

WALKS AROUND CARDONA CASTLE

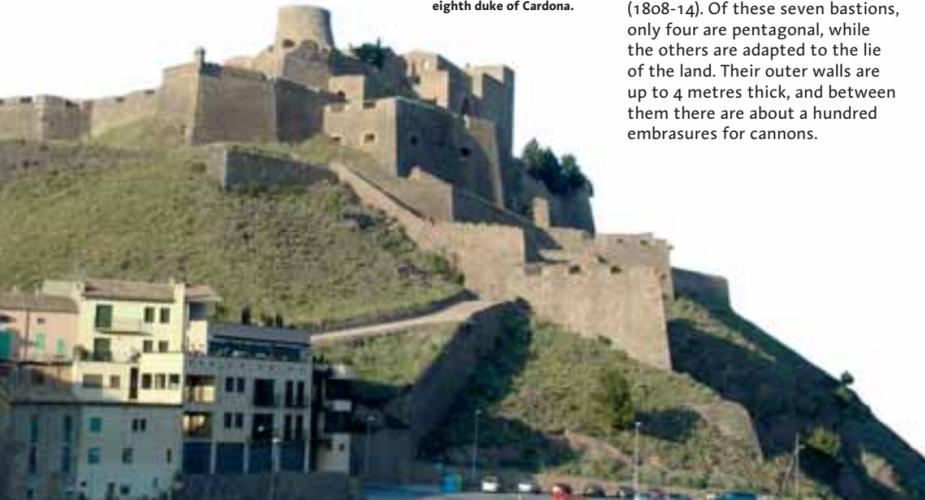
THE CASTLE AT CARDONA WAS BUILT TO CONTROL ACCESS TO THE SALT THAT EMERGES FROM THE GROUND NEARBY. SALT AND CASTLE: THESE TWO FACTORS WERE INTIMATELY RELATED WITH THE LIFE OF THE OLD SETTLEMENT OF CARDONA, WHICH OCCUPIED THE SITE OF THE PRESENT HISTORIC TOWN CENTRE. IN THIS LEAFLET, WE SUGGEST A TRIPLE VISIT TO SEE THE MAIN POINTS OF INTEREST IN THE CASTLE, THE TOWN THAT SPRANG UP IN ITS SHADOW AND THE SALT DEPOSITS.



© ARXIU HISTÒRIC DE CARDONA
Seal with the mounted figure of viscount Ramon Folc V (1241-1276), eighth viscount of Cardona.



© ARXIU HISTÒRIC DE CARDONA
Equestrian portrait of Antoni d'Aragó (1611-1690), eighth duke of Cardona.



CARDONA CASTLE

1

The castle and the house of canons of Sant Vicenç, Cardona

The castle of Cardona consists of a complex of buildings, which form three enclosures, each built at a different period. The uppermost of these enclosures is occupied, half and half, by the mediaeval castle on the western side and the conventual buildings of Sant Vicenç on the east. This division of space is the outcome of the donation made in 1040 by the lords of Cardona of half of the mountain on which the castle stands in order to build the church of Sant Vicenç.

2

The rings of bastions

The intermediate and lower enclosures consist of the rings of bastions that surround the castle hill. There are seven bastions in total, with their corresponding embankments and esplanades. The existing arrangement is the end result of the fortification works started in the 1690s and finally completed a century later, at the time of the War of the Pyrenees (1793-95) and the Peninsular War (1808-14). Of these seven bastions, only four are pentagonal, while the others are adapted to the lie of the land. Their outer walls are up to 4 metres thick, and between them there are about a hundred embrasures for cannons.

3

The covered way

From the upper bastion esplanade, take the path known as the camí cobert, or "covered way", which is the name given to the old bride path that linked the castle with the town. The path as it now exists is the outcome of works carried out in 1737, 1794-95 and particularly in 1826-28. It descends the southern slopes of the hill, down very steep ramps supported by retaining walls, arranged in a zigzag, paved in stone and with steps. It is so called because it is defended, or "covered", by the batteries in the bastions of Sant Sebastià, the casemate, Sant Josep and Sant Llorenç, with their respective guard-houses and loop-holes for firearms.

4

The casemate



© A. GALERA
The casemate, the Knight's, Sant Carles and Santa Maria bastions.

Following the covered way you will come to the covered battery, known as a casemate. This "bunker" already existed in the 17th century, although the present structure was erected in the Peninsular War, between 1811 and 1813. It consists of a shelter covered by a bomb-proof vault, with room for five pieces of heavy artillery with their respective embrasures, two covering the salt mines and the others pointing in the direction of the Pietat chapel. Continuing downwards, you will come to the first gateway on the covered way, which leads through the lower ring of bastions to descend towards the semi-bastion of Sant Sebastià.

5

The Sant Josep bastion

About 100 metres further on, you will find the most important guard-house on the covered way, beside which you can still see the post-holes of the second gate. The purpose of this gateway was to defend the southern entrance from the moat and the Sant Josep bastion (also known as the Tambor, or "drum"), located a few metres further down, with the third gateway of the covered way.



© ARXIU HISTÒRIC DE CARDONA
The batteries being removed from the bastions in the 1890s.

Having passed through this, about 30 metres further on, you will come to the fourth gateway, with its semicircular archway topped by a parapet with loop-holes for firearms. If you look from here, you can see how the embrasures in the casemate and the semi-bastion of Sant Sebastià cover your route. Hence the use of the expression "covered way", from the jargon of fortification. It is also worth noticing how on some of the gates on the way you can still see the post-holes for the drawbridges and the holes in the lintels for the counter-weights.



© CENTRO GEOGRÁFICO DEL EJÉRCITO, CARTOTECA HISTÓRICA
Plan of the castle with the rings of bastions in 1733.

6

The moat

Lower down, turn to the right and climb a few steps to reach the unexcavated moat that surrounds the outermost ring of bastions. Its purpose was to keep the enemy at a distance and prevent them from reaching the castle.



© A. GALERA
The bastions seen from the glacis.

digging mines under the walls to plant gunpowder beneath them. Beyond this there is the glacis, or sloping defensive embankment.

7

The Knight's bastion (Baluard del Cavaller)

From here we will go round the base of the ring of bastions. The first one to find is the Knight's bastion (Baluard del Cavaller), also known as the Sant Ambrós or Santa Magdalena bastion, in reference to an old Gothic chapel that once stood at the foot of the castle hill (demolished in 1820). Note the verticality of the walls on the two flanks, from which the sentinel's guard-box stands out. Hexagonal in shape and topped by a dome, its structure combines ashlar masonry for the base, flanks and roof with brickwork on the sides.



© FOTOGRAFIA BOIXADERA
One of the sentry boxes.

8

The Sant Carles bastion

Next we come to the Sant Carles bastion, otherwise known as the Town Wall bastion (de la Muralla), because here the ring of bastions cut across the old mediaeval wall that enclosed the town. Its remains can still be seen, with the ruins of a tower standing up from the length of wall, nearby, and a little further down the original turret known as the Besora tower or Witches' tower.

9

The Santa Maria bastion

The next bastion we come to is that of Santa Maria, also known as the North bastion or bastion of Sant Crist, because of the image on one of its flanks with the inscription "In the year 1693 in the month of June".



© A. GALERA
Image of Christ on the eastern flank of the Santa Maria bastion.

Also, on the western flank there is another inscription that reads, "Bastion of Santa Maria, which by order of His Excellency the Duke of Medina Sidonia, Viceroy and Captain General of this principality, Governor of this town and castle, Sergeant Major Don Pedro de Avila. Designed and directed by Captain Don Pedro Borraz, military engineer. Year MDCXCIII".

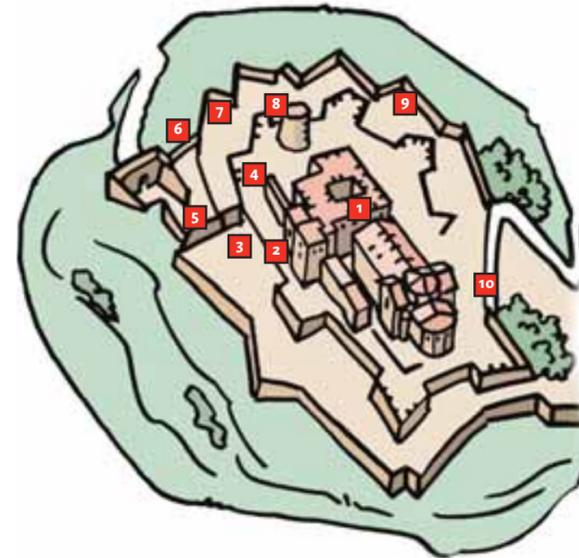
10

Carriage road, postern, Bonete redout and the Sant Vicenç bastion

Vehicular access to the castle was the old carriage road that was created in the late 18th century as an alternative to the covered way. Its purpose was to

ease access for wagons bringing artillery, stores and other goods that would be needed in time of siege. Unfortunately, part of this old roadway and the five portals that guarded it were mutilated during the construction of the modern access road to the castle. We will now take the road to reach the upper esplanade of the Sant Pere bastion (also known as the Garita del Diable, or Devil's Turret, after the Pont Nou or Pont del Diable, an unfinished 14th-15th century bridge over the Cardener river). Having reached it, we pass beneath the east end of the church of Sant Vicenç and its Cemetery bastion (del Cementiri), from where we have a distant view of the ruins of the Bonete redoubt, or outwork, built in the late 17th to early 18th centuries in order to cover the north-east side of the

hill, where the slope is less steep and hence more vulnerable to attack. A little further to the south you can see the Sant Vicenç bastion, also known as the Canons' bastion (dels Canonges) because it stands just below the church of Sant Vicenç and the canons' dormitory) or the Coromina bastion (because it overlooks the village of that name, located in a meander of the Cardener river. This village grew up around the mills the canons' poor-house possessed there as a result of a donation by the viscounts of Cardona in 1083. Finally, we head towards the car-park on the esplanades of Knight's and Sant Carles bastions so that you can board your vehicle to go to the historic centre of the town, which has been declared an National Asset of Cultural Interest.



THE HISTORIC CENTRE OF CARDONA

11

The Cardona Medieval Centre

Located in the Plaça de la Fira, under the Aimines arches, close to the Town Hall, this visitors' centre explains the town's history. There is a permanent exhibition with facsimiles of the charter of



© A. GALERA
The Cardona Medieval Centre.

privileges and other documents such as the Charter of Population of 986; you can see an audiovisual on the Rovira family and the Casa del Mercat; and the history of the town and castle of Cardona is explained from their origins up to the construction of the fortifications. Also, there is a guided tour around the places of interest, visiting the most significant buildings and explaining their logic in the mediaeval urban setting.

12

Plaça de la Fira

This area, which is outside the bounds of the original town, was the scene of annual fairs that needed more space than could be found within the walls. However, its appearance changed radically with the building of the new church of Sant Miquel and the enlargement of the town.



© FOTOGRAFIA BOIXADERA
The Plaça de la Fira.

Between 1350 and 1450 it became the town's main square, in line with late mediaeval concepts of urban planning. By then most of the houses with arcades that surround the square and bound it on the western side had been built. However, the most eloquent testimony to the square's transition to being the epicentre of the town is the Town Hall (formerly the house of the Santpedor family (14th century), bought in 1629 as the new seat of local government. Its present neo-Renaissance appearance is due to the refurbishment carried out in 1940-44 by the architect Adolf Florensa. Beside it you can see the Modernista facade of the Unió Cardonense social club (1916), designed by Domènec Sugrañes.

13

Plaça de Santa Eulàlia

Via the Carrer de la Fira, around which can be found notable examples of mediaeval, Renaissance and Baroque architecture, we approach the Plaça de Santa Eulàlia, formerly the Plaça de Cardona. Its origins go back to the convergence of the



© A. GALERA
The Soler arches.

three main pathways that led up to the castle. The town of Cardona originated in the mid-11th century with the urban development on either side of these three tracks, and the place where they converged later became defined as the new town's central square. Hence, the buildings around it accommodated several public

services such as the Hospital of the Poor (founded 1083), the batllia, or residence of the bailiff of the manor, the Crestó butchery and the lower bakery under the porch of the Soler house (13-14th centuries), which now houses the new Josep Arnau salt museum and collection. With the passage of the centuries, the importance of this square diminished in comparison with others, such as Plaça de la Fira; hence it became known as Plaça de les Cols or Plaça de Santa Eulàlia, after the chapel built next to the hospital in 1347.

14

Plaça del Mercat

By way of the old Passatge de l'Hospital we come to Carrer Escasany (formerly Carrer Major del Mercat, but renamed in 1924 after two local brothers who had made their fortunes in the colonies), and thence to the Plaça del Mercat. Its origins go back to the market held in front of the Romanesque church of Sant Miquel and the progressive growth of housing around its cemetery. Between the 12th and 13th centuries, the abbot and canons of Sant Vicenç divided the church land around Sant Miquel into building plots to meet the demand from tradesmen and merchants who wanted to establish themselves in the town and its market. Notable features are the arcade on the block of houses on the north side (a structure that has undergone many changes in the course of the years, from the 12th to the 20th centuries) and the



© FOTOGRAFIA BOIXADERA
The "Mercat" arches.

Rovira house, with its central courtyard (16th century).

15

Parish church of Sant Miquel



© FOTOGRAFIA BOIXADERA
East end of the parish church of Sant Miquel with the presbytery and the central aisle.

The church stands on the southern side of the Plaça del Mercat. The original church was a Romanesque building dedicated to Saint Peter and Saint Michael, of which the bell-tower is all that remains. Construction work on the present Gothic structure and priest's house began in 1320, and went on for several decades, until the church was consecrated in 1397. The result was a beautiful, generously-proportioned Gothic church 50 metres long by 13.5 metres wide and 18.5 high, with a single aisle and a polygonal apse with seven sides, the same width as the nave, with side chapels between the buttresses. In the following centuries the original structure underwent many modifications, notably the construction of the crypt dedicated to the Holy Martyrs (1524), the 16th-century stone vault and the Baroque enlargements built on the parish cemetery after the opening of the southern facade (17th-18th centuries). Note the carving of La Mare de Déu del Patrocini (14th century) that presides the presbytery, as well as the Gothic retables in the side chapels.

THE SALT MOUNTAIN

16

The Salt Mountain Cultural Park

When you visit the Nieves mine (1926-1991) and the cultural park that has been established around it, you will be able to see the Cardona salt outcrops, an extraordinary phenomenon that makes this place unique in the world. Ten years after the cessation of mining activities, this has become a centre of interest for geology, mineralogy, botany



© A. GALERA
Cultural park.

and history, in the context of human exploitation of this mineral that goes back more than 6,000 years.

17

The salt outcrop

The salt outcrop occupies an elliptical depression, which is known as El Salí or, more recently, the Vall Salina. About 1.8 km long and 600 m wide, this depression contains many features of heritage value, including the geological singularity known as the Salt Mountain, its specific halophytic plant life (adapted to the salty environment) and the archaeological site of the old salt workings, as well as the industrial archaeology of the Nieves mine. Its natural and material richness have earned it a place in the Catalan Plan for Places of Natural Interest.

18

The Salt Mountain



© A. GALERA
The Salt Mountain.

The Salt Mountain occupies the western end of the salt outcrop and is the most spectacular manifestation of the area's dynamic geology. It is a diapir, in which the salt is extruded vertically upwards because it is more buoyant than the overlying rocks. This phenomenon was observed 2,000 years ago by the Roman consul Marcus Porcius Cato.

19

Pre-industrial activity in the salt outcrop

The geological characteristics of this salt outcrop have meant that it has been exploited by humans since Neolithic times. An open-cast system was used, which persisted for many centuries, until the introduction of gunpowder in the 18th century and the opening of the Pou del Duc, the first underground workings, in 1900.

20

Potash and industrial exploitation



© ARXIU HISTÒRIC DE CARDONA
Potash mining meant the industrialisation of the salt deposit.

This situation changed radically in 1912, with the discovery of

potassium salts, of great value in the chemical industry. In 1923, Unió Española de Explosivos S.A. bought the rights to the salt outcrop and only two years later, in 1925, undertook a project to open a new mine and other facilities with an investment of 19.5 million pesetas.

21

The Nieves mine

In 1926, work began on the new pit, and in 1929 it began operations. It continued in production for sixty-one years, until September 1990. By then, 37,874,843 tonnes of minerals had been extracted and the workings had reached a depth of 1,308.7 metres.

22

The Minilla

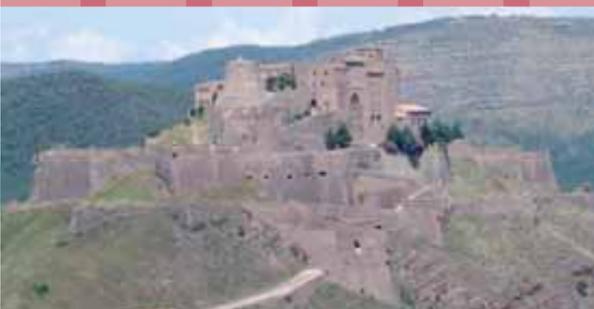
This is the only gallery now open to the public. It was made during the original prospection carried out in the 1920s in search of potassium salts. Later, it was used as a ventilation gallery for the mine. Now that mining



© ARXIU HISTÒRIC DE CARDONA
Inside the Minilla.

activity has stopped, it has been refurbished and enlarged to enable visitors to see the inside of the salt outcrop.

WALKS AROUND CARDONA CASTLE



The cross that marks the place where the Franco-Spanish troops under general Muret opened a breach during the siege of 1711.

the entrance, this is one of the fort's weakest points. In fact it was the only part of the castle's defences in which the Franco-Spanish troops under the command of the count of Muret succeeded in opening a breach during the course of the siege of 1711, a feat commemorated by the cross formed by cannon balls on the side of the bastion.

'advance'). Here you will see the fortification's fifth and last descending gateway. Its gate is located on its flank or inward side under the gaze of an elevated battery for the fusiliers. Its lateral position, in a dead angle, is intended to protect it from possible enemy batteries on terrain surrounding the castle. It is worth pointing out that, being



23 ALTERNATIVE ROUTE
THE SANT LLORENÇ BASTION
Those wishing to complete their visit to the castle and its fortifications are recommended to take the covered way to the last bastion (this way is also known as the Camí de Sant Llorenç, del Rei or de la Reina Isabel II, or simply as the Avançada, or

- 14** PLAÇA DEL MERCAT
• Length: 10 minutes
• Difficulty: easy
- 15** PARISH CHURCH OF SANT MIQUEL
• Length: 30 minutes
• Difficulty: easy
- 16** THE SALT MOUNTAIN CULTURAL PARK / SALT MINING
- 17** IN THE PRE-INDUSTRIAL ERA /
- 19** THE NIEVES MINE / POTASH AND INDUSTRIAL EXPLOITATION
- 20** • Length: 60 minutes
- 21** • Difficulty: easy
- 18** THE SALT MOUNTAIN / THE MINILLA
- 22** • Length: 45 minutes
• Difficulty: easy

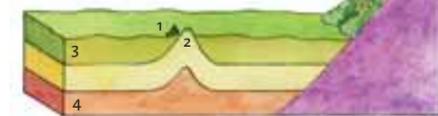
WALKS AROUND CARDONA CASTLE

- 1** THE CASTLE AND THE HOUSE OF CANONS OF SANT VICENÇ, CARDONA
• Length: 60 minutes
• Difficulty: easy
- 2** THE RINGS OF BASTIONS
• Length: 5 minutes
• Difficulty: easy
- 3** THE COVERED WAY
• Length: 10 minutes
• Difficulty: easy
- 4** THE CASEMATE
• Length: 5 minutes
• Difficulty: easy
- 5** THE SANT JOSEP BASTION
• Length: 5 minutes
• Difficulty: easy
- 6** THE MOAT
• Length: 10 minutes
• Difficulty: easy
- 7** THE KNIGHT'S BASTION (BALUARD DEL CAVALLER)
• Length: 5 minutes
• Difficulty: easy
- 8** THE SANT CARLES BASTION
• Length: 5 minutes
• Difficulty: easy
- 9** THE SANTA MARIA BASTION
• Length: 5 minutes
• Difficulty: easy
- 10** CARRIAGE ROAD, POSTERN, BONETE REDOUT AND THE SANT VICENÇ BASTION
• Length: 15 minutes
• Difficulty: moderately difficult
- 11** THE CARDONA MEDIEVAL CENTRE
• Length: 45 minutes
• Difficulty: easy
- 12** PLAÇA DE LA FIRA
• Length: 10 minutes
• Difficulty: easy
- 13** PLAÇA DE SANTA EULÀLIA
• Length: 10 minutes
• Difficulty: easy

beneath other strata is known as a diapir. The strata, originally horizontal, were crumpled up as they rose, forming almost vertical folds. So much salt has accumulated in the diapir that there is a thickness of some 1,500 metres beneath Cardona.

- 1. Cardona
- 2. Salt Mountain
- 3. Later sediments
- 4. Substrate

THE DIAPIR
Subsequently, large masses of other sediments were laid down on top of the salt deposits. However, under the effect of the pressures occurring during the uplift of the Pyrenees, and because of their plasticity, the salt strata were eventually brought to the surface. This phenomenon of plastic materials flowing to the surface from



KARST AND ITS MANIFESTATIONS
The "rakes"
Karst is the shaping of the landscape through the partial dissolution of soluble rocks, such as saline minerals. Karstic processes take place on the Salt Mountain when rainwater dissolves the salt to form little channels leaving sharp, narrow edges. Locally these are known as rasclers (rakes).

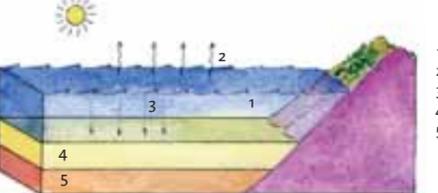


Sinkholes
Water percolates to the interior of the mountain and there, also as a result of dissolution, cavities may form in the salt. In time, if they are large enough, these cavities may collapse and form a sinkhole, such as the Bòfia Gran (or great sinkhole), behind the Salt Mountain.



Saline deposits
The seeping water dissolves the salt until it is saturated, and becomes brine. Subsequent evaporation of this water causes the precipitation of the salt and the formation of a variety of white deposits. Their whiteness, which contrasts with the reddish hues of the rock where the brine originated, is due to the fact that the water dissolves only salt, and not the oxides that produce the reddish colour.

the substances dissolved in it. This precipitation took place in the inverse order of solubility: first chalk, the least soluble, and then halite, silvite and carnallite. The large amount of salt deposited can be explained by cyclical variations in sea-level, since when the inland sea regained communication with the Atlantic, it took in a large mass of water and new reserves of salt.



SALINE MINERALS
Halite, or rock salt (NaCl)
Cubic crystals. Perfect cubical exfoliation. Encrustations, stalactites. Soluble in water. Salty taste. Oily gleam when dampened. Fragile. Modern uses: table salt, de-icing of roads, manufacture of soap, bleach, chlorine, PVC, hydrochloric acid, etc.



Silvite (KCl)
Cubic crystals. Perfect cubical exfoliation. Solid. Very soluble in water. Salty-sharp taste. Hygroscopic. Fragile. Modern uses: manufacture of tanning products, explosives, etc.



Carnallite (KMgCl₃)
Granular mass. No exfoliation. Very hygroscopic and deliquescent. Crackles when dissolved in water. Salty, very bitter taste. Fragile. Oily, vitreous gleam. Modern uses: tanning products.

THE SALT MOUNTAIN

A SALT SEA
The saline deposits that make up the Salt Mountain were laid down in an arm of the sea which, 40 million years ago, opened towards the modern Atlantic and the north-east of the Iberian peninsula. As the Iberian and Eurasian tectonic plates came together, this sea was closed off, facilitating the evaporation of water and the consequent precipitation of

REGULATIONS
Cardona castle and its environs are located in the midst of the town of Cardona on high land that is clearly of strategic importance. It affords a panoramic view of the town and the nearby plain it stands on, as well as the peaks of the pre-Pyrenees. The route we suggest you follow is one that can only be taken on foot and we would therefore advise you to wear comfortable, appropriate footwear, although the route does not present great difficulty. During your visit to this heritage site it is important that you observe the following regulations:

- Dogs**
If you have brought a dog with you, it is your responsibility to ensure that it is always under your control and does not cause a nuisance to other visitors. Dogs are not allowed in the castle.
- Fire**
It is your obligation to ensure that any cigarettes or matches are completely and utterly extinguished. During the course of your excursion you will see copious vegetation we would like to preserve from the risk of fire and this risk is particularly high during the summer and during droughts.

Monuments
Do not climb on the walls, it could be dangerous. The stone has a tendency to crumble, and is in a bad condition in some places. If you are with children you must be very careful. Access is available to places where safety measures are not always in place. You must not inscribe anything on the walls or write any kind of graffiti anywhere. There are other ways of recording your visit.

OTHER SERVICES FOR VISITORS TO THE CASTLE
Car park
There is a car park for private vehicles and coaches.

Rubbish
Do not leave litter of any kind. It can cause injury to people and animals as well as spoiling the landscape. Use the litter bins or take your rubbish away with you to dispose of properly.

THE CASTLE AND HOUSE OF CANONS OF SANT VICENÇ, CARDONA
Guided tours for groups
Tours with specialised guides are provided for groups and schools.

Opening times
Tuesday to Sunday:
From 1 October until 31 May:
from 10.00-13.30 h and from 15.00-17.30 h.
From 1 June until 30 September:
from 10.00-13.30 h and from 16.00-18.30 h.
The ticket office closes 30 minutes before closing time and entrance is no longer permitted.

Closed
• Mondays (except public holidays).
• 1 and 6 January, 25 and 26 December.

Free admittance
• Every Tuesday
• 23 April (Saint George's Day)
• 18 May (International Museum Day)
• 11 September (Catalonia's National Day)
• European Heritage Days

CARDONA MEDIEVAL CENTRE
Plaça de la Fira, s/n
08261 Cardona
Tel. (information): 938 692 475
Tel. (reservations): 902 400 475
www.salcardona.com

Opening times
Tuesday to Friday, subject to prior reservation;
Saturdays from 11.00-14.00 h and from 16.00-19.00 h;
Sundays from 11.00-15.00 h; public holidays, please ring for information.

SALT MOUNTAIN CULTURAL PARK
Carretera de la Mina, s/n
08261 Cardona
Tel. (information): 938 692 475
Tel. (reservations): 902 400 475
www.salcardona.com

Opening times
Tuesday to Friday, from 10.00-13.30 h;
weekends and public holidays, from 10.00-16.30 h.

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