

C-LEG S175 & M225, H225/H250 & HC25/HC30



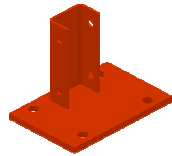
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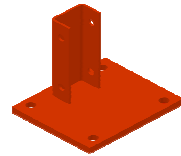
Please check if all necessary items are at hand i.e. (all components for a spare leg "C-Leg" have to be ordered separately) :

1 upright usually 825 mm high (other heights are available)

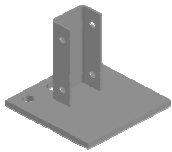
1 steel base with 4 anchor holes (spare leg base) or 2 anchor holes (standard steel base)



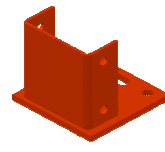
spare leg back steel base
S & M types
150x100x8 mm (width x depth
x gauge); includes 2 M8x65.



spare leg back steel base
H & HC types
150x130x8 mm (width x depth
x gauge); includes 2 M8x65.

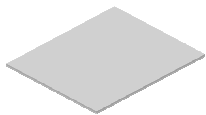


standard back steel base
S, M & H / HC types
130x130x8 mm (width x depth
x gauge); includes 2 M8x65.



heavy duty front steel base
S, M & H / HC types
130x130x8 mm (width x depth x gauge);
includes 2 M10x100 (or 120 for HC types).

1 or more steel wedges (unpunched)

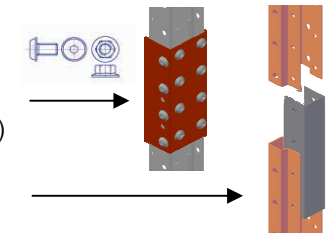
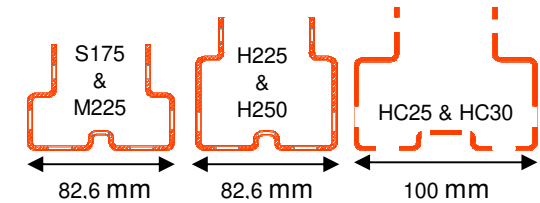


2 anchors (M12) / spare leg steel base



1 front sleeve

(always includes 16 M12x20 din 7380 + din 6923)
and if required
1 back sleeve
(always includes 4 M8x65)



Warning

The damaged part must be limited and localized under the first bracing node. Uprights with damage at various spots or with damage higher than the first bracing node should be replaced completely.

Frames should only have 1 spare leg. If 2 are needed the spare legs should be of different heights. In this case you have to consult us.

Welded frames that were not equipped with a spare leg from the beginning should be replaced completely.

A front sleeve is usually sufficient. For higher loads (on H type frames) a back sleeve can be necessary. Please consult us.

Different installation methods apply when you are replacing a full frame lower part or when you want to raise the height of your frame.

The sleeve creates a forbidden zone of 600 mm around the sleeve : in this area you cannot install beams.

You have to insure that the mechanical characteristics of the spare leg upright are equal to or higher than the ones from the existing frame.

4 cases can occur :

you replace a spare leg on a welded frame that was already equipped with a spare leg from the start.

you have to install a spare leg on a welded frame that was not equipped with a spare leg from the start.

you replace a spare leg on a bolted frame that was equipped with a spare leg from the start.

you have to install a spare leg on a bolted frame that was not equipped with a spare leg from the start.

spare leg
with front &
back sleeve

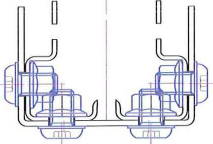
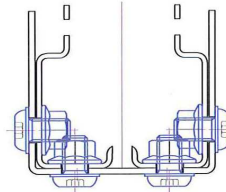
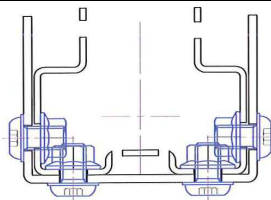


Before starting the installation of the spare leg you should always unload completely the adjacent bays and secure the area by closing it down for any other user.

You will need a forklift to hold the frame by lifting it under the first level of beams. Make sure before that all the locking pins of the beams are in place !

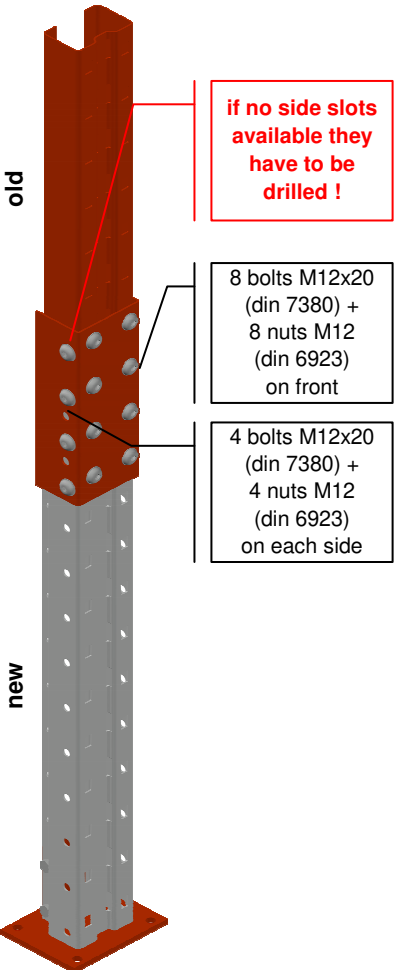
As manufacturing of welded frames was stopped the shape of the new upright (bolted type) will be different from the old C upright. This is no problem as the upright of the frame does not rest on the spare leg. All transfer of loads comes through the bolts.

How to install the C-Leg sleeve & which type of C-Leg is required ?

M sleeve		fits upright	82,6 mm	H sleeve		fits upright	82,6 mm	HC sleeve		fits upright	100 mm
		width	90 mm			width	90 mm			width	110 mm
		depth	65 mm			depth	85 mm			depth	85 mm
		gauge	3 mm			gauge	3 mm			gauge	4 mm
		finish	sendzimir			finish	sendzimir			finish	sendzimir

New C-Leg under old C-Rack upright (welded frame)

New C-Leg under new C-Rack upright (bolted frame)



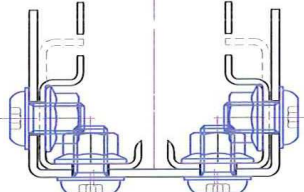
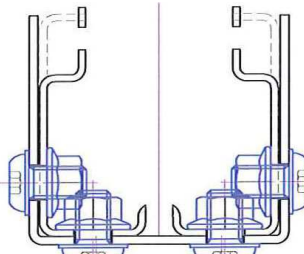
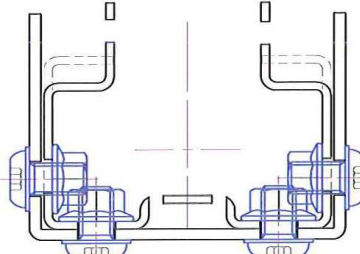
old

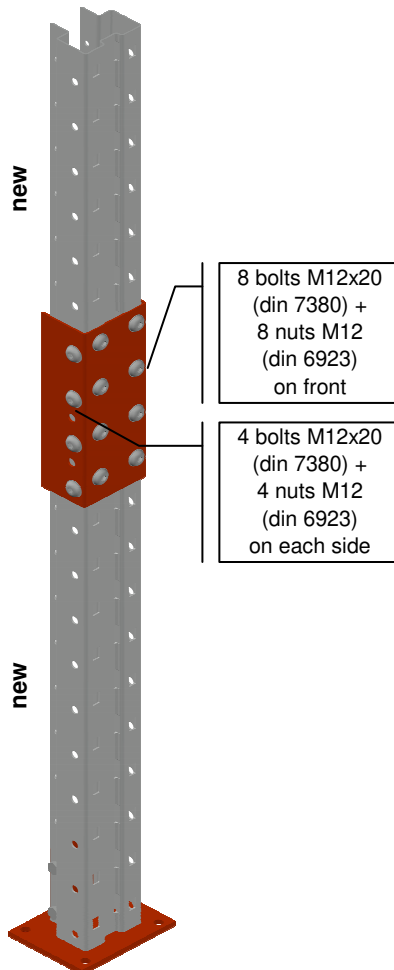
if no side slots available they have to be drilled !

8 bolts M12x20 (din 7380) + 8 nuts M12 (din 6923) on front

4 bolts M12x20 (din 7380) + 4 nuts M12 (din 6923) on each side

new

M sleeve		fits	SD17/SD25 (UK) & S/M (B)
		requires C-Leg	M225
H sleeve		fits	SD20T/SD25T (UK) & H (B)
		requires C-Leg	H250
HC sleeve		fits	HD25/HD30 (UK) HD25T/HD30T (UK)
		requires C-Leg	HC25/HC30

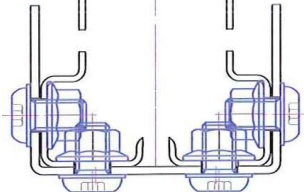
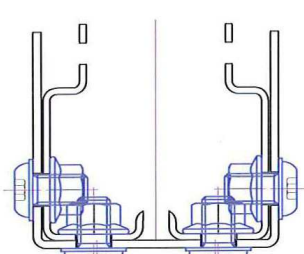
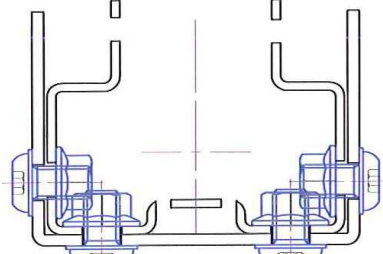


new

8 bolts M12x20 (din 7380) + 8 nuts M12 (din 6923) on front

4 bolts M12x20 (din 7380) + 4 nuts M12 (din 6923) on each side

new

M sleeve		fits	S175/M225
		requires C-Leg	M225
H sleeve		fits	H225/H250
		requires C-Leg	H250
HC sleeve		fits	HC25/HC30
		requires C-Leg	HC25/HC30

You replace a spare leg on a welded frame that was equipped with a spare leg from the start.

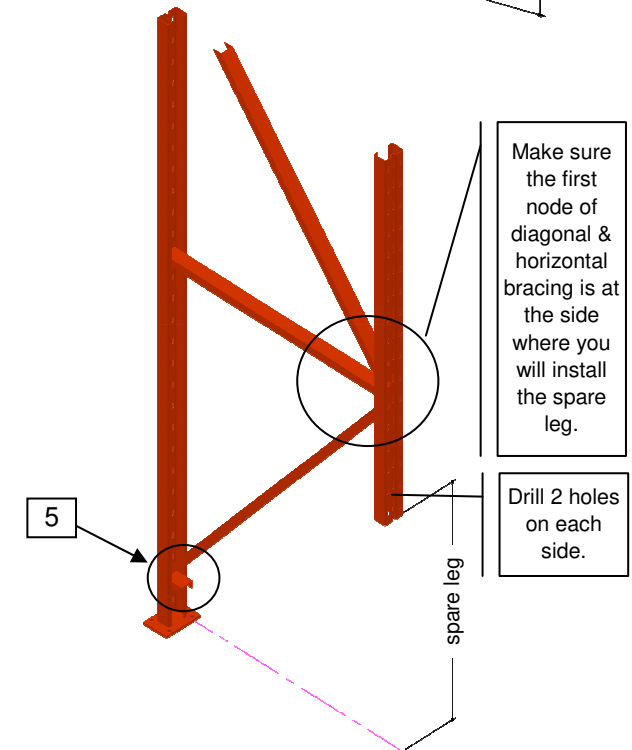
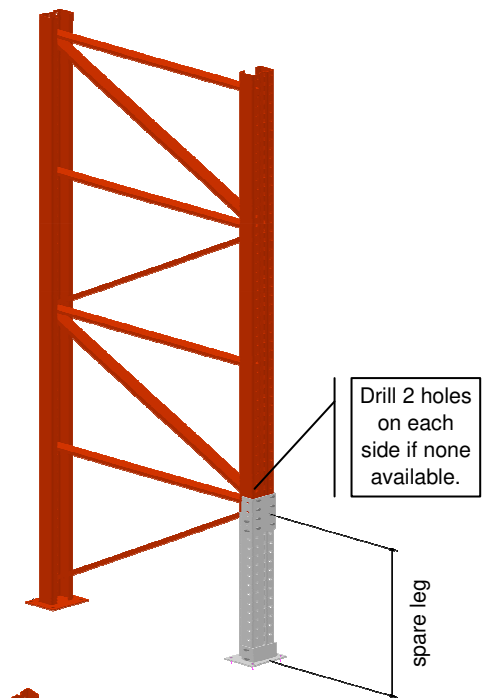
- 1 Assemble your spare leg :
Fix the special spare leg steel base to the spare leg upright with 2 bolts M8x65 and fix the front sleeve to the spare leg upright on the side with 4 bolts M12x20 on the front & 2 bolts M12x20 on each side.
Tighten all bolts.
A back sleeve is not possible in this case.
- 2 Secure the area and check if safety pins are present in all the beams of the adjacent bays.
- 3 Unload the adjacent bays completely (even the ground level).
- 4 Use a fork lift to hold the lowest beam level, on either side of the damaged frame, in place.
- 5 Undo the anchors and the sleeve bolts. Remove the damaged spare leg.
- 6 Install the new spare leg and bolt the sleeve to the existing upright with 4 bolts M12x20 on the front & 2 on each side.
Drill holes in both sides of the upper upright if there are non available. Tighten bolts.
- 7 Check if your frame is still perpendicular. Use steel wedges if required. Fix the steel base to the floor with 2 anchors (M12).
Tighten well. Preferably do not use 4 anchors as the remaining 2 holes (in case of use of a spare leg steel base) could be necessary for a next repair.

You install a spare leg on a welded frame that was not equipped with a spare leg from the start.

You should really change the whole frame in such a case. If not possible (e.g. because of sprinkler systems) the following instructions should be followed strictly.

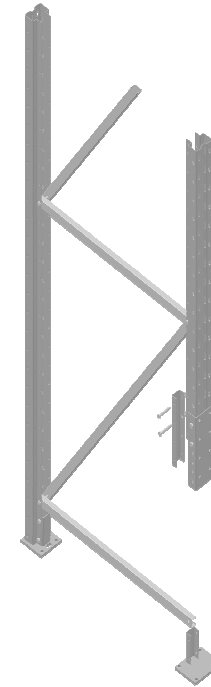
Make sure the first node of diagonal & horizontal bracing is at the side where you will install the spare leg. This is imperative !

- 1 Assemble your spare leg :
Fix the special spare leg steel base to the spare leg upright with 2 bolts M8x65 and fix the front sleeve to the spare leg upright on the side with 4 bolts M12x20 on the front & 2 bolts M12x20 on each side.
Tighten all bolts.
A back sleeve is not possible in this case.
- 2 Secure the area and check if safety pins are present in all the beams of the adjacent bays.
- 3 Unload the adjacent bays completely (even the ground level).
- 4 Use a fork lift to hold the lowest beam level, on either side of the damaged frame, in place.
- 5 Undo the anchors. Cut the lower horizontal brace as shown.
- 6 Cut the upright at the height of the spare leg + 5 mm. If the spare leg will be 825 mm (standard), the cut height will be 830 mm. Always respect the step of 75 mm + once 5 mm.
- 7 Install the spare leg and bolt the sleeve to the existing upright with 4 bolts M12x20 on the front. Tighten bolts.
- 8 Drill 2 holes on each side of the existing upright and fix the sleeve with 2 bolts M12x20 on each side.
Tighten bolts.
- 9 Check if your frame is still perpendicular. Use steel wedges if required. Fix the steel base to the floor with 2 anchors (M12).
Tighten well. Preferably do not use 4 anchors as the remaining 2 holes (in case of use of a spare leg steel base) could be necessary for a next repair.



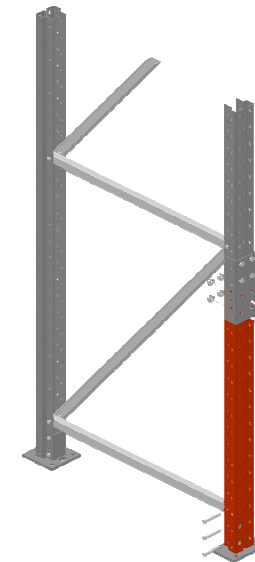
You replace a spare leg on a bolted frame that was equipped with a spare leg from the start.

- 1 Assemble your spare leg :
Fix the steel base (if damaged) to the spare leg upright with 2 bolts M8x65 and tighten bolts.
Either a standard steel base or a special spare leg steel base can be used.
A back sleeve is possible in this case. (Bracing may be an obstacle)
- 2 Secure the area and check if safety pins are present in all the beams of the adjacent bays.
- 3 Unload the adjacent bays completely (even the ground level).
- 4 Use a fork lift to hold the lowest beam level, on either side of the damaged frame, in place.
- 5 Undo the anchors and the lower sleeve bolts. Remove the damaged spare leg.
- 6 Install the new spare leg and bolt the sleeve to the new spare leg using 4 bolts M12x20 on the front + 2 bolts M12x20 on each side. Back sleeves are fixed with 2 M8x65. Fix the lower horizontal brace to the spare leg using a M8x65 bolt + sleeve and tighten all bolts.
- 7 Check if your frame is still perpendicular. Use steel wedges if required. Fix the steel base to the floor with 2 anchors (M12).
Tighten well. Preferably do not use 4 anchors as the remaining 2 holes (in case of use of a spare leg steel base) could be necessary for a next repair.

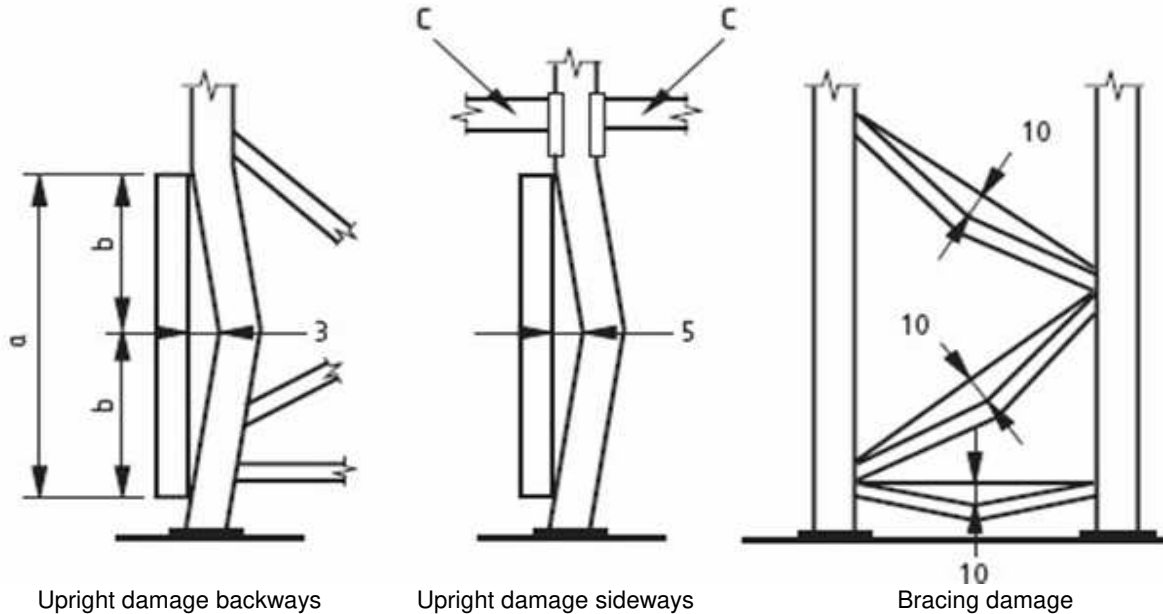


You install a spare leg on a bolted frame that was not equipped with a spare leg from the start.

- 1 Assemble your spare leg :
Fix the special spare leg steel base to the spare leg upright with 2 bolts M8x65 and fix the front sleeve to the spare leg upright on the front with 4 bolts M12x20 (+2 bolts M12x120 on the side in case of frame H125/H130).
Tighten all bolts.
Either a standard steel base or a special spare leg steel base can be used.
A back sleeve is possible in this case. (Bracing may be an obstacle)
- 2 Secure the area and check if safety pins are present in all the beams of the adjacent bays.
- 3 Unload the adjacent bays completely (even the ground level).
- 4 Use a fork lift to hold the lowest beam level, on either side of the damaged frame, in place.
- 5 Undo the anchors and the sleeve bolts. Remove the damaged spare leg.
- 6 Cut the upright at the height of the spare leg + 5 mm. If the spare leg will be 825 mm (standard), the cut height will be 830 mm. Always respect the step of 75 mm + once 5 mm.
- 7 Put the spare leg in place and bolt it to the existing frame with 4 M12x20 on the front + 2 bolts M12x20 on each side. Back sleeves should be connected to the upper upright with 2 M8x65. Fix the lower horizontal brace to the spare leg using a M8x65 bolt + sleeve and tighten all bolts.
- 8 Check if your frame is still perpendicular. Use steel wedges if required. Fix the steel base to the floor with 2 anchors (M12).
Tighten well. Preferably do not use 4 anchors as the remaining 2 holes (in case of use of a spare leg steel base) could be necessary for a next repair.



HOW TO ASSESS DAMAGE TO YOUR FRAME IN ACCORDANCE WITH THE EN15635 STANDARD ?



RISK ASSESSMENT & DAMAGE LEVELS

Green level

- Damage is inferior to the limits below.
- A continuous & regular surveillance is required.
- A higher level than the green level is a risk.

Orange Level

- Damage does not exceed more than twice the limits below.
- Immediate unloading is not required but once unloaded repairs have to be made before re-loading.
- If not unloaded within 4 weeks unloading & repairs become compulsory & the area has to be secured.

Red level

- Damage exceeds twice or more the limits below.
- Immediate unloading is compulsory.
- The area must be secured.

a ruler of 1000 mm b mid-distance of the ruler c beams

Measuring the damage to an upright and/or spare leg has to be done this way :

- Damage to the front of the upright (i.e. damage backways of the upright) :
- A straight ruler is put on the plane surface of the damaged side of the upright with the damage center in the center of the ruler.
 - Maximum deflection of the damaged area should not exceed 3 mm under the 1000 mm ruler.

- Damage to the side of the upright (i.e sideways damage) :
- A straight ruler is put on the plane surface of the damaged side of the upright with the damage center in the center of the ruler.
 - Maximum deflection of the damaged area should not exceed 5 mm under the 1000 mm ruler.

- Damage to the front and to the side of the upright (i.e. backways & sideways damage) :
- A straight ruler is put on the plane surface of the damaged sides of the upright with the damage center in the center of the ruler.
 - Maximum deflection of the damaged area should not exceed 3 mm backways and 5 mm sideways under the 1000 mm ruler.

- Damage to the bracing :
- A straight ruler is put on the plane surface of the damaged side of the bracing with the damage center in the center of the ruler.
 - Maximum deflection of the damaged area should not exceed 10 mm in any direction under the 1000 mm ruler.
 - If a 1000 mm ruler is not convenient damage should be calculated pro rata. (E.g. 5 mm under a 500 mm ruler)

	DO NOT
*	try to straighten braces or uprights.
*	weld braces or uprights
*	weld reinforcements to braces or uprights.
*	use second hand items.
	REPLACE
	only with original parts obtained from the manufacturer.
	REPAIRS
	should be done by the manufacturer or at least under his supervision.

WARNING

Uprights & braces that have been torn, twisted or cracked have to be replaced immediately and completely.

All dimensions in mm.