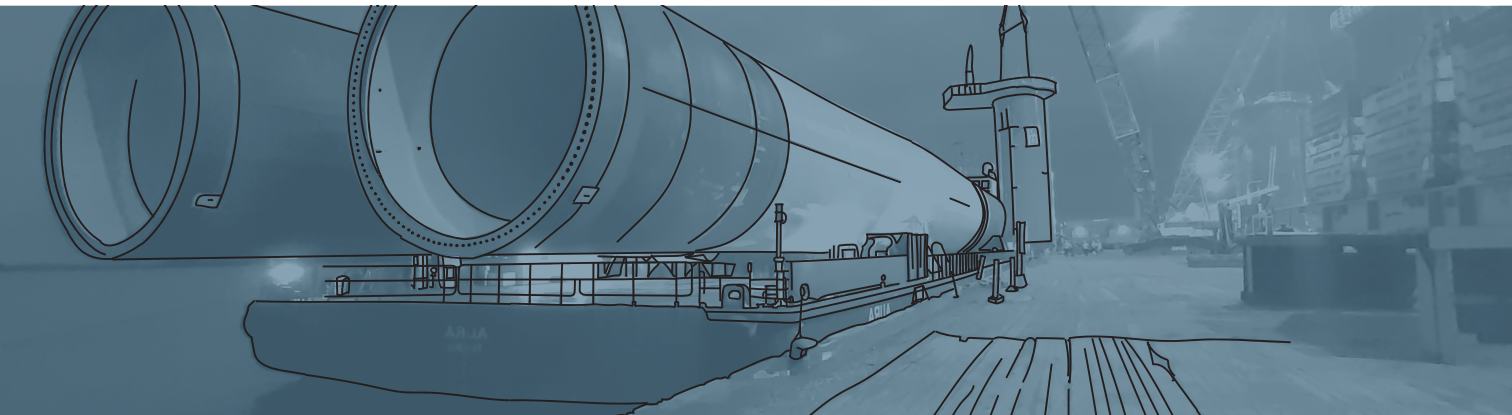


HEAVY STEEL PLATE FROM STOCK AND PLATE PROCESSING

The supply capabilities of Dillinger Group's
steel service centers and plate processing
services ex mill

DILLINGER 



We have a passion for steel. For more than 330 years, we have put our trust in a wealth of ideas and innovations, coupled with a love of detail and perfection.

The better the steel, the greater our customers' success

Steel is a unique and fascinating material, and those who understand and master it are rewarded with outstanding properties. At Dillinger, the entire production process – starting with research, and proceeding via steelmaking, up to and including the rolling mill – is focussed exclusively on our heavy plate product. This specialization has given rise to unparalleled know-how, exploited for the benefit of our customers. Knowledge, experience and the systematic use of ultra-modern AI applications enable Dillinger to produce even highly critical grades with certainty and to advance the development of challenging products. Whenever top quality, reliability and enhanced productivity are needed, Dillinger is there for you – and that's a promise!

Dillinger can supply an incomparable range of products, featuring more than 2,000 different grades of steel and an impressive spectrum of dimensions and formats. Carefully tailored advice for customers and, increasingly, a digital range of services provide an optimum conclusion to our products and activities.

Acclaimed throughout the world

The Øresund Bridge connecting Denmark and Sweden, Shanghai's World Financial Center, one of the world's tallest buildings, gigantic offshore wind-power facilities and drilling platforms and the Louis Vuitton Museum in Paris with its breathtaking architecture are imposing examples of the diversity of the applications for Dillinger's high-tech steels, assuring the meeting of maximum standards and safety requirements.

Our philosophy of sustainability

Steel is especially sustainable, like no other material, not least of all due to its extreme recyclability. Environmental protection, furthermore, is assigned special importance at Dillinger. The core feature of our sustainability strategy consists of low CO₂ steel production, environmentally safe products, continuous enhancement of energy-efficiency and resources conservation, the reduction of emissions and improvement of the environmental protection of water. Dillinger identifies with the aims of the Paris Climate Agreement. Our credo is: "Top-grade industrial technology coupled with sustainable management" – no more, no less.

Not only ex mill, but also ex stock, to assure fast delivery:

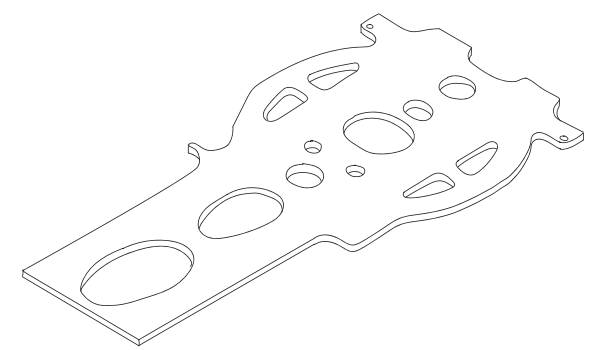
Dillinger's steel service centers can be found, among others, in Germany, the Netherlands and the UAE and hold stocks totalling more than 150,000 t of heavy plate.

The stocks operated by Ancofer Stahlhandel, Jebens, AncoferWaldram Steelplates and Dillinger Middle East supply an impressively wide range of grades:

- Not just standard plate, but also special grades for offshore applications, pressure vessel fabrication, structural steel engineering and heavy machinery.
- Not only in standard dimensions but also in plate thicknesses up to above 400 mm and plate widths of 4,000 mm and more.

The following information spotlights special heavy plate products produced by Dillinger and available from stock as well as our heavy plate processing services ex mill.

Plate processing services ex mill



Dillinger is more than just your heavy plate supplier. Indeed, we already offer our customers a wide range of plate processing services for decades in addition to our regular plate business. The benefit of these services is obvious – the combination of our know-how in heavy plate with the heavy-duty fabrication equipment at our plant ideally complements the supply chain for your prefabricated parts.

Ready flame-cut parts – with a focus on heavy and thick components – assure multiple benefits for the customer. Optimized logistic, scrap handling and plate usage are only some examples of saving costs and enhancing competitiveness.

Dillinger’s enormous range enables us to supply a huge selection of new rolled grades, dimensions and formats. Dillinger will deliver to you perfectly processed plates cut precisely to size whether your needs include large-format cut-to-size plates, chord plates, press frames, flange rings, jack up racks or tube sheets for container construction – to mention only a few possibilities.

Our profound experience in the project business assures precisely customized solutions for even the biggest tasks. Processed parts supplied together with our plates, combined with other single-source services, all delivered on time, are just a few examples of how Dillinger can help you on major structural engineering, hydropower and offshore projects.

Our close links with Dillinger’s steel service centers also enable us to combine ex stock and ex mill deliveries to fulfill urgent orders.

A selection of our flame cutting possibilities is shown below, however please do not hesitate to contact us for each enquiry for individual review.

Cut-to-shape-plates	min.	max.
Thickness	40 mm	450 mm
Width	1,000 mm	5,200 mm
Length	2,000 mm	25,000 mm
Unit weight		45 t
Order volume	Approx. 20 t	Capacities to be checked
Tolerances	According to EN ISO 9013-442, other tolerances upon request	
Note	Cut-to-shape plates in smaller sizes may be possible upon request	

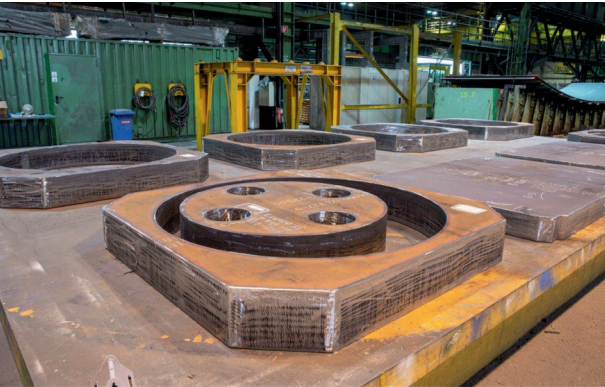
Chord plate possibilities:

Chord plates	min.	max.
Thickness	40 mm	250 mm
Width	250 mm	1,000 mm
Length	2,000 mm	20,000 mm
Unit weight / surface	1 m²	45 t
Order volume	Approx. 20 t	Capacities to be checked
Tolerances	According to EN ISO 9013-442, other tolerances upon request	

Edge prepared plates by milling are also part of the offered services. This saves our customers valuable time, cutting costs and enhancing competitiveness thanks to fewer welds and less welding complexity. The benefits compared to simple flame-cut edges include the absence of excess hardening on the weld edges and the ability to achieve narrower width, length and angular tolerances. These services are especially valued by major offshore wind-farm, structural engineering and hydropower projects.

Within the conditions below, Dillinger supplies a wide range of weld edges, extending from standard I-edge to double-U and double-V.

Milling	min.	max.
Thickness	30 mm	160 mm
Width	1,350 mm	5,000 mm
Length	4,000 mm	25,000 mm
Unit weight	Approx. 10 t	45 t
Order volume	Approx. 20 t	Capacities to be checked
Tolerances for dimensions	Width	± 2.0 mm
	Length	± 2.0 mm
	Difference between diagonals	≤ 3.0 mm
Cut face quality	ISO 1302-N7/N8	
Details of edge preparation	Welding types and tolerances have to be agreed.	



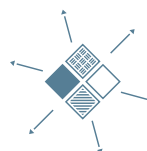
Discover the Dillinger plate processing services ex mill at:
www.dillinger.de/d/en/products/stock/components-semifabrication



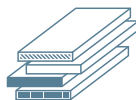
DILLINGER AT A GLANCE



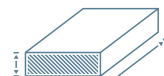
More than **330** years of experience



Over **2,000**
different grades



Expert advice for more than
10 diverse fields of application



Heavy plates up to **28m** length
and **500mm** thickness



More than **200** international
approvals, certificates
and material qualifications

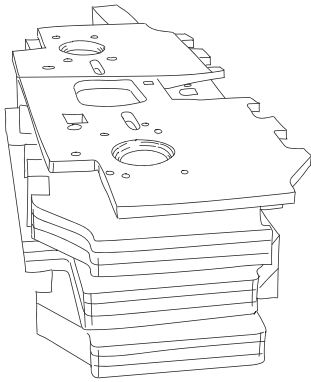


Plate weight up to
52 t

Please enquire for plate formats not expressly
featured in the published range.

Find your local sales contact at:
www.dillinger.de/d/en/contact/worldwide





Ancofer Stahlhandel, located in Mülheim an der Ruhr, Germany, has been a member of the Dillinger group since 1997.

Ancofer Stahlhandel's function is to assure the rapid availability of a wide range of heavy steel plates from stock, plus flame-cut components. The company stores a large range of plates, including structural and pressure vessel steels in plate widths up to 4,000 mm at its ten warehouses with their

25,000 m² of storage space and more than 50,000 t of stocked plates. A large selection of additional services is also available.

Ancofer is universally acclaimed as a specialist in heavy plate, and supplies a large range of steels in diverse dimensions – not only standard steel products, but also plate thicknesses up to 250 mm, lengths up to 20,000 mm and widths up to 4,000 mm.

The Ancofer flame-cutting shop is one of Germany's largest, most experienced and most productive. Decades of know-how, highly trained and capable staff, plus modern equipment, assure perfect results and optimum delivery times. The services of Ancofer cover for example:

- Mechanical and technological tests, including ultrasonic inspection, Charpy impact test, bead bending test and Z-value (through-thickness tensile properties) test.
- Semi-fabrication, including bevelling, levelling and sandblasting in conformity to SA 2.5 in Ancofer's own blasting shop; protective treatment, drilling, turning, milling, edge preparation.
- Ancofer is certificated in conformity to DIN EN ISO 9001:2008
- Ancofer is certificated in conformity to EN 1090 for oxy-cut parts for steel structures.

Ancofer has the following fabrication facilities:

- 1 blasting shop
- 6 oxy-cutting machines
- 1 plasma-cutting machine
- 1 levelling machine
- 2 robots for weld preparation

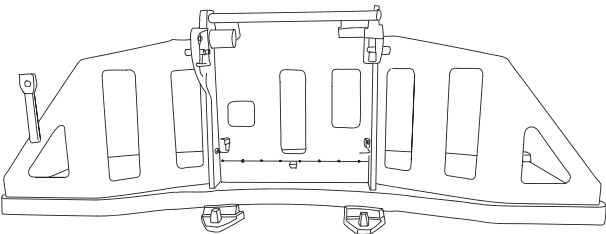
A selection of the special grades available for pressure vessels, structural steel and offshore engineering, plus the DILLIMAX high tensile and DILLIDUR wear resistant plate grades, is shown below:

Grade	Designation	Standard	Thickness	Width
Pressure vessel steel				
16Mo3	Non-alloy and alloy steels with specified elevated temperature properties	EN 10028-2	up to 100 mm	up to 3,000 mm
P265GH	Weldable fine grained steels, normalized	EN 10028-3	up to 250 mm	up to 4,000 mm also in width of 2,250 mm, 2,750 mm, 3,250 mm and 3,500 mm
P275NH				
P355NL2				
SA516 Grade 60/70	Carbon steel for moderate and lower temperature service	ASME 516/M		
P460NL2	Weldable fine grained steels, normalized	EN 10028-3	up to 150 mm	up to 3,000 mm
Construction steel				
S355J2+N	Structural steel	EN 10025-2	up to 200 mm	up to 4,000 mm
S355K2+N	Normalized fine grained steel	EN 10025-3	up to 250 mm	
S355NL	Thermomechanically rolled fine grained steel	EN 10025-4	10 to 100 mm	up to 4,050 mm
S355M/ML	Normalized fine grained steel acc. to Deutsche Bahn rules with weld bend test (Aufschweißbiegeversuch)	EN 10025-3	up to 150 mm	up to 3,000 mm
S460M/ML				
S460NL				
S355J2+N		DBS 918002-02	up to 80 mm	up to 3,000 mm
High strength steel				
DILLIMAX 690 E	S690 with Charpy at -60 °C	EN 10025-6	8 to 250 mm	up to 3,000 mm
DILLIMAX 965 T	High strength steel S960	EN 10025-6	8 to 120 mm	up to 3,000 mm
Wear resistant steel				
DILLIDUR 325 L	Air hardened 325 HB	-	8 to 100 mm	up to 2,000 mm
DILLIDUR IMPACT	340 HB grade with high impact toughness at -40 °C		50 to 150 mm	up to 2,500 mm
DILLIDUR 400	Water quenched 400 HB		8 to 150 mm	up to 3,000 mm
DILLIDUR 450	Water quenched 450 HB		8 to 100 mm	
DILLIDUR 500	Water quenched 500 HB			
DILLIDUR 550	Water quenched 550 HB		10 to 40 mm	up to 2,000 mm



View the complete Ancofer range at:
www.ancofer.de





Jebens, located in Korntal-Münchingen, near Stuttgart, Germany, has been part of the Dillinger group since 1990. Jebens is dedicated to supplying thick and heavy plates and profiled slabs, heavy machined oxy-cut parts, and fully prefabricated, welded and painted steel components.

Jebens stocks a large range of ultra-thick structural steel plates and profiled slabs produced by Dillinger. Examples:

Grade	Designation	Standard	Thickness	Width
Construction steel				
S355J2+N	Structural steel	EN 10025-2	up to 410 mm	up to 4,000 mm
S355K2+N				up to 3,500 mm
C45	Non-alloy steels for quenching and tempering	EN 10083-2 (withdrawn) / EN ISO 683-1	8 to 250 mm	
42CrMo4	Alloy steels for quenching and tempering	EN 10083-3 (withdrawn) / EN ISO 683-2	20 to 200 mm	
16MnCr5	Case-hardening steels	EN 10084 (withdrawn) / EN ISO 683-3	10 to 250 mm	
S690QL1	Highstrengthsteel	EN 10025-6	up to 270 mm	
Profiled slabs				
in accordance with chemical composition for S235 to S355			up to 650 mm	
Material for counter weights			up to 250 mm	

The company's all-round production capabilities at least seven different sectors make it a highly popular solutions partner for plates and other items up to 160 t in weight. These elements are precision flame-cut to the dimensions necessary in this sector. Thicknesses ranging from 8 to 650 mm, widths up to 4,000 mm and lengths up to 20,000 mm permit highly efficient production of components with the minimum number of individual parts, minimizing the need for welding.

A wide range of fabrication options make Jebens your “one-stop” steel provider. From support at the design stage, via cutting, chamfering of highly complex geometries, drilling, milling, annealing and normalizing, up to and including sandblasting and painting, this specialist in demanding tasks produces all-in, ready-to-install welded components with a piece weight of up to 160 t.

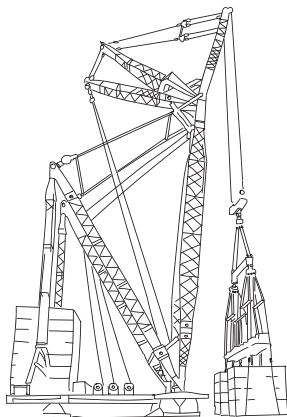
Thermal cutting		
11 cutting machines		Plasma-cutting, oxy-cutting
Thickness range		up to 1,100 mm
Width up to		5,000 mm
Length up to		20,000 mm
Max. item weight		55 t
Chamfering		
Chamfering robots + CNC chamfering		Individual true-contour chamfering and cutting in multiple layers
Cutting length		up to 800 mm
Width up to		2,200 mm
Length up to		8,500 mm
Max. item weight		20 t
Straightening		
straightening press	to DIN specifications to customer specifications pressure	3,500 kN
Flame straightening	Controlled straightening of thick plates	
Heat treatment		
Furnace	Normalizing	Annealing
Width	3,500 mm	5,800 mm
Length	10,500 mm	15,000 mm
Height	2,500 mm	3,800 mm
Max. item weight	40 t	160 t
Surface treatment		
Continuous type shot blasting machine		Width up to
		2,700 mm
Manual blasting booth		
		Max. filling weight
		100 t
Mobile blasting system		
Painting booths		2 solvent- and water-based
		1 standard
Width		5,000 mm
Length		9,000 mm
Height		2,500 mm
Max. item weight		40 t
Machining		
CNC machining center for milling and drilling		Max. X axis
		16,000 mm
		Max. Y axis
		3,700 mm
		Max. Z axis
		2,500 mm
		Max. item weight
		180 t
Welding		
MIG / MAG / submerged arc welding facilities		
Welding tilt and turn table		Max. item weight
		160 t

Plus:

- Complex 3D profiling
- Welding of fine grained structural steels
- Build-up welding / plating of cast steel
- Manufacturing qualification in acc. with EN 1090-2 EXC4. Certified welders according to ISO 9606-1 up to high strength steels grade S960.
- Certification in accordance with the ISO 3834-2:2005 standards ("Higher Welding Certificate")

View the complete Jebens range at:
www.jebens.de





AncoferWaldram Steelplates has been a specialist supplier of heavy carbon steel plates and profiled parts for more than forty years.

Its combination of comprehensive stocks of more than 50,000 t of heavy carbon steel plates, combined with its sophisticated profiling equipment, give AncoferWaldram Steelplates the decisive lead in experience, product range and customer service.

AncoferWaldram Steelplates holds a large stock of plates for offshore

and marine applications, and also structural, pressure vessel and other grades. With its workforce of 120 employees, AncoferWaldram Steelplates supplies a broad international customer base in the fields of offshore fabrication, steel and crane engineering, boiler and pressure vessel equipment, heavy machinery, yellow goods, dredging and shipbuilding.

Strategically located between the major international ports of Rotterdam and Antwerp, AncoferWaldram Steelplates holds a large and varied stock of special grades from the Dillinger range.

An impressively wide selection of steel plates for offshore and marine applications, pressure vessel and structural steel engineering, plus the DILLIMAX high tensile and DILLIDUR wear resistant plate grades, is available.

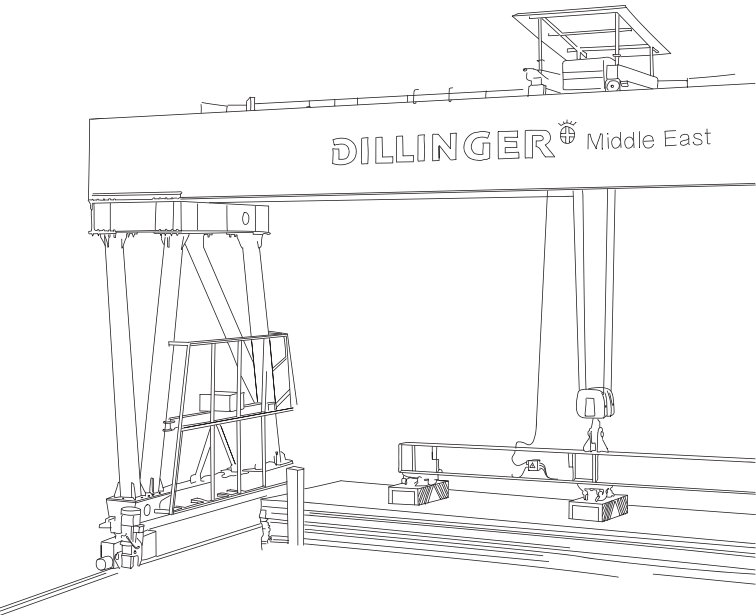
AncoferWaldram Steelplates not only supplies heavy steel plates in all commercial stock dimensions, it also operates its own modern flame-cutting facilities. AncoferWaldram Steelplates is certified in conformity with ISO 9001:2015 and EN 1090 for oxy-cut parts for steel structures.

Grade	Designation	Standard	Thickness	Width
Pressure vessel				
P355NL2	Normalized fine grained steel	EN 10028-3/ ASME 516/M	up to 250 mm	up to 3,000 mm
SA516 Grade 70				
DICREST®5 SA516 Grade 60/65/70	Hydrogen induced cracking (HIC) resistant plates	ASME 516/M	8 to 120 mm	
Construction steel				
S355J2+N S355K2+N S355K2+Z35	Structural steel	EN 10025-2	up to 300 mm	up to 3,000 mm
S355NL	Normalized fine grained steel	EN 10025-3	up to 250 mm	up to 3,500 mm
S355M/ML	Thermomechanically rolled fine grained steel	EN 10025-4	8 to 120 mm	up to 3,050 mm
S460M/ML			10 to 100 mm	
Steel for marine applications				
DNV: NV D36 and NV E36 + Z35	Structural steel	DNV rules	6 to 250 mm	up to 3,500 mm
LRS: Grade A, DH36 and EH36 + Z35		Lloyd's rules	6 to 200 mm	
Offshore				
S355MLO/MDS-Y20	Offshore grades	EN 10225-1 NORSOK M120/Y20	8 to 120 mm	up to 3,050 mm
S355NLO/MDS-Y20			110 to 200 mm	
S420MLO/MDS-Y30		EN 10225-1, NORSOK M120/Y30 EN 10225-1 NORSOK M120 /Y40	10 to 100 mm	
S460MLO/MDS-Y40				
High strength steel				
DILLIMAX 690 T/E	S690 with Charpy at -40 °C / -60 °C with Z35 and maximum US requirements	EN 10025-6	8 to 250 mm	up to 3,000 mm
DILLIMAX 690 E + Z35 + US (S3/E4)			15 to 150 mm	up to 3,000 mm
Wear resistant steel				
DILLIDUR IMPACT	340 HB grade with high impact toughness at -40 °C	-	50 to 150 mm	up to 2,500 mm
DILLIDUR 400	Water quenched 400 HB		8 to 150 mm	up to 3,000 mm
DILLIDUR 450	Water quenched 450 HB		8 to 100 mm	
DILLIDUR 500	Water quenched 500 HB			



View the complete AncoferWaldram Steelplates range at:
www.ancoferwaldram.com





The stock of Dillinger Middle East covers a wide range of extensively specified plates:

Grade	Designation	Standard	Thickness
Pressure vessel			
DICREST®5 SA516 Grade 60/65/70	Hydrogen induced cracking (HIC) resistant plates	ASTM A516M/ ASME IIA:2021	10 to 80 mm
SA516 Grade 60/65/70	Normalized fine grained steels	ASTM A516M/ ASME IIA:2021	6 to 200 mm
A537 Cl. 1	Normalized steel	ASTM A537M	10 to 100 mm
SA387-11-2	Alloy steel	ASTM A387M	8 to 80 mm
Construction steel			
S355J2+N S355K2+N	Structural steel	EN 10025-2	10 to 290 mm
S460ML	Thermomechanically(TMCP)rolledfine grained steel	EN 10025-4	8 to 150 mm
Marine applications			
ABS:AH/DH/EH36	Structural steel	ABS codes/rules	10 to 80 mm
Offshore			
API 2H-50/ S355NLO (former S355 G8/G10+N)	Offshore grade	API 2H / EN 10225-1	10 to 100 mm
API 2W-50/ S355MLO (former S355 G8/G10+M)		API 2W / EN 10225-1	10 to 70 mm
S420 MLO & S460 MLO		EN 10225-1	10 to 100 mm
High strength steel			
DILLIMAX 690 T S690QL A514 Grade B	S690 with Charpy at -40 °C	EN 10025-6 ASTM A514M	8 to 200 mm
Wear resistant steel, shot blasted and primered			
DILLIDUR 400	Water quenched 400 HB	–	10 to 100 mm
DILLIDUR 450	Water quenched 450 HB		
DILLIDUR 500	Water quenched 500 HB		

Dillinger Middle East in Dubai is Dillinger’s sales agency for the whole Middle East region and the leading supplier for heavy plates from stock to the Middle East, Indian subcontinent, Africa as well as the Far East. Dillinger Middle East offers an extensive range of high-quality and just-in-time steel plates for pressure vessel, shipbuilding, offshore, structural engineering, pipeline, mining and construction equipment applications.

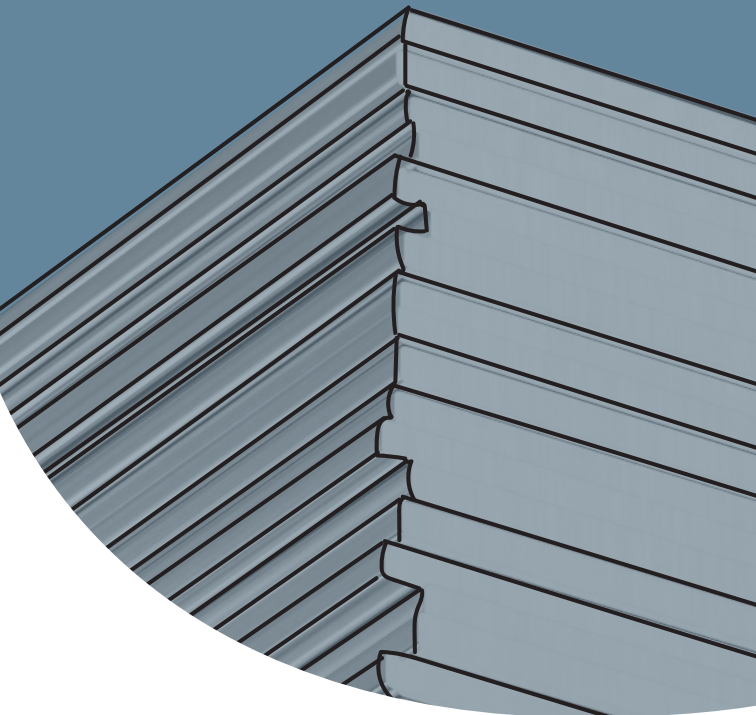
A stock of permanently more than 25,000 t of heavy steel plates in various grades and up to 290 mm thick plates is available at any time at the Jebel Ali, U.A.E facility. This stock and the network within the Dillinger Group's steel services centers across all locations enables Dillinger Middle East to source across its own network of steel service centers and to act as a one-stop shop for all customer requirements.

An experienced and qualified team of professionals provides constant technical support and continuous customer care.



View the complete Dillinger Middle East range at:
www.dillinger.de/d/en/products/stock/ex-stock/dillingermiddleeast/stock/dillingermiddleeast





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