s) anchor(s) or fixing element(s) to fix it to the structure.

The structural anchor is that element, designed to be use together to a individual system to

protection against falls and to be permanently built-in the structure.

We do not describe, in this explanation, the other types of anchors, because they're not present, at the moment, in our production.

Practical example: the plate Rock is the anchor device, while the Hang Fix anchor that I used to fix it to the wall is the structural anchor.

The Rock is in fact a PPE because it's removable from the structural anchor (removing the nut, in fact, I can separate the plate to the anchor). We recall that PPE items are intended to be worn or held by an individual for protection against one or more risks.

Once fixed the Hang Fix, it's NOT a PPE anymore, because it's not detachable from the structure and it's not possible to remove it.

For strength requirements and other relevant informations about these devices, we refer to the technical data sheets attached to the single articles.

EN 362:2005

The european standard 362 refers to the Raumer connectors model Ring Safety 13 - Art. 533 e 534.

These articles are CE marked as they fully comply by the requirements of EN 362:2005 ("Business Environment").

This european standard specifies requirements, test methods, marking and the informations provided by the manufacturer for the connectors. The connectors comply with the standards are used as connecting system elements in the individual systems of protection against falls, for example fall arrest systems, work positioning, rope access, restraint and rescue.

A connector is an openable device used to connect components, that allows the user to assemble a system, to connect directly or indirectly to an anchor point.

The standard defines different classes of connectors: B – M – T – A – Q

The Ring Safety 13 is a class Q connector - a connector with a screw gate; the class Q identifies the device as a connector which is closed by a screw-motion gate which is a load bearing part of the connector when fully screwed up, intended to be used only for long-term or permanent connections. This means that during a working day you should avoid to disconnect and reconnect several times the connector from its anchor point.

We do not describe, in this explanation, the other classes of connectors, because they're not present, at the moment, in our production.

These connectors shall require at least four complete rotations of the screw-motion gate from the fully screwed up position to disengagement of the threads.

The threads shall not be visible when gate is locked. The gate must be closed manually, without the use of other instruments.

The minimum static strength of the class Q connectors is:

25 kN – major axis with gate closed and locked

10 kN – minor axis with gate closed and locked

For other relevant informations about these devices, we refer to the technical data sheets attached to the single articles.

EN 12275:2013

The european standard 12275 refers to the Raumer connectors model:

- Ring Safety 13 - Art. 533 e 534
- R4000 – Art. 165 e 167

These articles are CE marked as they fully comply by the requirements of EN 12275:2013, ("Mountaineering equipment").

This european standards specifies safety requirements and test methods for connectors for use in mountaineering, climbing and related activities. They're part of the safety system, which protects the climber from a fall from height.

A connector is an openable device, which enables a mountaineer to link himself directly or indirectly to an anchor or to link parts of the equipment together.

The standard defines different class of connectors: B – H – K – T – A – Q – X

The Ring Safety 13 is a class Q connector - a connector with a screw gate; the class Q identifies the device as a connector which is closed by a screw-motion gate which is a load bearing part of the connector when fully screwed up. These connectors shall require at least four complete rotations of the screw-motion gate from the fully screwed up position to disengagement of the threads. It must be clearly visible when the connector is not completely closed, for example by making visible the thread (this is our case) or by colouring the closed part with a contrasting colour.

L'R4000 is a class B connector – basic connector; the class B identifies it as a self-closing connector for use anywhere in a belay system.

We do not describe, in this explanation, the other classes of connectors, because they're not present, at the moment, in our production.

The minimum static strength of the class Q connectors is:

25 kN – major axis with gate closed and locked

10 kN – minor axis with gate closed and locked

The minimum static strength of the class B connectors is:

20 kN – major axis with gate closed and locked

7 kN – minor axis with gate closed and locked

7 kN – major axis with open gate

For other informations about these devices, we refer to the technical data sheets attached to the single articles.

EN 959:2007

This standard refers to the following Raumer articles – rock anchors:

- Antrax – Art. 298
- Masterfix – Art. 525 – 125 – 151
- Superstar – Art. 518 – 119 – 160
- Radius – Art. 519 – 520 – 521
- Gruppi Sosta – Art. 218 – 180 – 312 – 535, combined with the correspondents Hang Fix
- Rock Ø 10 e 12 – Art. 166 e 110, combined with the correspondents Hang Fix
- Wing + Anello (tondo o parallelo) – Art. 536 – 402 – 147 – 148, combined with the correspondents Hang Fix

The european standard specifics the safety requirements and test methods for rock anchors used in mountaineering and climbing.

Rock anchors are define as anchoring devices intended for repeated use after installation, that are inserted into a drilled hole in the rock and held in place by gluing or expansion forces, or positive locking, and with an attachment point for a connector.

All parts of a rock anchor shall be manufactured from the same material; in this regard, an attachment to the norm informs on the choice of the type of material, the need to do inspections and maintenance. The choice of the type of material depends in fact on environmental factors, because the anchors are potentially subject to corrosion (you can see our document about corrosion in .pdf format, downloadable from the web-site).

The standard also has an attachment that informs about the installation on different rocks (generally softer), compares to the concrete block used to perform the tests and recommend to increase the lenght of the anchors or the nail in order to meet the minimum requirements of resistance.

For glued-in rock anchors, the standard gives informations about the dimension of the nail; eg. the installed lenght (that is the part that is inserted into the drilled hole) must be a minimum of 70mm.

The minimum static capacity required for rock anchors is:

15 kN – axial load bearing (extraction)

25 KN – radial load bearing

For other informations about these devices, we refer to the technical data sheets attached to the single articles.

The anchors Antrax, Radius, Masterfix e Superstar listed above CAN NOT be consider PPE because to be used are installed to the rock permanently or glued-in (with resin). We recall that PPE items are intended to be worn or held by an individual for protection against one or more risks and must be removable from the structure.

The standard also defines that the anchor devices are intended for repeated use after installation,

and that are inserted into a drilled hole in the rock and held in place by gluing or expansion forces; therefore it seems to be unclear, since it's not explained how it's possible to remove immediately after use, an anchor held in place by resin ... and contrasts with the provision of the Directive 89/686/EEC.

For this reason the "chemical" anchors are COMPLY to the norm but NOT CERTIFIED, because they meet all the required characteristics, except that of being removable from the structure, therefore they CAN NOT be CE marked.

Similarly, a plate Rock or Wing used with its correspondent nail Hang Fix, responding in part to the requirements of the standard EN 959:2007.

In fact:

- da plate "alone" is transportable and removable by the structure, so it's considered a PPE and it's certified.
- the combination plate+Hang Fix is treated as "rock anchor", because, once fixed, this is NOT removable from the structure and therefore it's only comply to the standard, because it's NOT a PPE.

This explains why our products are Certificate CE EN 795:2012 and COMPLY with EN 959:2007, and why "chemical anchor" are COMPLY with EN 959:2007.

It is obvious that this rule applies to "all" manufacturers of anchors and certainly not only for products of the Raumer Srl...

UNI 11578:2015

This standard refers to the following Raumer articles:

- Antrax – Art. 298
- Masterfix – Art. 525 – 125 – 151
- Superstar – Art. 518 – 119 – 160
- Radius – Art. 519 – 520 – 521

Unlike the above rules, the 11578:2015 is an Italian standard, that is recognized in Italy.

The UNI 11578 specifies the requirements and test methods for rock anchors, that include fixed or movable anchor points, intended for permanent installation on or in the structure, designed to:

- host one or more concurrent users
- connect components of a fall arrest system in compliance with UNI EN 363, even when they're designed to be used in retention.

The standard also establishes the requirements for marking and instructions for use and a guide for the installation; also it specifies that it is NOT possible to apply this standard to the temporary anchorage devices, removable and portable for which it applies the UNI EN 795.

This standard is complementary to the existing standards that cover other components used in anti

fall arrest system.

Scope, application field and requirements of the standard are based on the necessity that the anchor devices support the maximum dynamic force generated in a fall, from the mass of one or more persons and any equipment they are carrying. The static resistance tests are based on a minimum safety factor of two.

The standard identifies anchor devices of type: A – C – D

The anchors described above are of type A – anchor devices in an anchor point with one or more not sliding anchor points.

We do not describe, in this explanation, the other types of anchor, because they're not present, at the moment, in our production.

Please note that the anchors Raumer listed above have been tested to be used by one person at a time and NOT by multiple users connected simultaneously.

For strength requirements and other general informations about these devices, we refer to the technical data sheets attached to the single articles.

Obviously, as explained in the EN 959, even in this case, the fact that the standard refers anchors intended for permanent installation, excludes the fact that they can be considered as PPE and so certified.

These anchors are compliant to the standard.

UIAA

UIAA means International Climbing and Mountaineering Federation.

UIAA was founded in 1932. The experience and the funds for the UIAA deriving from its members, who are the national associations of mountaineering and mountain sports.

The UIAA has many associations in 63 different countries representing other 2,5 millions of members and 10 million of participants. It has an administrative office in Switzerland, which is the official seat of the UIAA.

UIAA promotes the free access to the mountain to exercise mountaineering with responsibly and with the minimal impact on the environment; it helps to protect mountain areas and climbing sites from damaging developments and uses, encouraging the responsible development of local communities.

It also has a Summit Charter, that lay down the benefits about mountain sports and dossiers of proposal to promote cooperation, peace, environmental protection and sporting excellence.

UIAA also collaborates with CEN to harmonize standards.

In some cases the UIAA requires additional tests that make the standard more restrictive than the CEN; so, sometimes the UIAA standards may also slightly differ from the CEN standards.

On UIAA web-site you can search for trademark, all products marked UIAA; you can also view a database of all “recalled” products, so that, for safety problems must be returned to the

manufacturer.

To obtain UIAA Label, the process is similar to what is done for the certification.

All products can be tested in UIAA laboratories or you can test them, in Italy, in the laboratories of Notified Body n°2008 – DOLOMITICERT S.C.A.R.L.Z.I.

Test report and product's documentations are verified and controlled from UIAA, which, in positive case issues a conformity certificate.

UIAA safety standards that interests Raumer products are:

- UIAA 123-2 – Rock anchors
- UIAA 121-3 – Connectors

The following standards can be compared with the corresponding CEN - “Mountaineering equipments”:

- EN 959:2007 – Rock anchors
- EN 12275: 2013 – Connectors

We remand to the technical data sheets that accompanying the articles, to clarify the different strenght requirements and the other informations relating to these devices.

CONCLUSIONS

At the moment we're working to certificate many other our products, in addiction to those listed.

All the future updates will be promptly placed as news in our web-site and with an informations in every corresponding data sheet of the product.

Stay tuned!!!

For every additional information you may contact the responsible person for the quality of Raumer srl at: quality@raumerclimbing.com

REFERENCES

Directive 89/686/CE

UNIstore: UNI EN 959, UNI EN 362:2005, UNI EN 795:2012, UNI EN 12275:2013, UNI 11578:2015, UNI EN 365:2005

Web site UIAA and brand manual UIAA: UIAA 123, UIAA 121