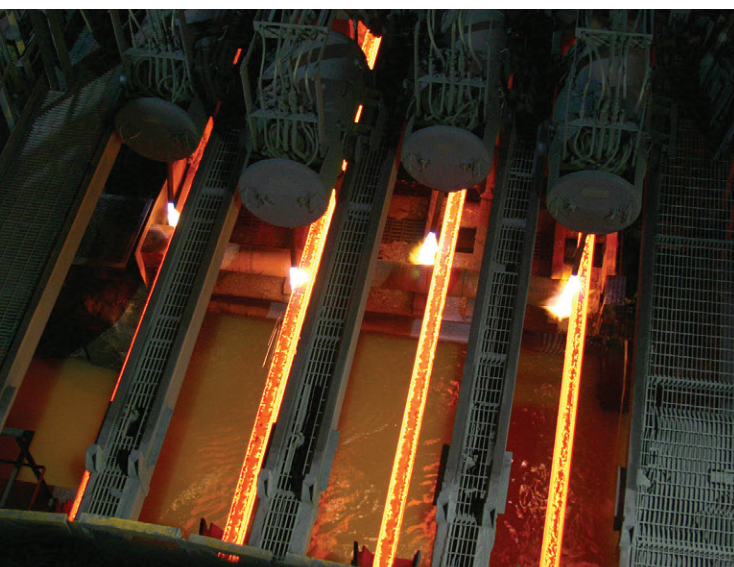




# Continuous Casting Solutions

Super fine grain graphite specifically engineered for Concast applications

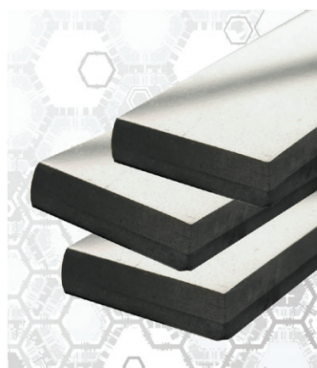


GRAFSTAR™ XT super fine grain graphite is an isomolded, high strength material that can be machined to precise tolerances and a fine surface finish.

Specifically engineered for high performance in continuous casting applications, the GRAFSTAR™ XT graphite portfolio offers customers a full range of material properties, providing a solution for nearly all metal casting applications.

## XT Graphite Dies in Continuous Casting

Grade	Typical Metal Casting Applications	Feature
XTR15	Aluminum	<ul style="list-style-type: none"> <li>• Large form factor for strip and rod casting</li> <li>• Increased permeability</li> </ul>
XTJ10 XTJ15	Gray & Ductile Iron Brass & Bronze Precious Metals: Ag, Au, Others	<ul style="list-style-type: none"> <li>• Standard product in large form factors for billet and tube casting</li> <li>• Range of thermal conductivity matched to your application</li> </ul>
XTC10 XTC15	Copper and Copper Alloys Brass & Bronze Ni-Cu and Cu-Zn-Ni 'Nickle Silver'	<ul style="list-style-type: none"> <li>• Enhanced hardness, strength, and significantly reduced permeability</li> <li>• Suitable to higher temp applications: max 1800°C</li> <li>• Capable for multiple batches of alloys</li> </ul>



### Differentiating Features

- Range of key properties
- Increased hardness and wear resistance
- Form factor variety - up to 80" length
- Good machinability
- Decades of experience as a leading supplier

### Customer Benefits

- Options to meet specific process demands
- Long die life and maximized throughput
- Ideal for long strip casting
- Ability to hold tight tolerances
- On-site technical expertise

## Typical Properties\* and Grade Comparison

Typical Property	Unit	XTR15	XTJ10	XTJ15	XTC10	XTC15
Bulk Density	g/cc	1.68	1.76	1.77	1.83	1.82
Flexural Strength	MPa	30	55	44	60	50
Hardness	Rockwell "L"	45	80	68	100	90
Specific Resistance	$\mu\Omega\text{m}$	10.5	11.5	10.5	11.5	10.5
C.T.E. (to 100°C)	$10^{-6}/\text{K}$	3.5	3.2	3.5	3.2	3.5
Thermal Conductivity	W/mK	120	105	120	105	120
Gas Permeability	Darcy	0.015	0.005	0.004	0.0005	0.0005

\* Properties listed are typical and cannot be used as accept/reject specifications



### Global Technical Support

Our global team of Applications Engineers are knowledgeable about graphite and applications spanning multiple industries. These include metallurgical casting, electronics, chemical, nuclear, defense/aerospace, solar, LED, semiconductor, and other high temperature processes.

Regardless of your product design phase (concept, prototyping, or mass production), we offer technical answers to some of your most challenging problems with a fast response time.