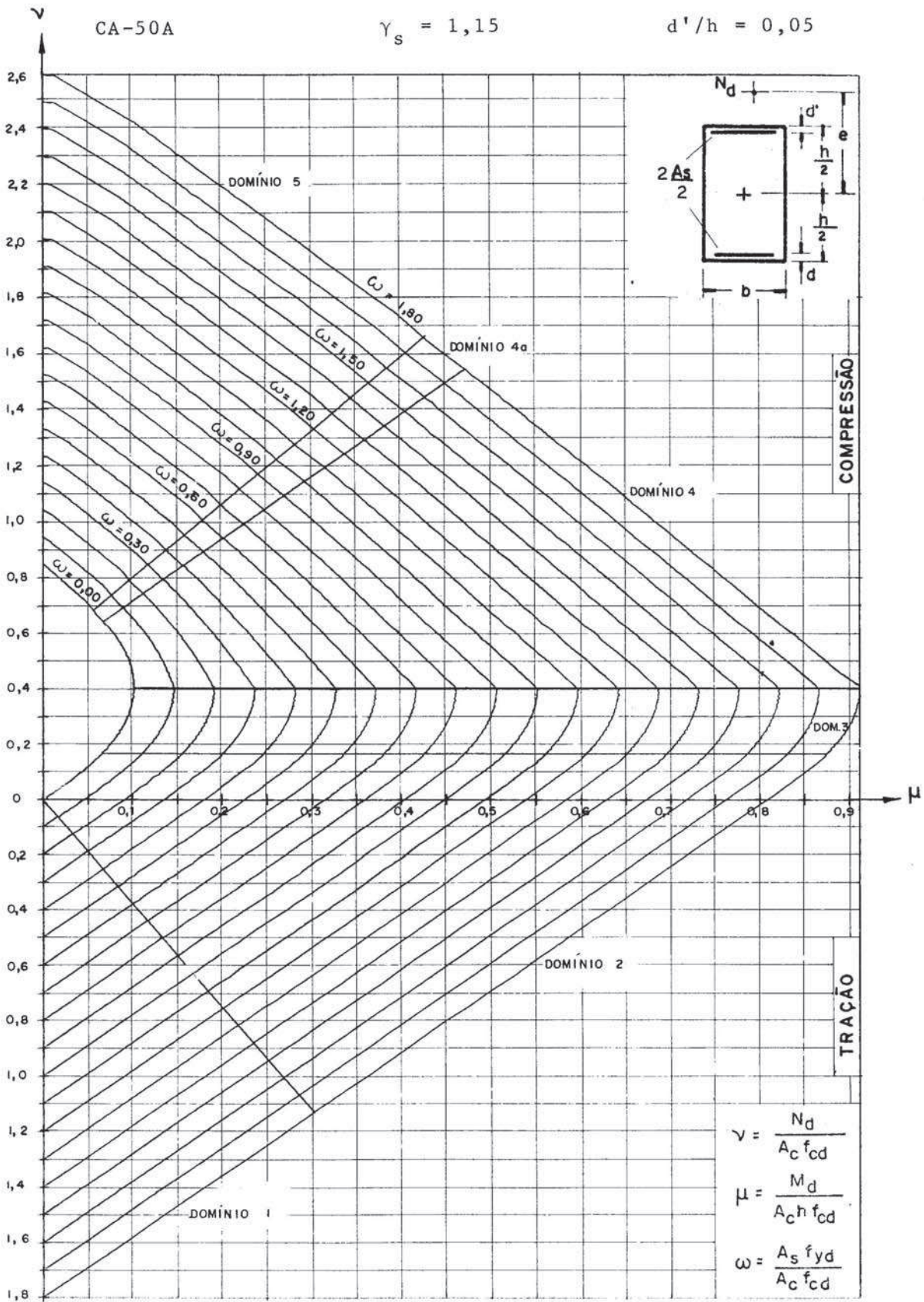


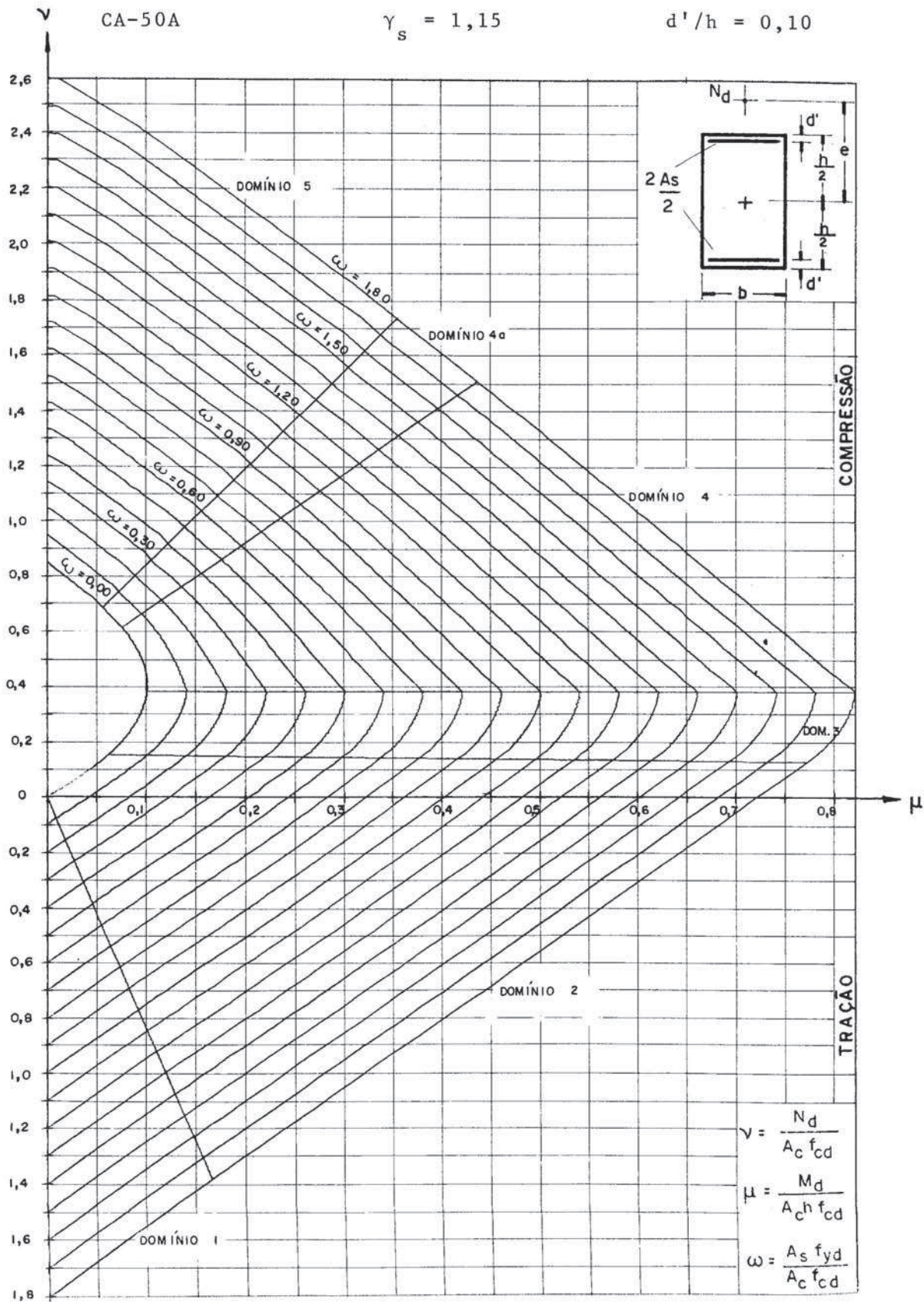
ÁBACOS PARA O DIMENSIONAMENTO DE
PEÇAS RETANGULARES DE CONCRETO ARMADO

CA-50A

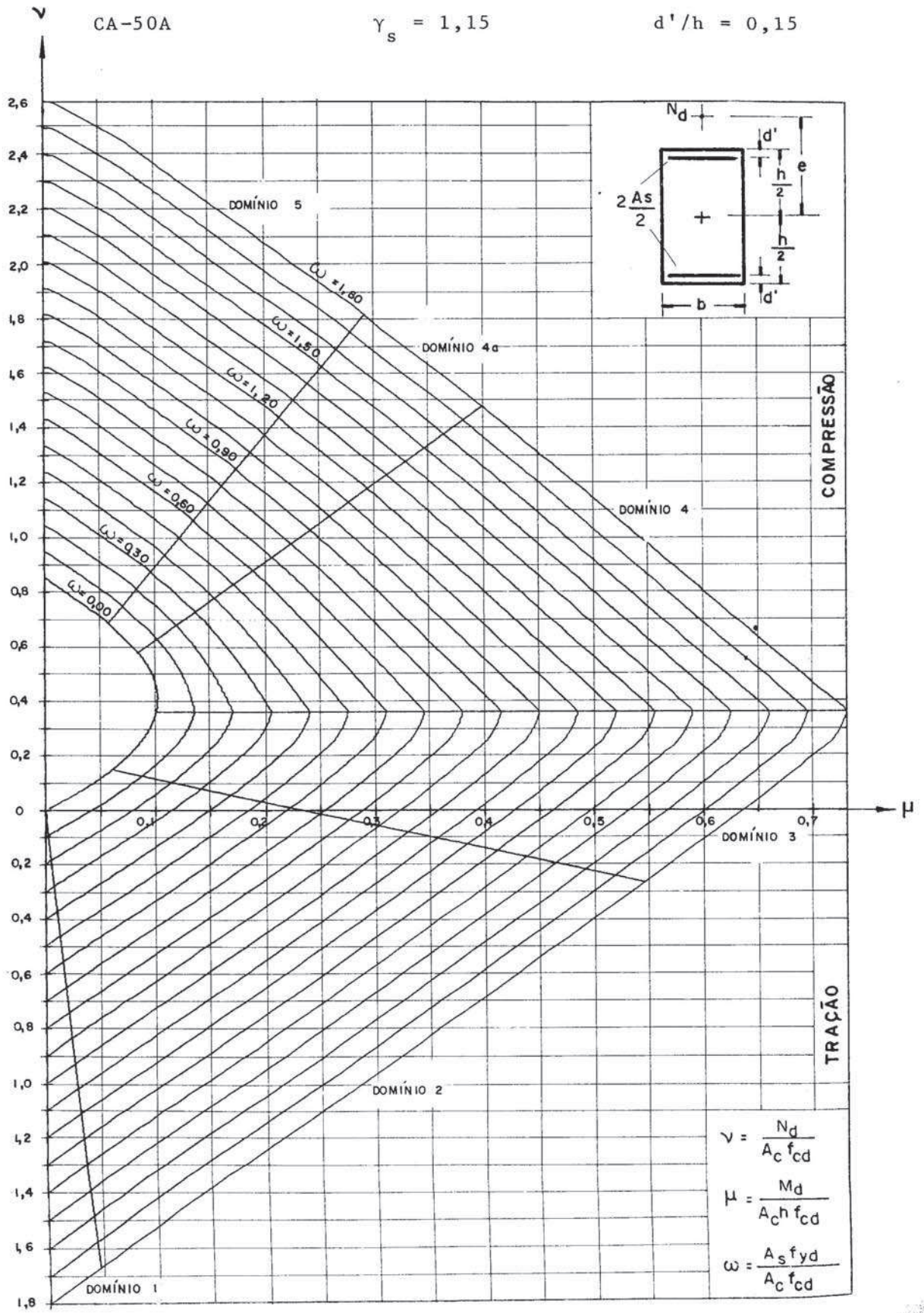
ÁBACO A-1



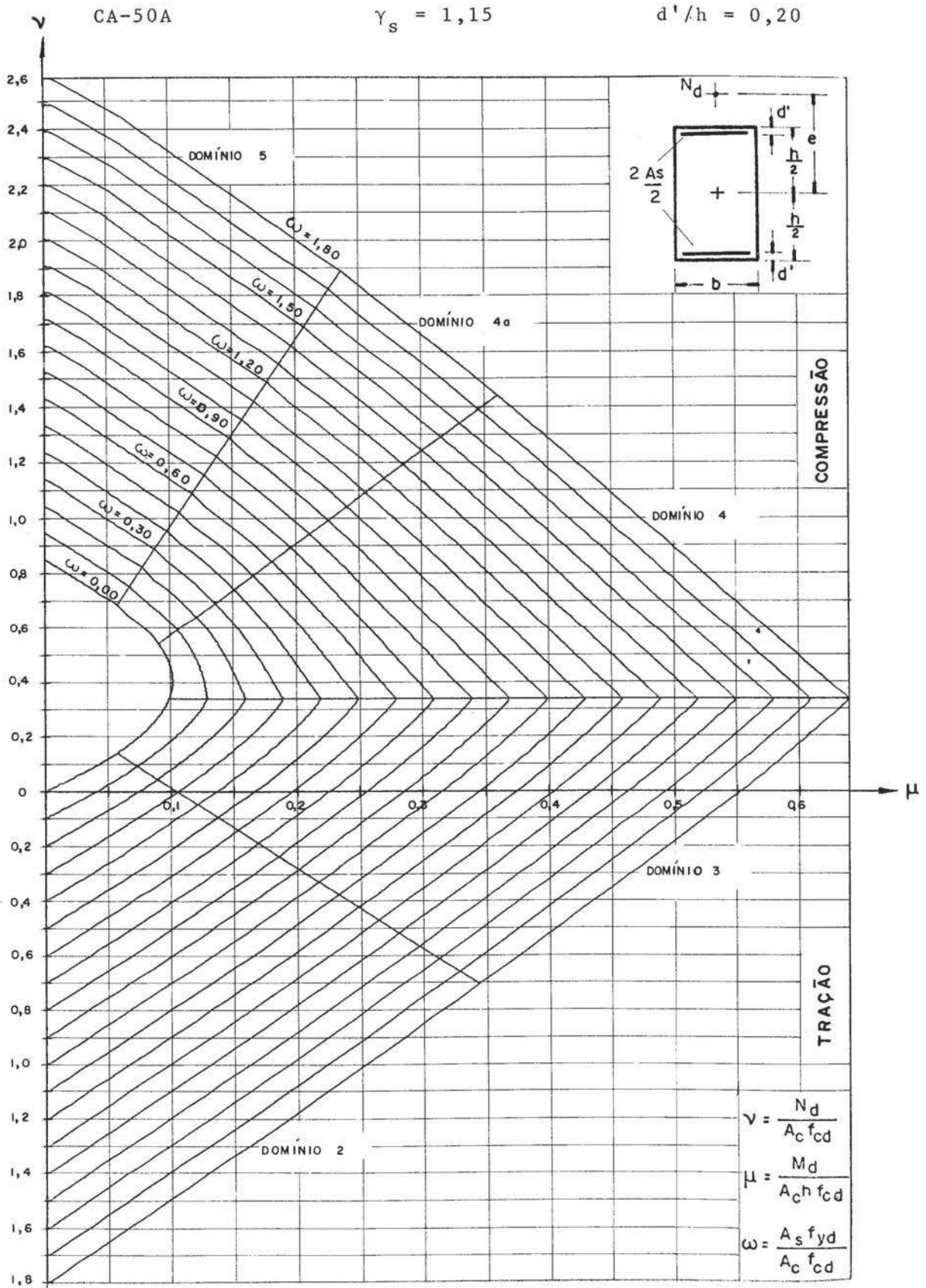
ÁBACO A-2



ÁBACO A-3



ÁBACO A-4

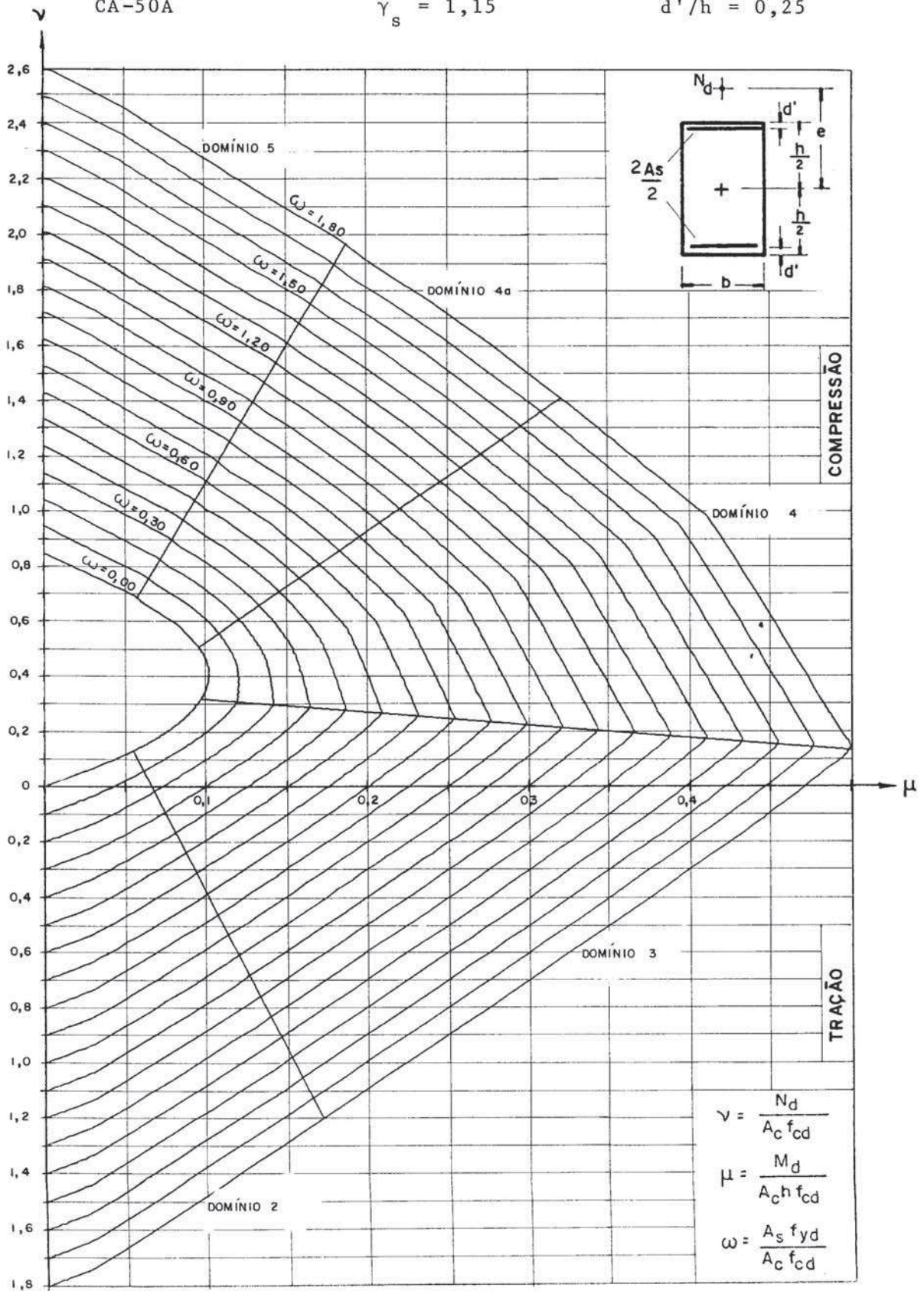


ÁBACO A-5

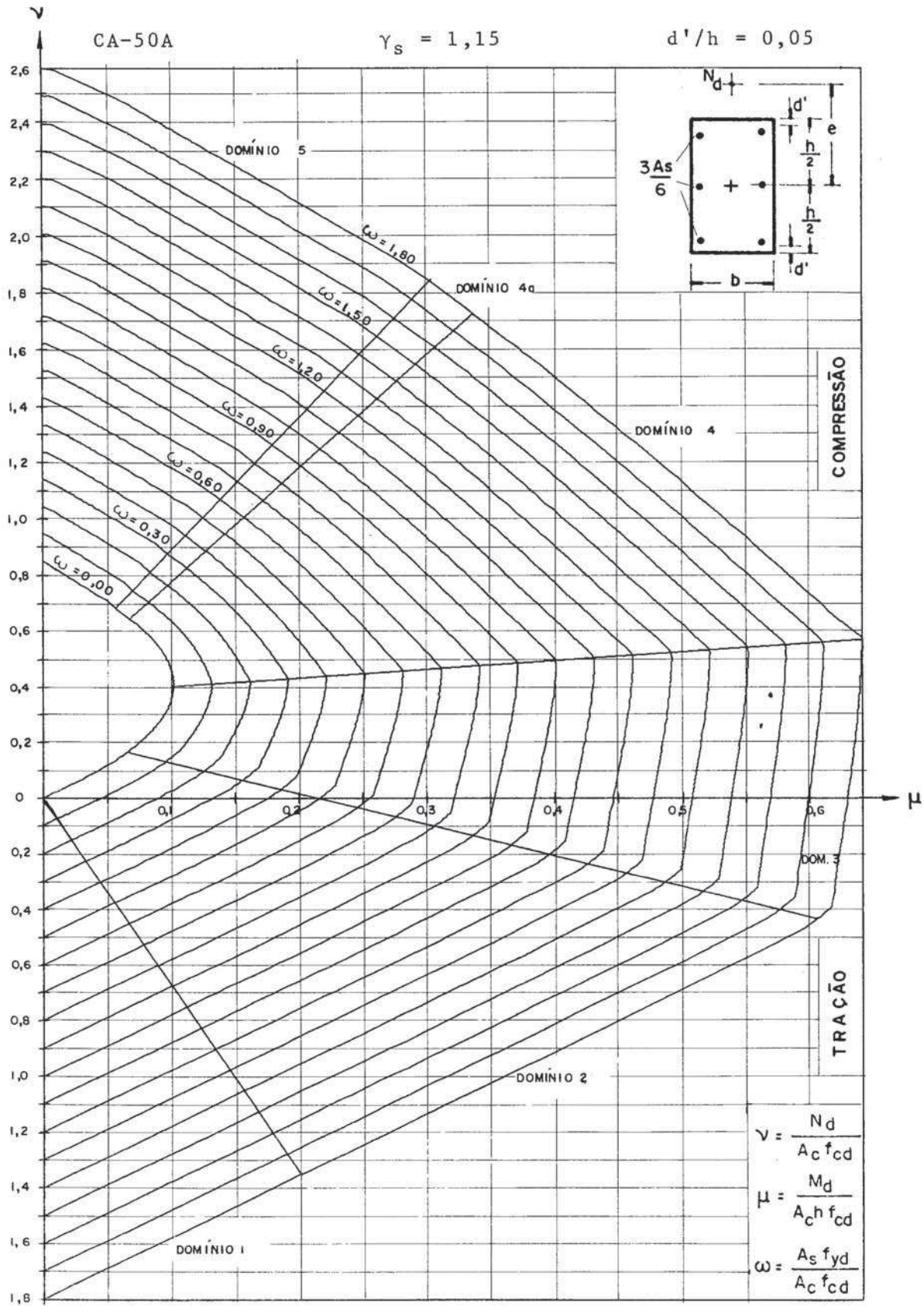
CA-50A

$\gamma_s = 1,15$

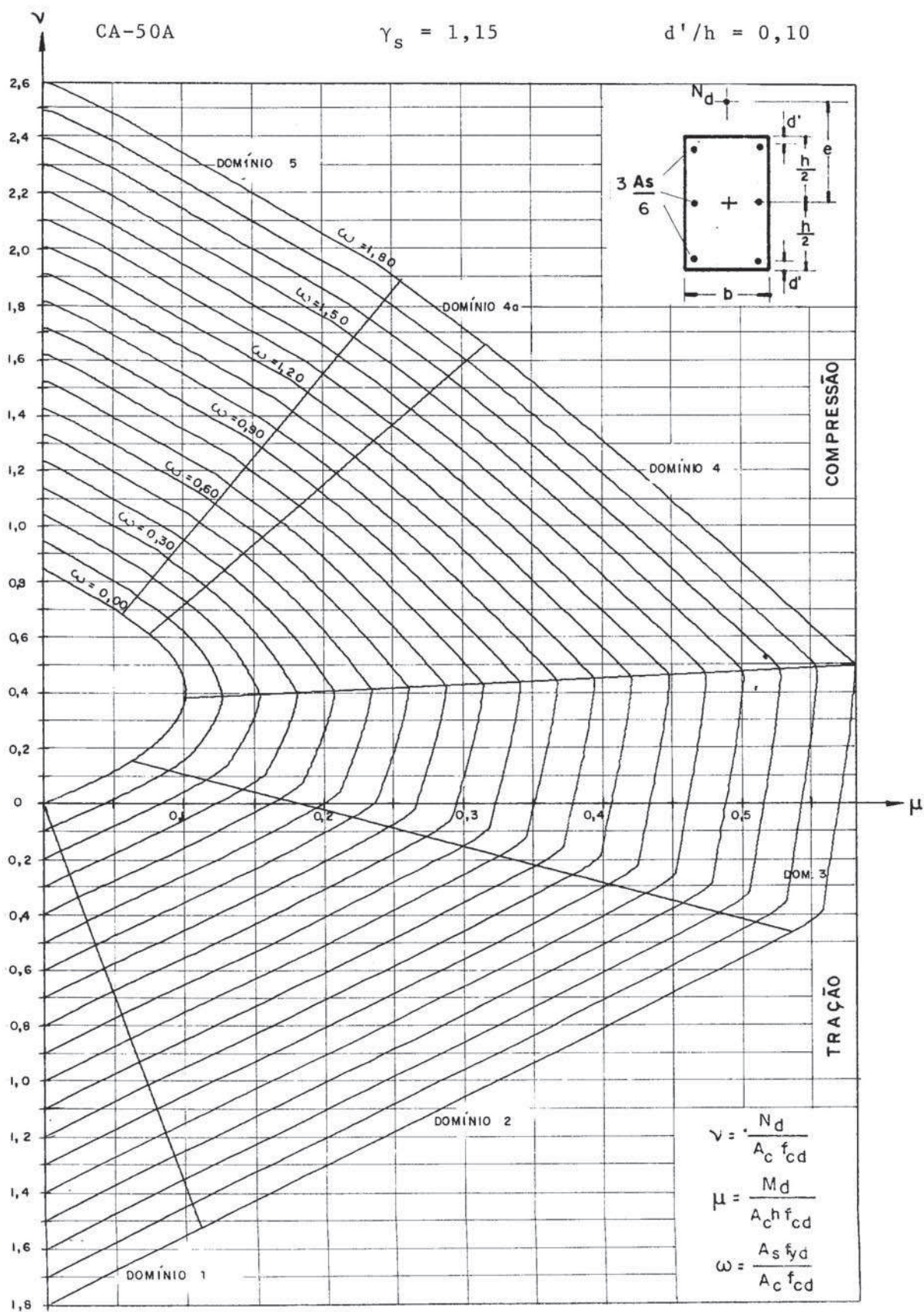
$d'/h = 0,25$



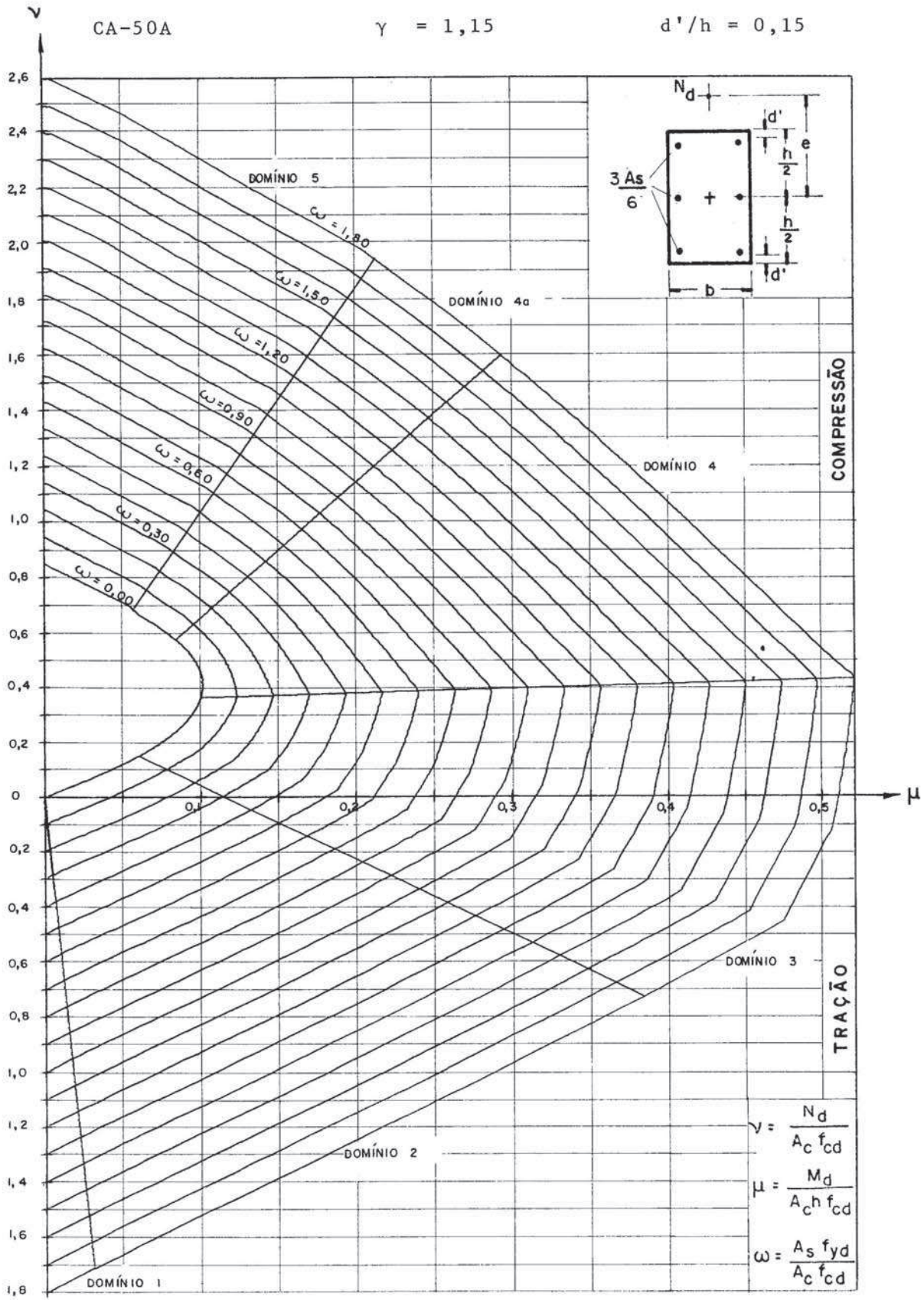
ÁBACO A-6



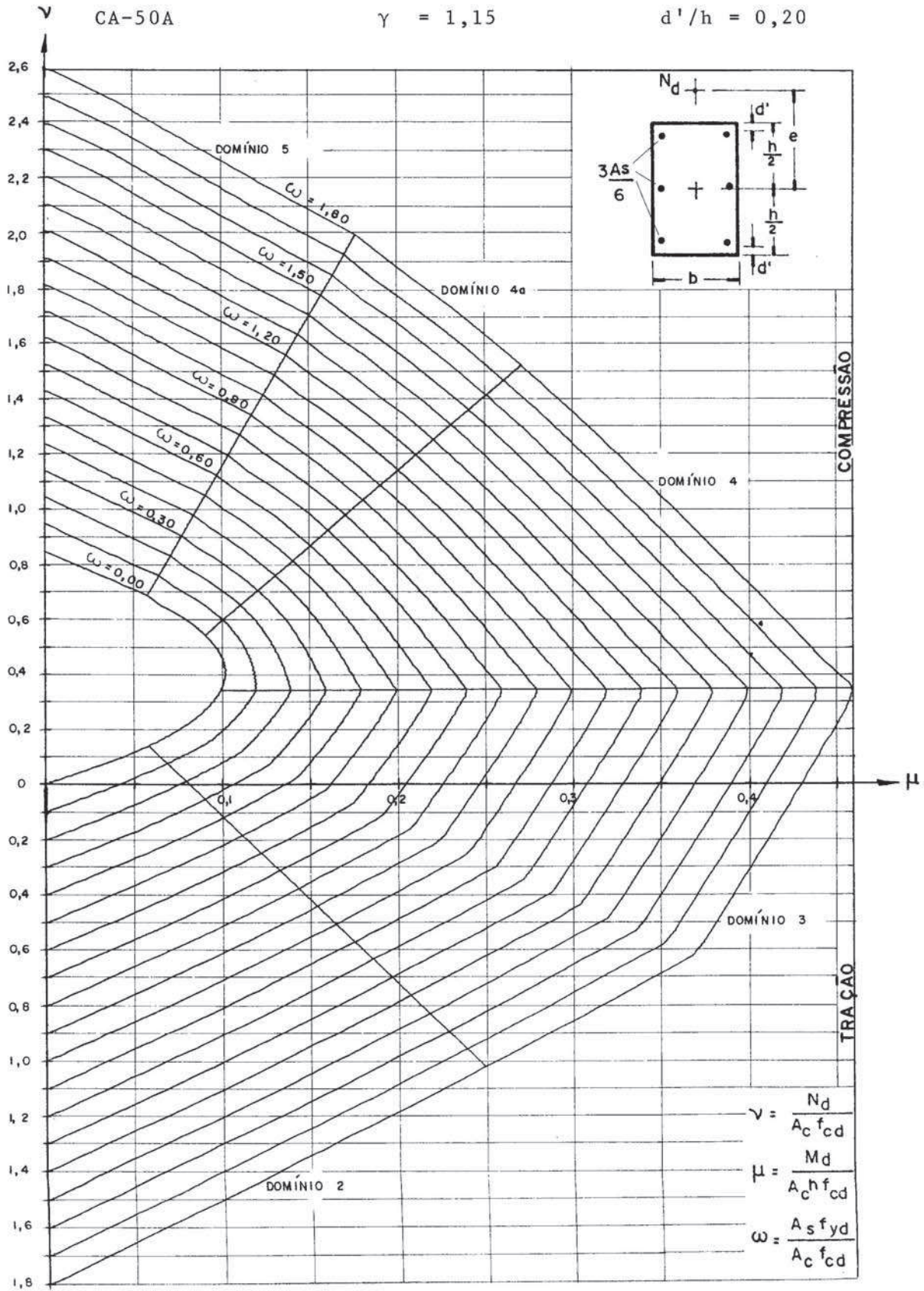
ÁBACO A-7



ÁBACO A-8



ÁBACO A-9

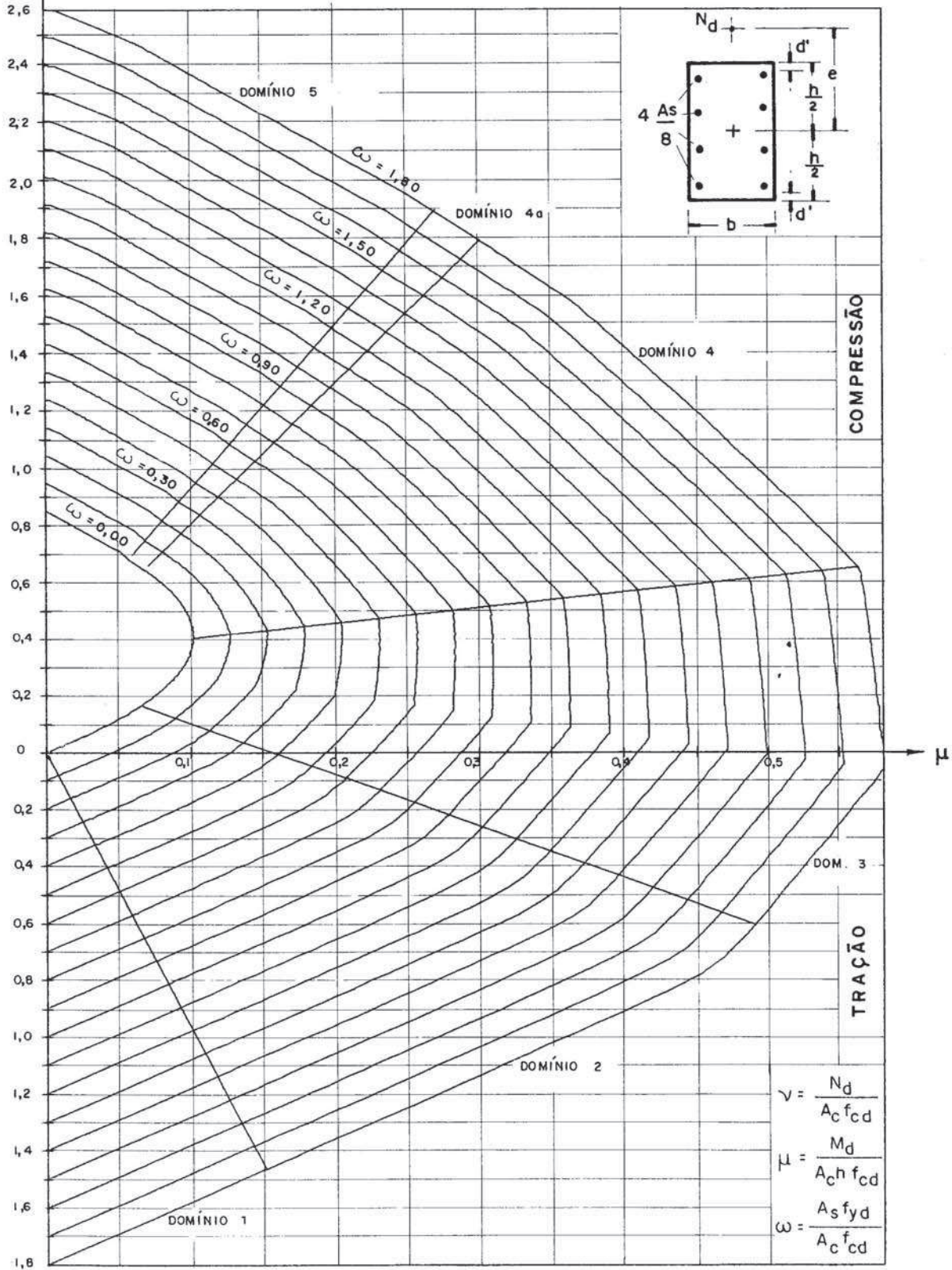


ÁBACO A-10

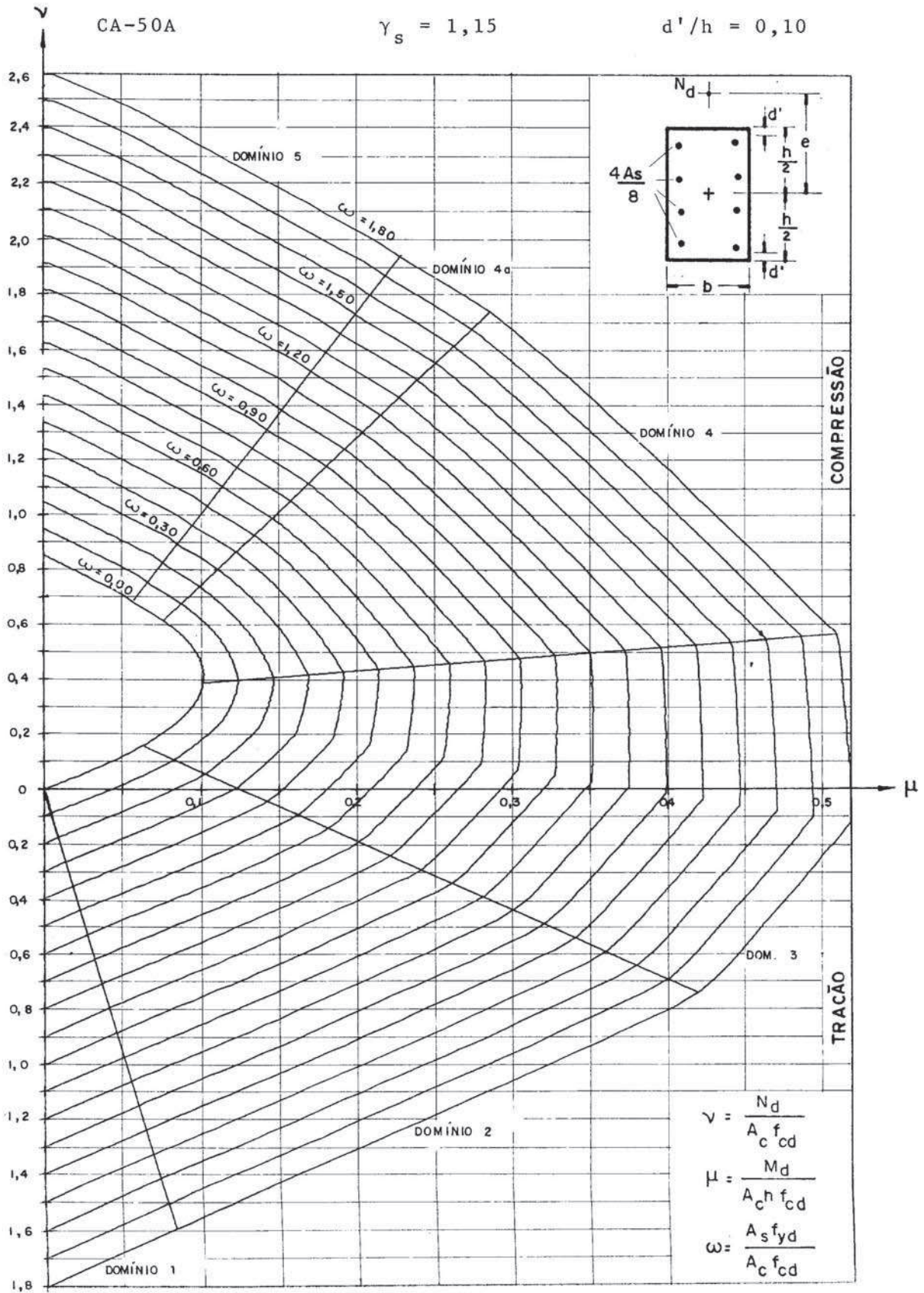
CA-50A

$\gamma_s = 1,15$

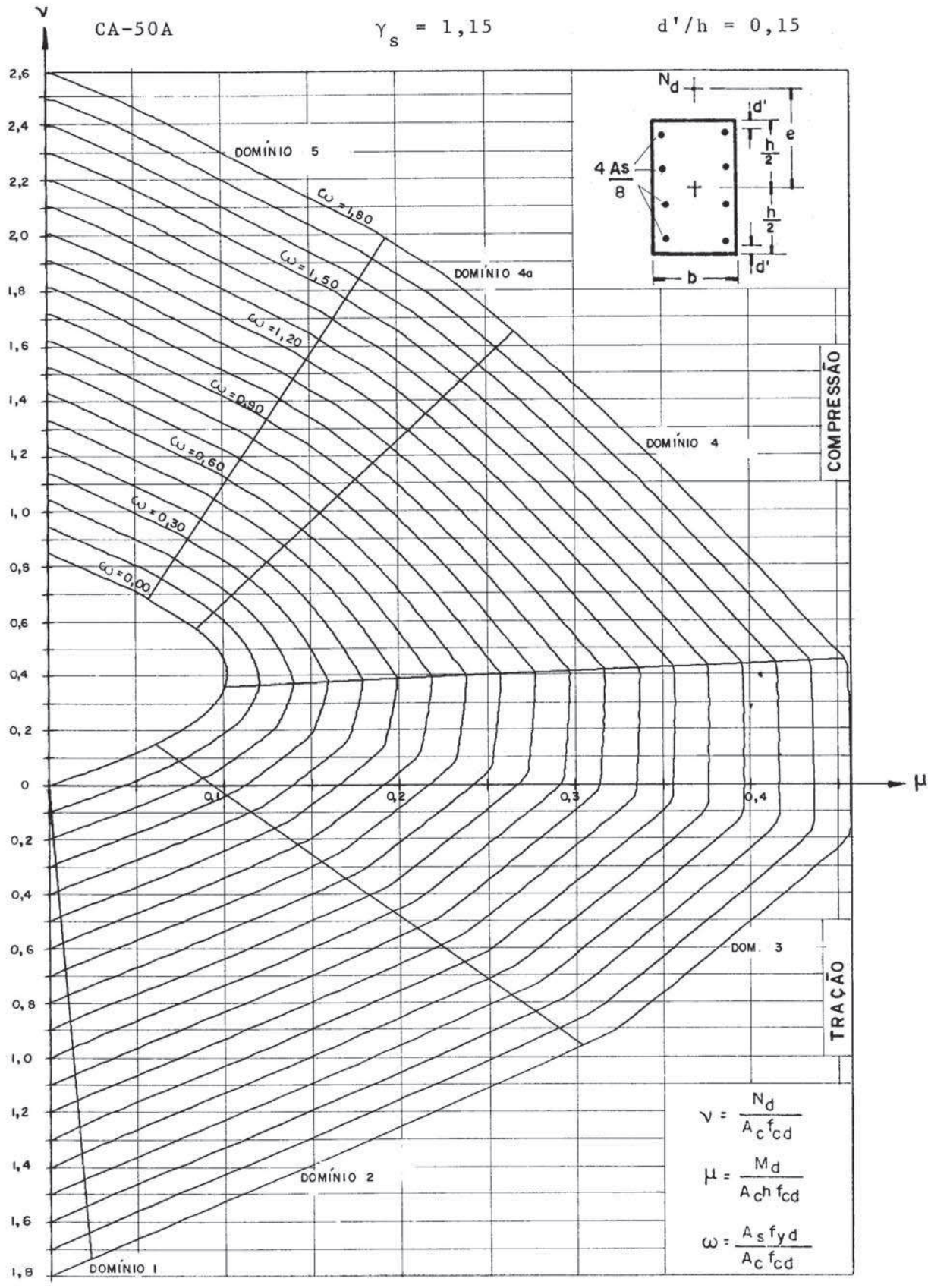
$d'/h = 0,05$



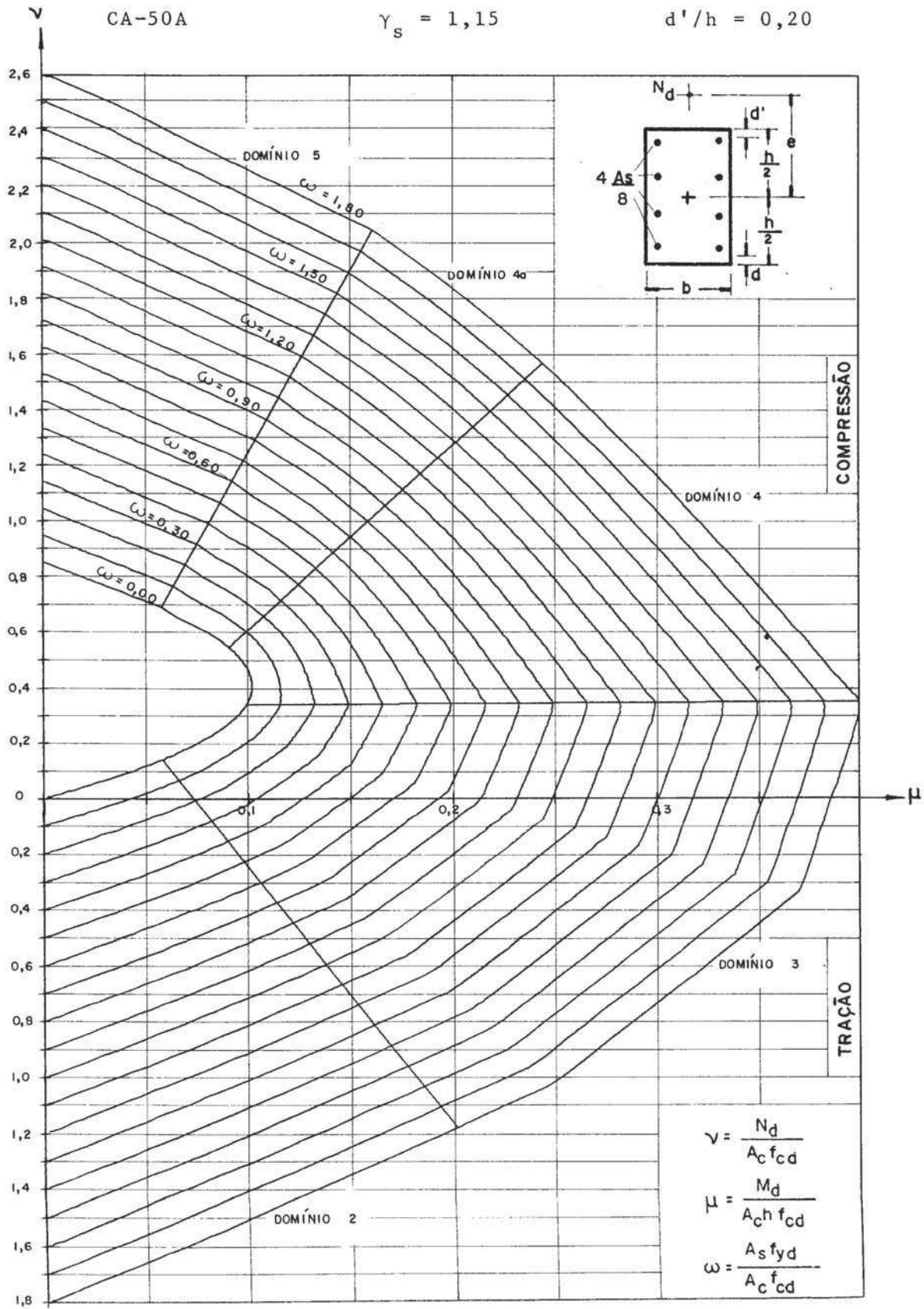
ÁBACO A-11



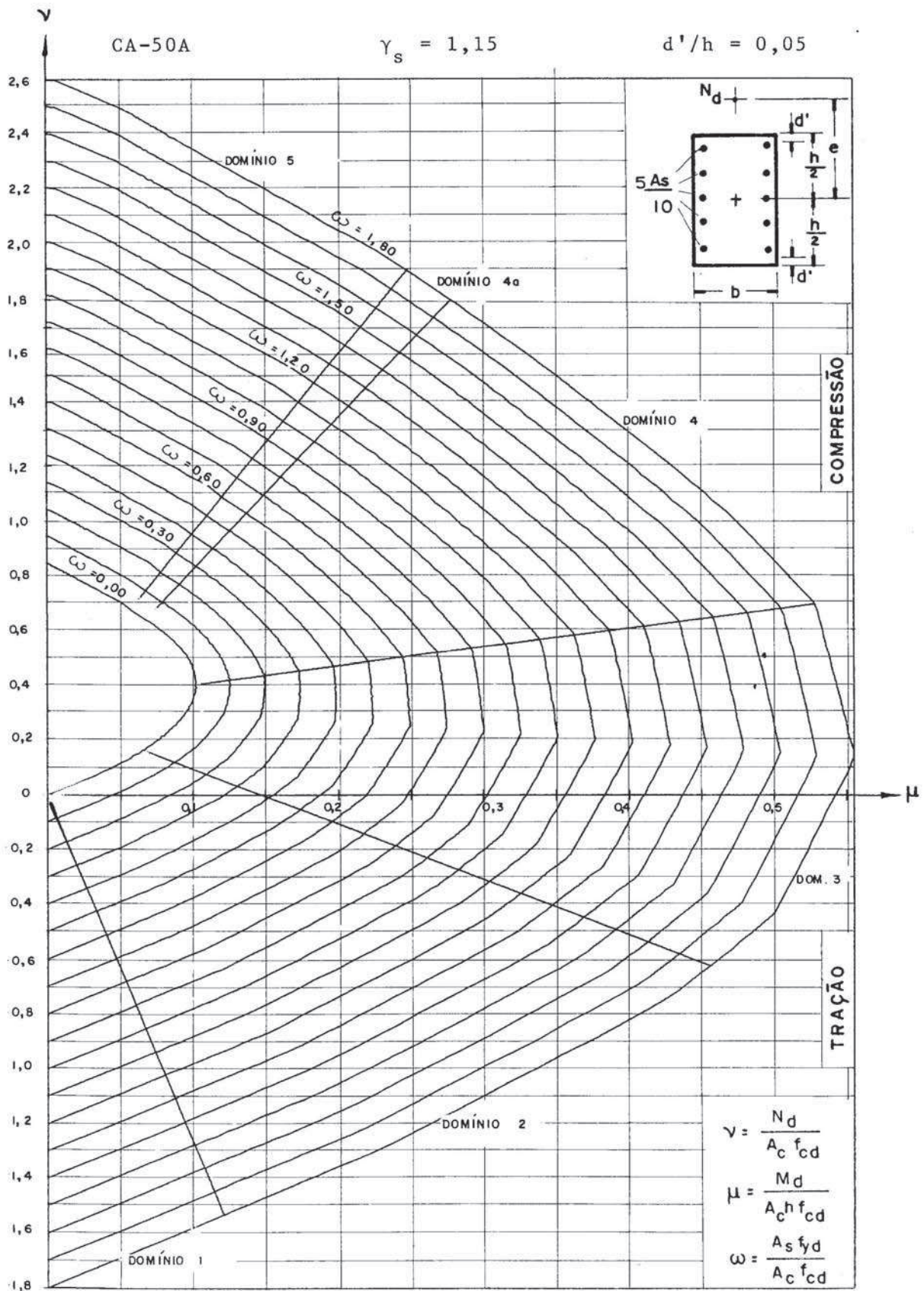
ÁBACO A-12



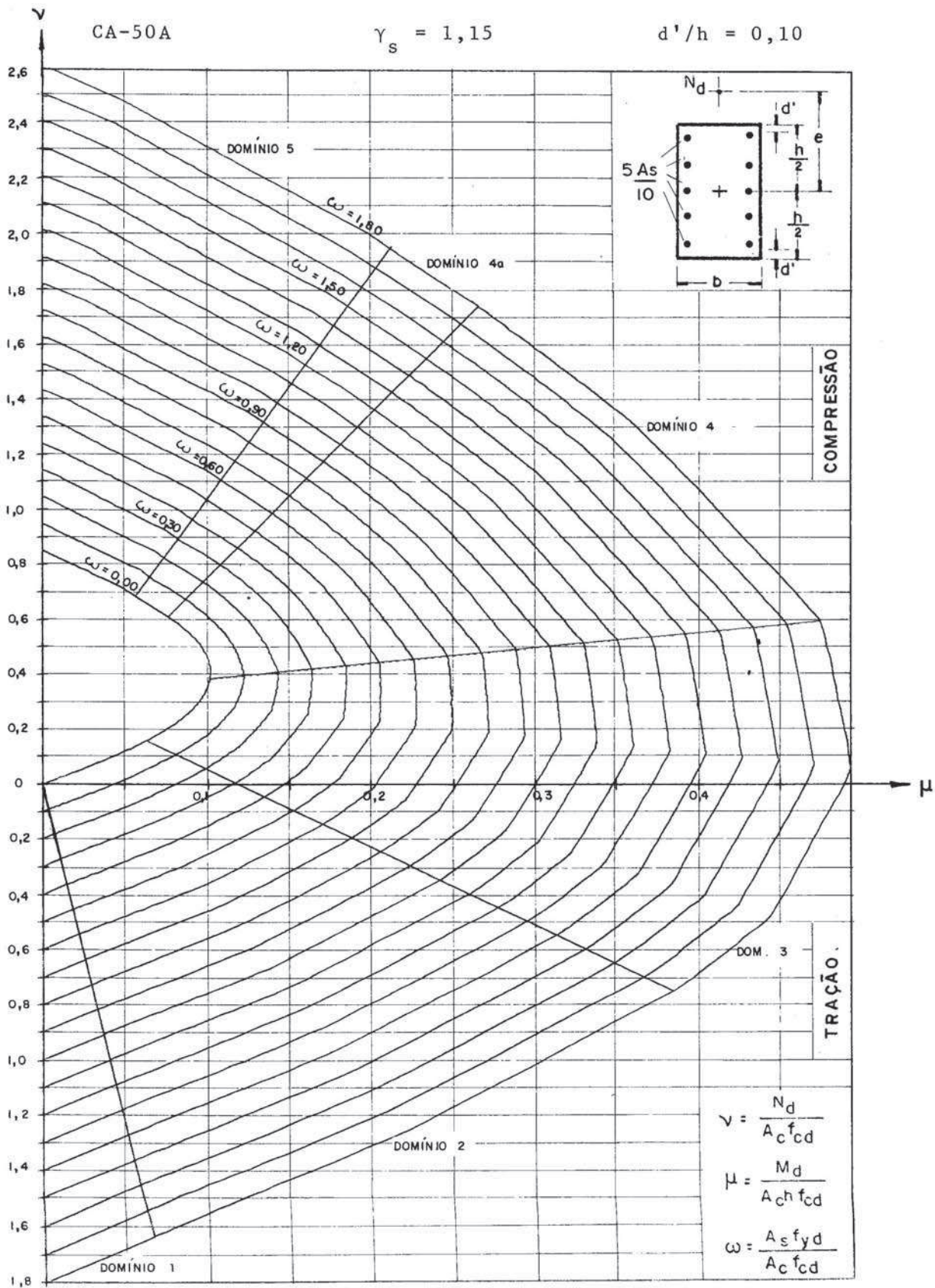
ÁBACO A-13



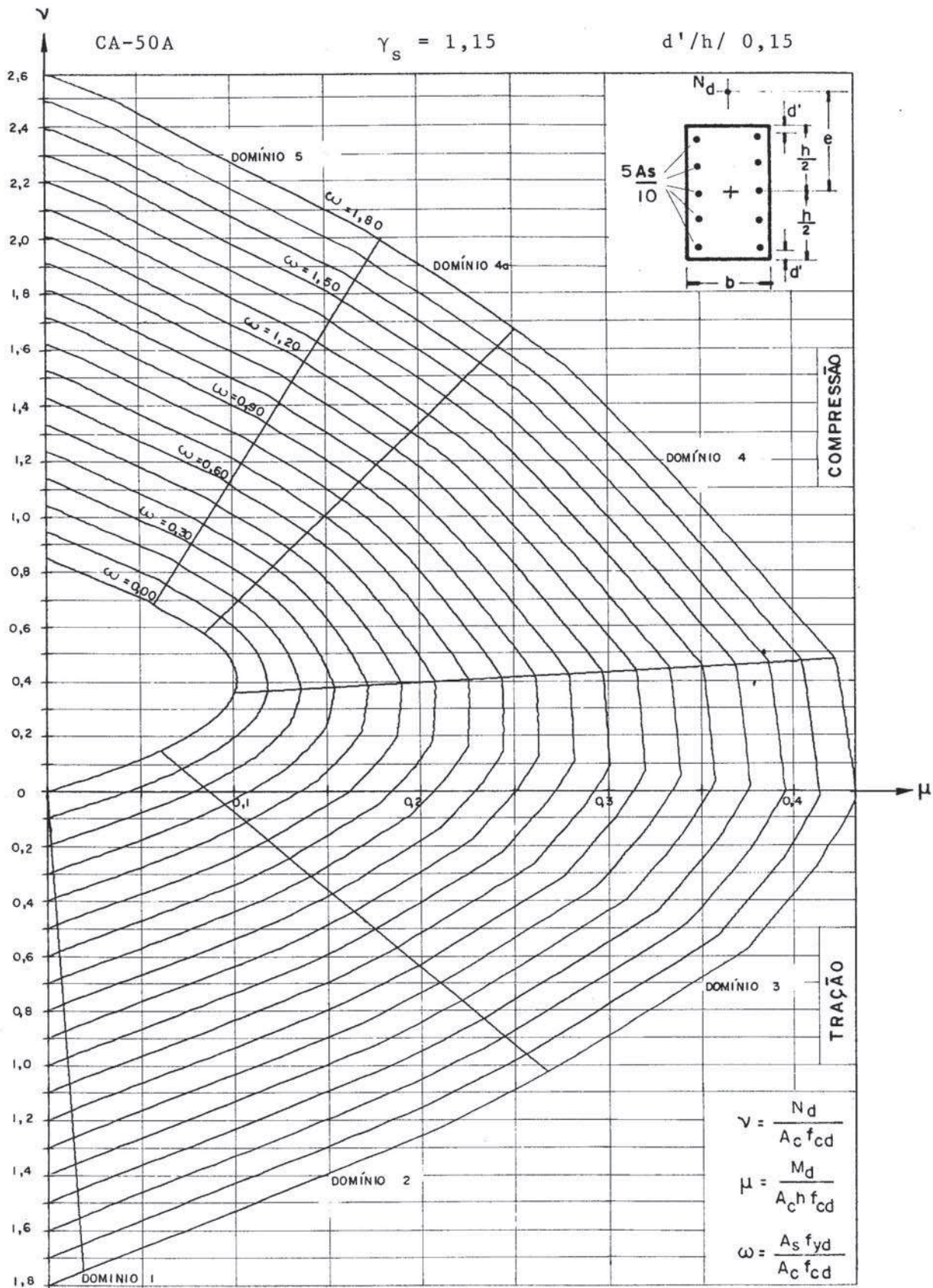
ÁBACO A-14



ÁBACO A-15



ÁBACO A-16

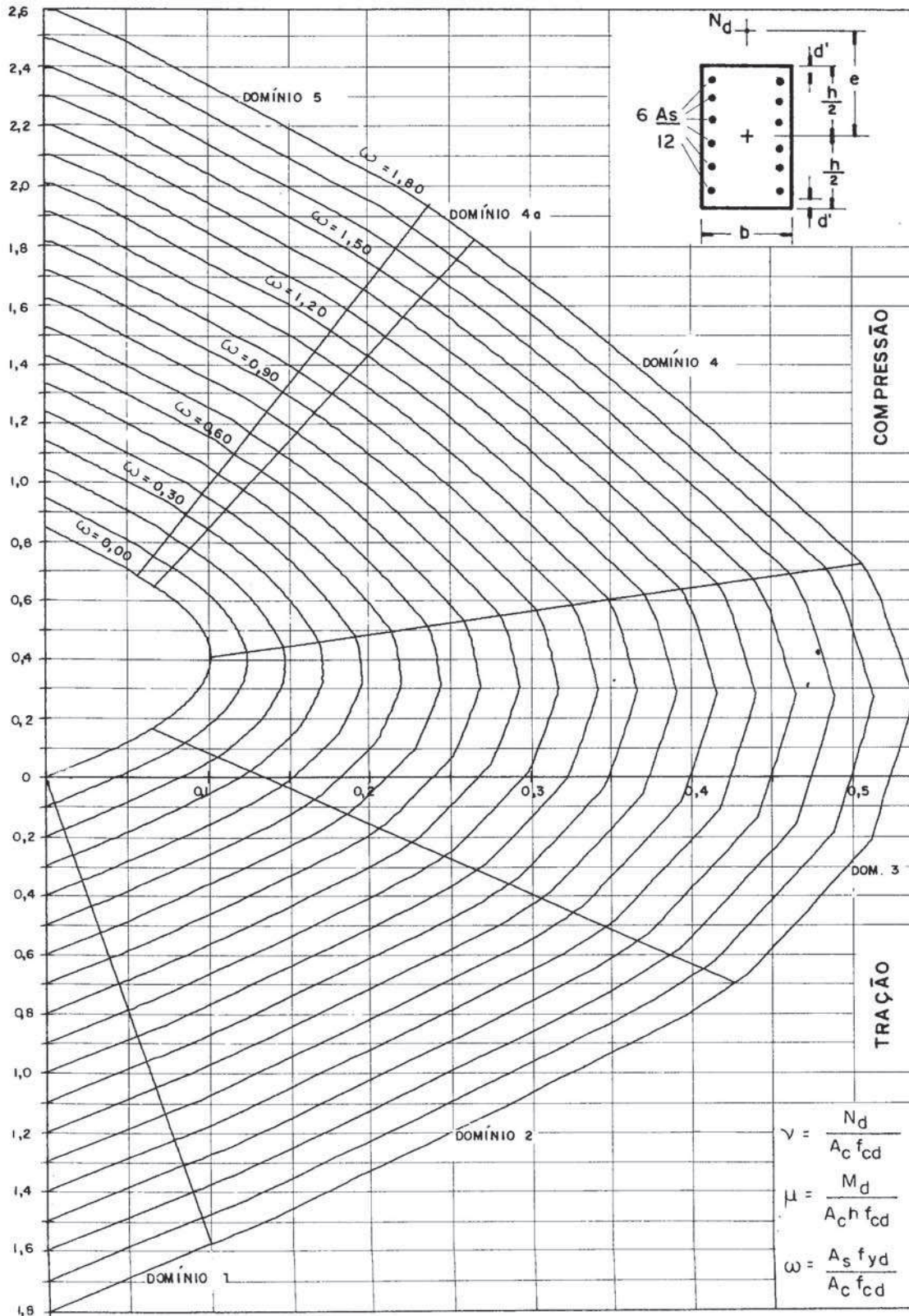


ÁBACO A-17

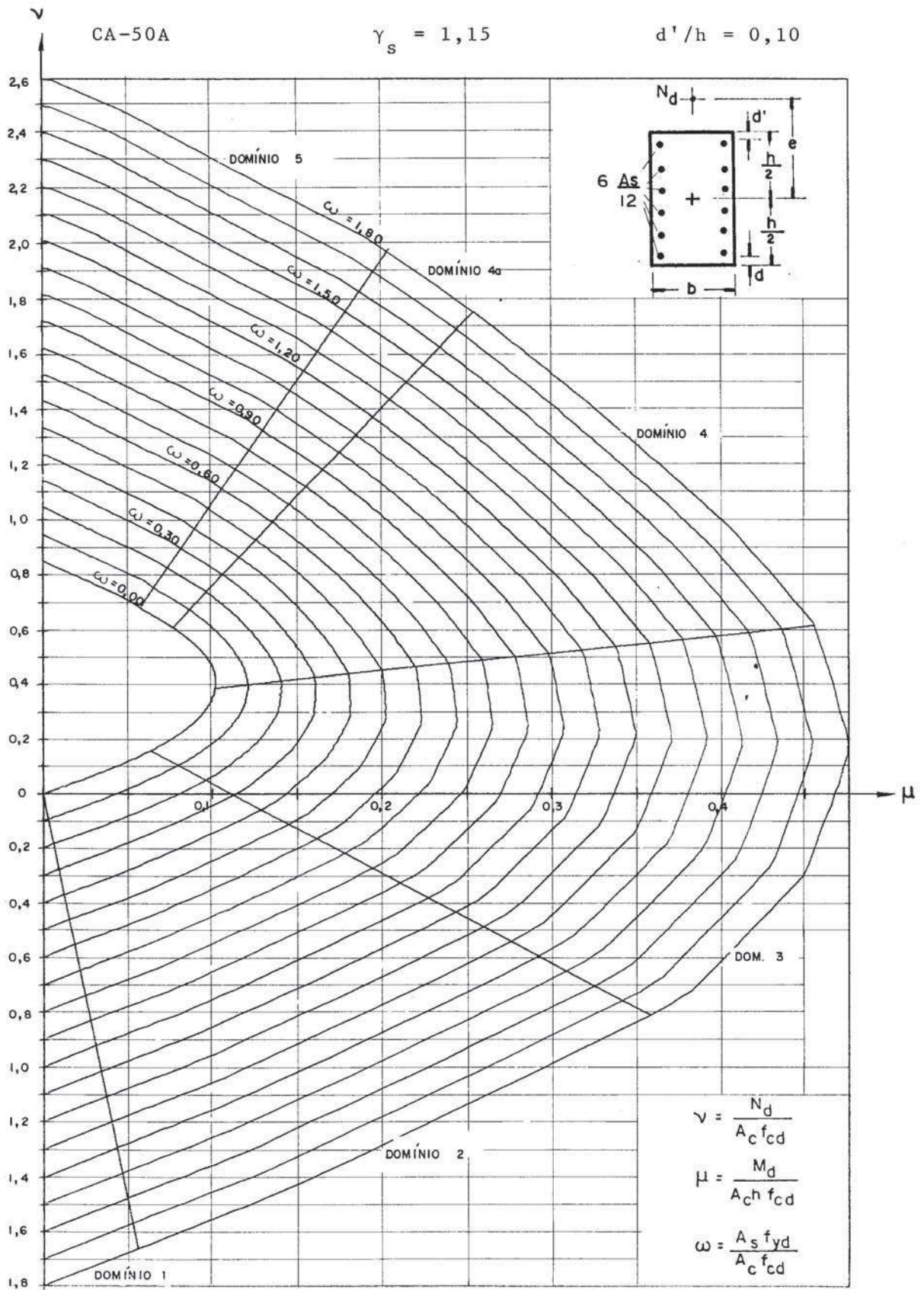
CA-50A

$\gamma_s = 1,15$

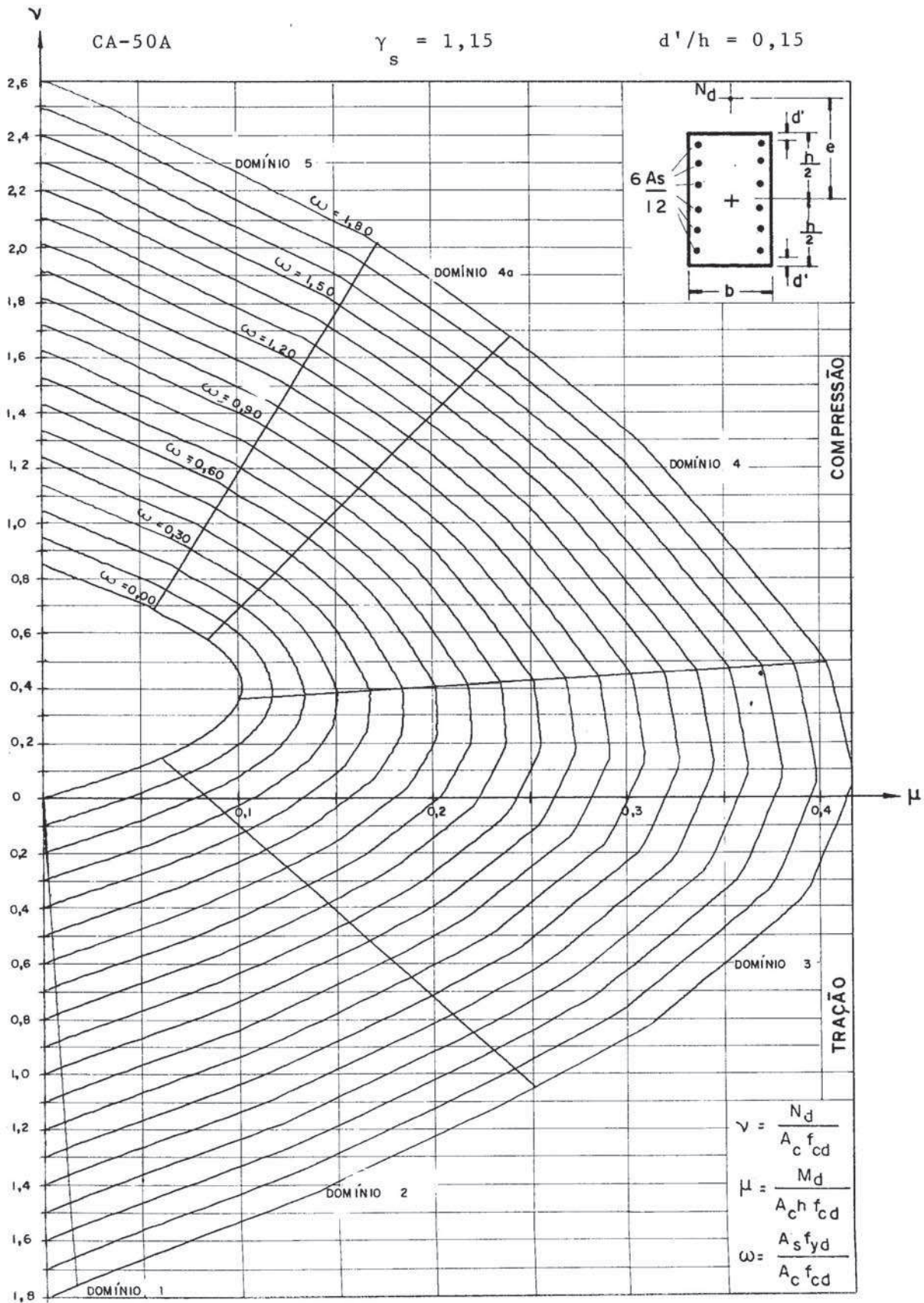
$d'/h = 0,05$



ÁBACO A-18



ÁBACO A-19

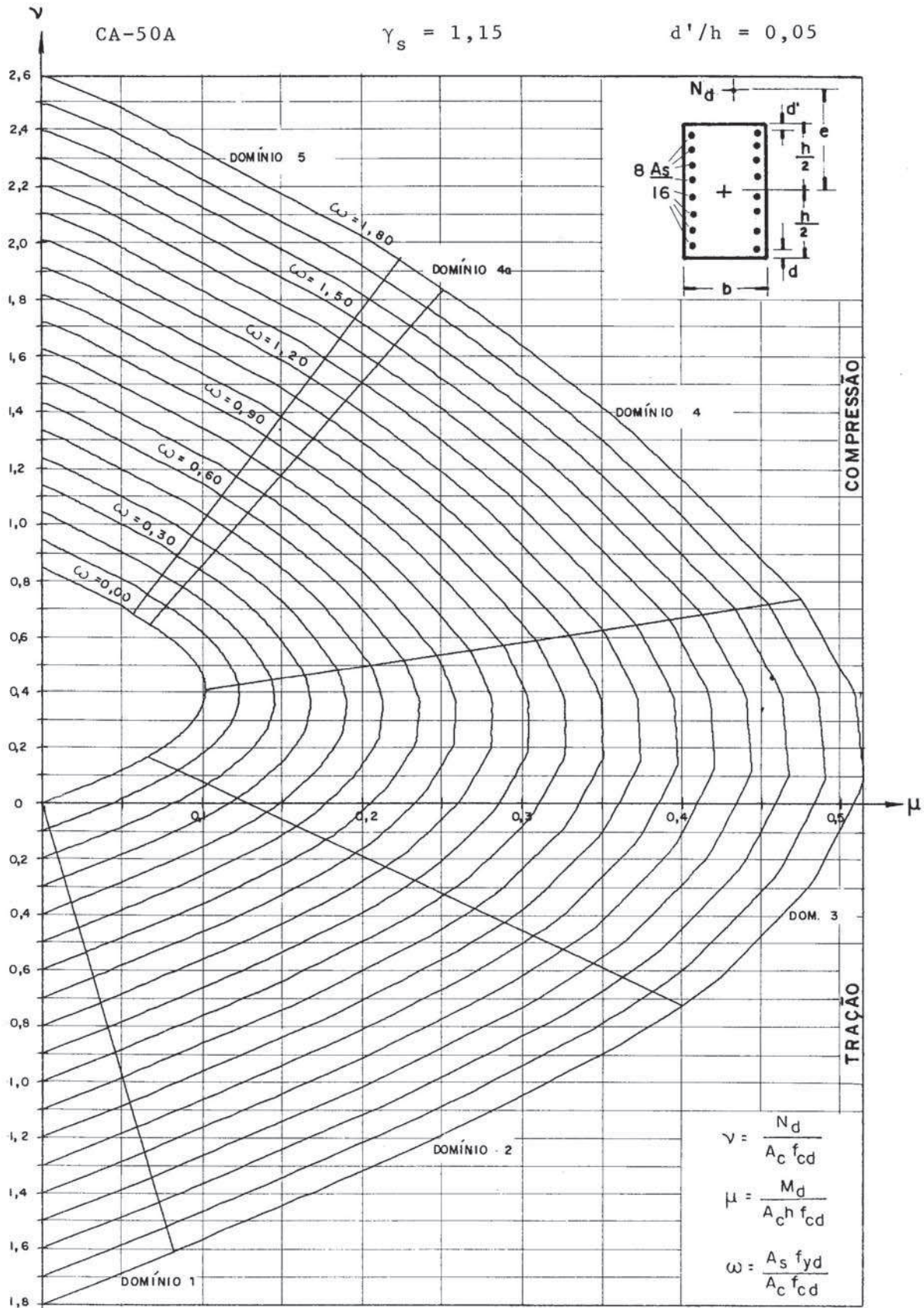


ÁBACO A-20

CA-50A

$\gamma_s = 1,15$

$d'/h = 0,05$

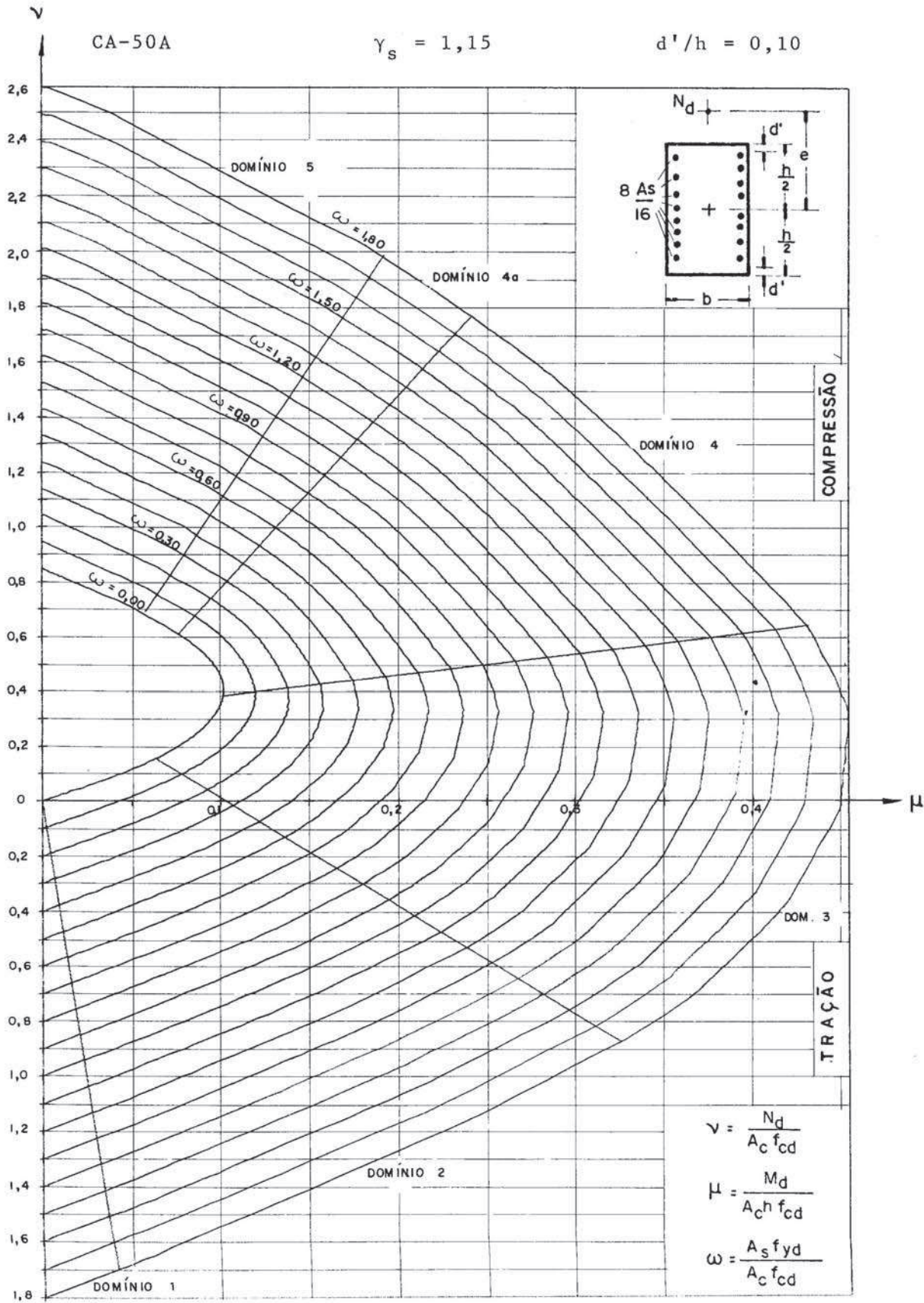


ÁBACO A-21

CA-50A

$\gamma_s = 1,15$

$d'/h = 0,10$

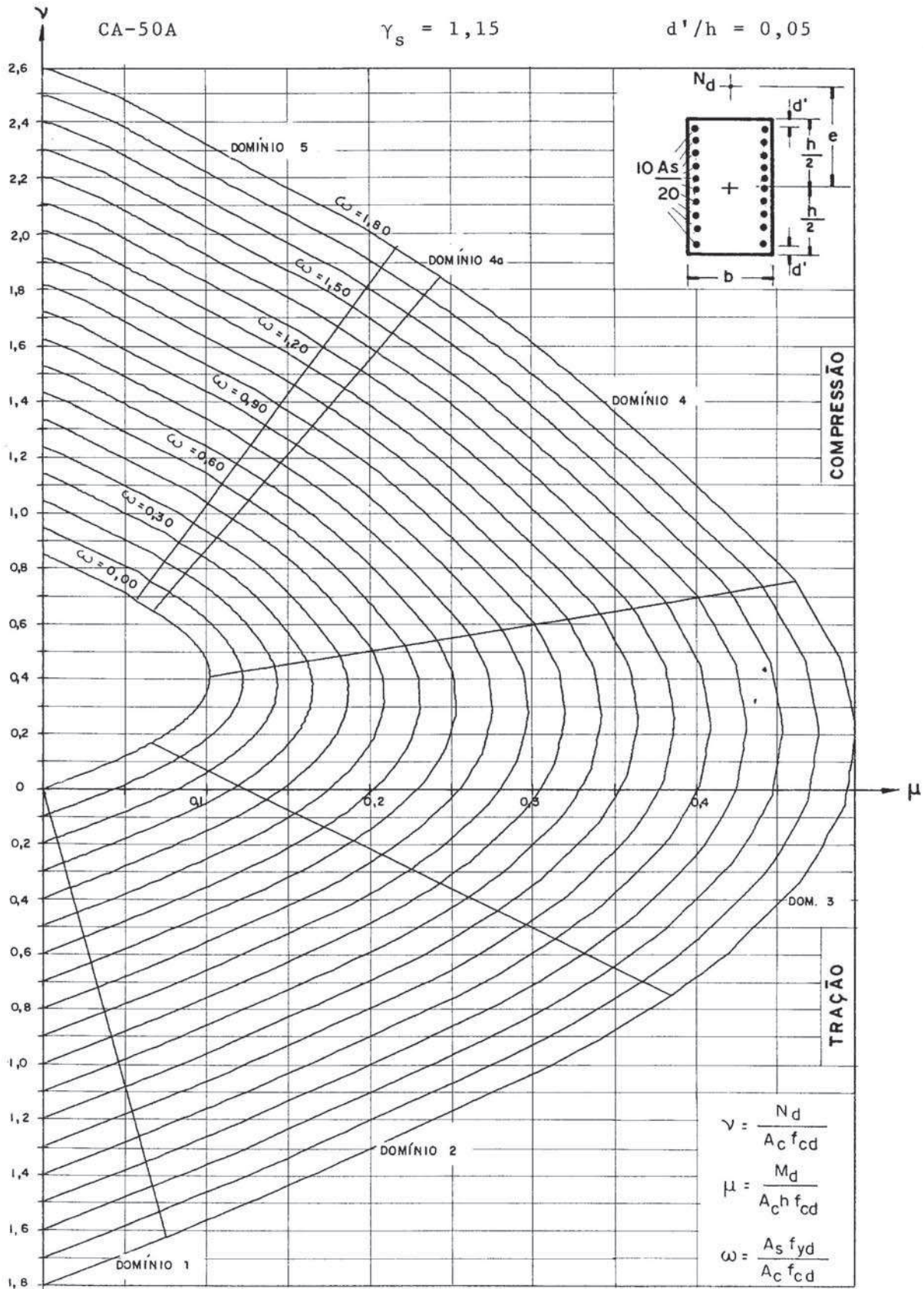


ÁBACO A-22

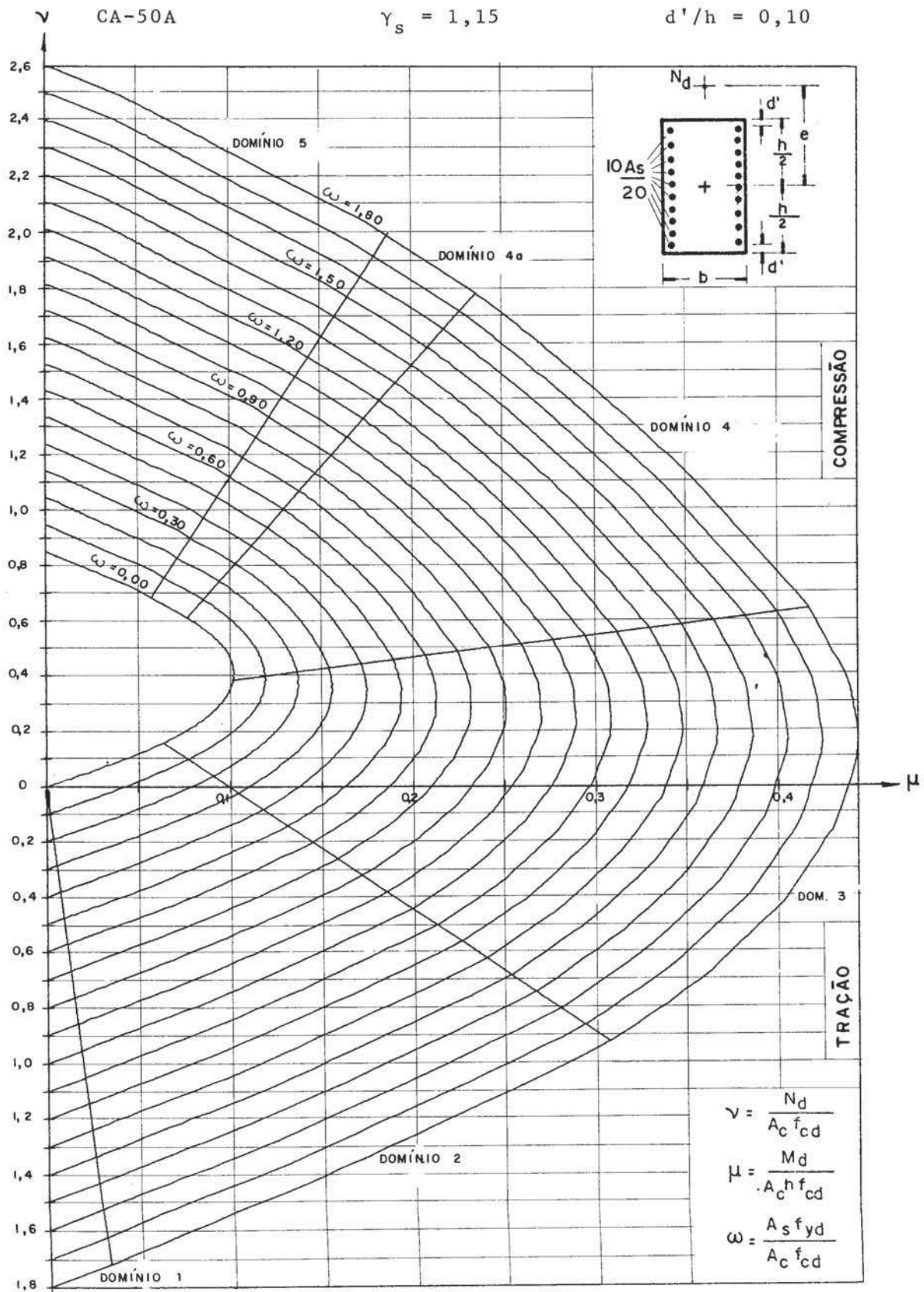
CA-50A

$\gamma_s = 1,15$

$d'/h = 0,05$



ÁBACO A-23

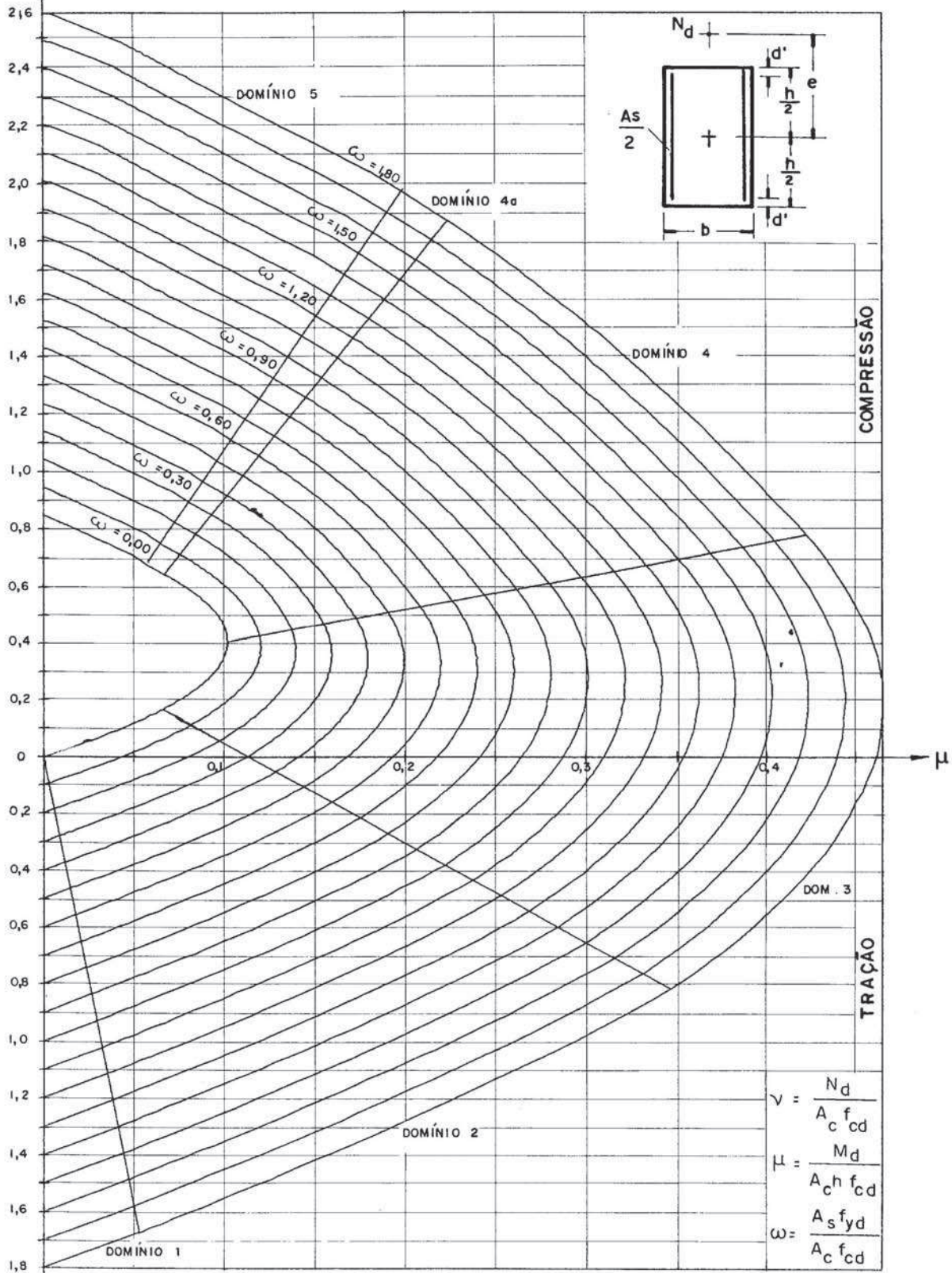


ÁBACO A-24

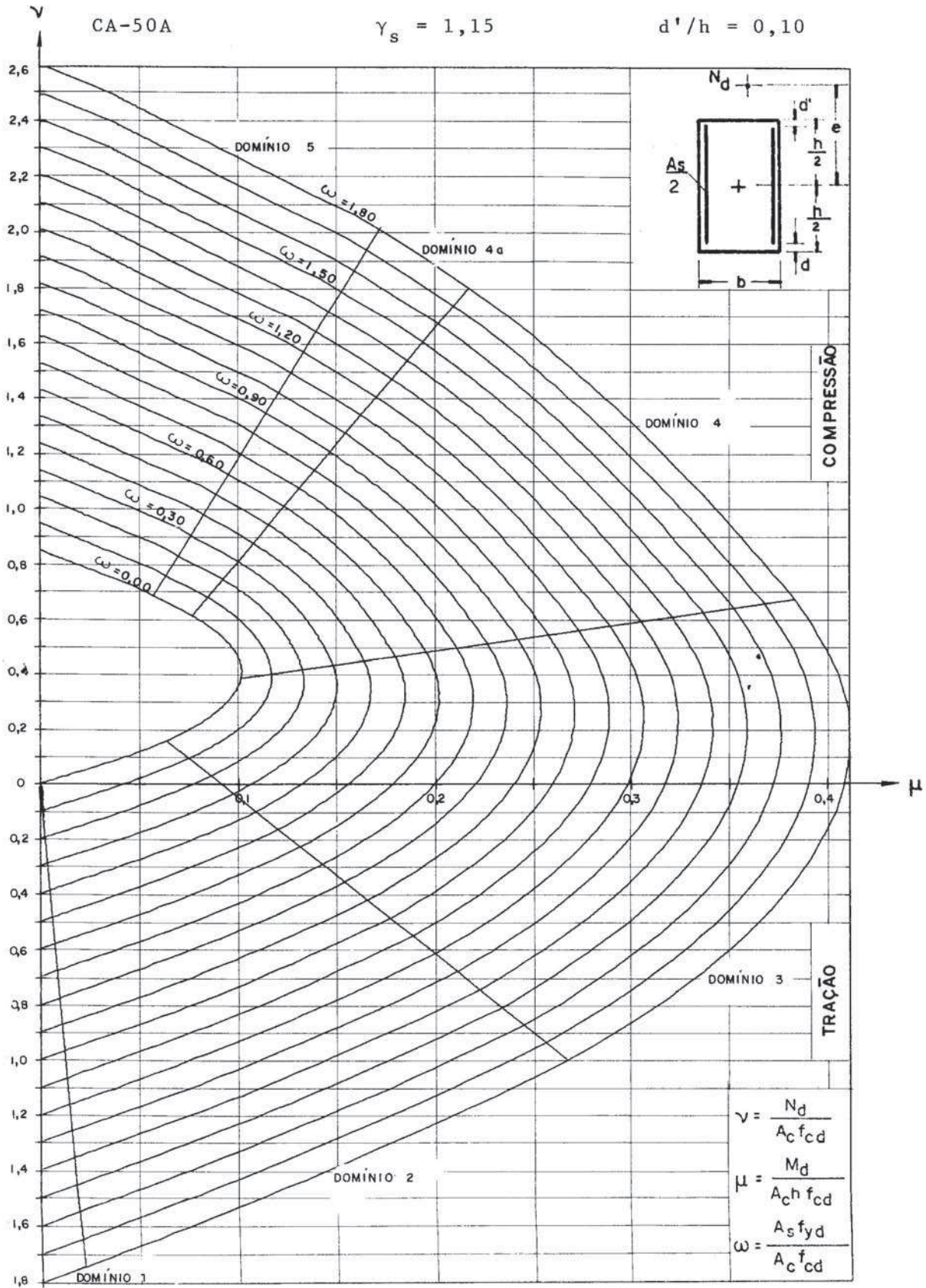
CA-50A

$\gamma_s = 1,15$

$d'/h = 0,05$



ÁBACO A-25

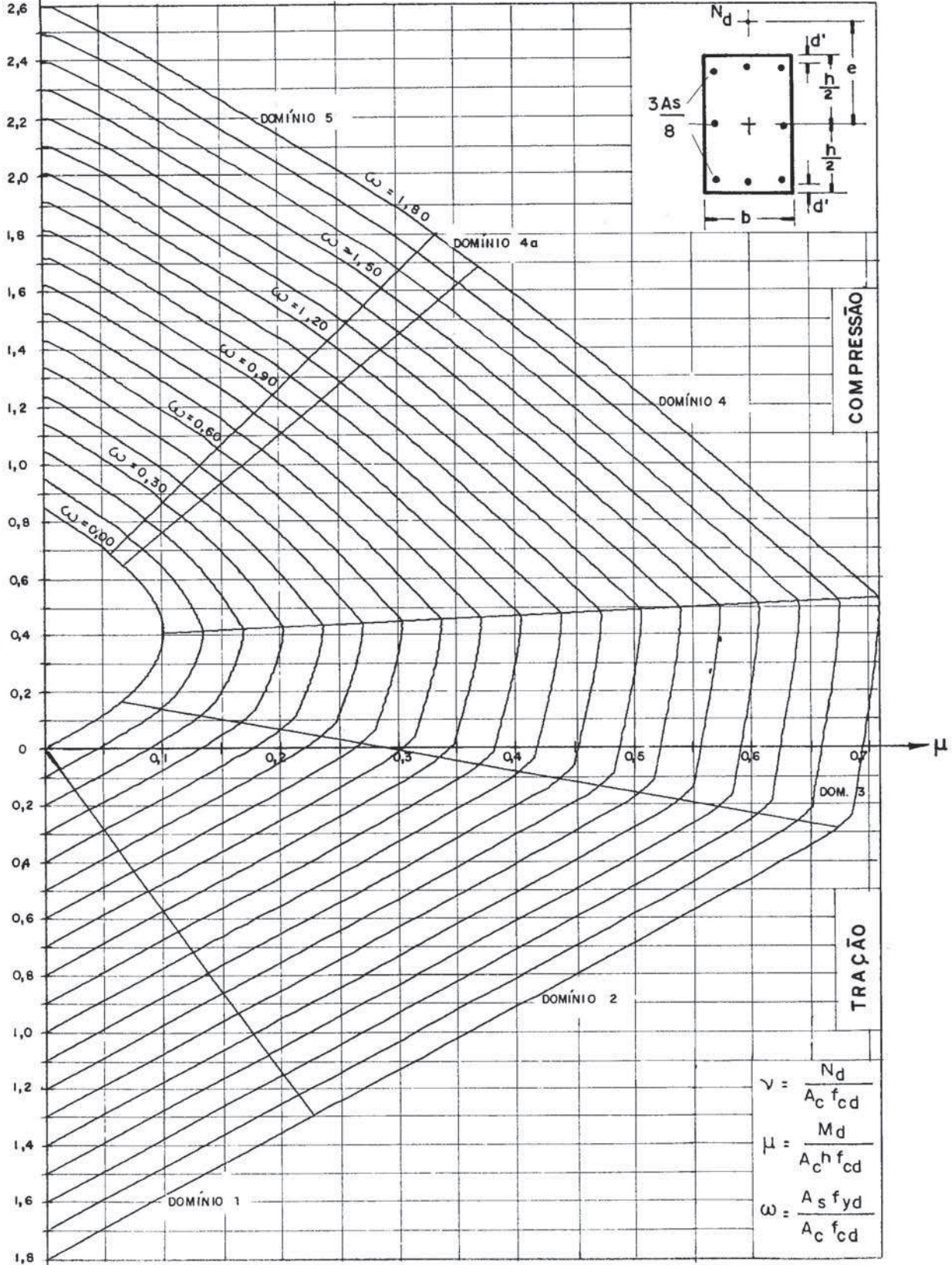


ÁBACO A-26

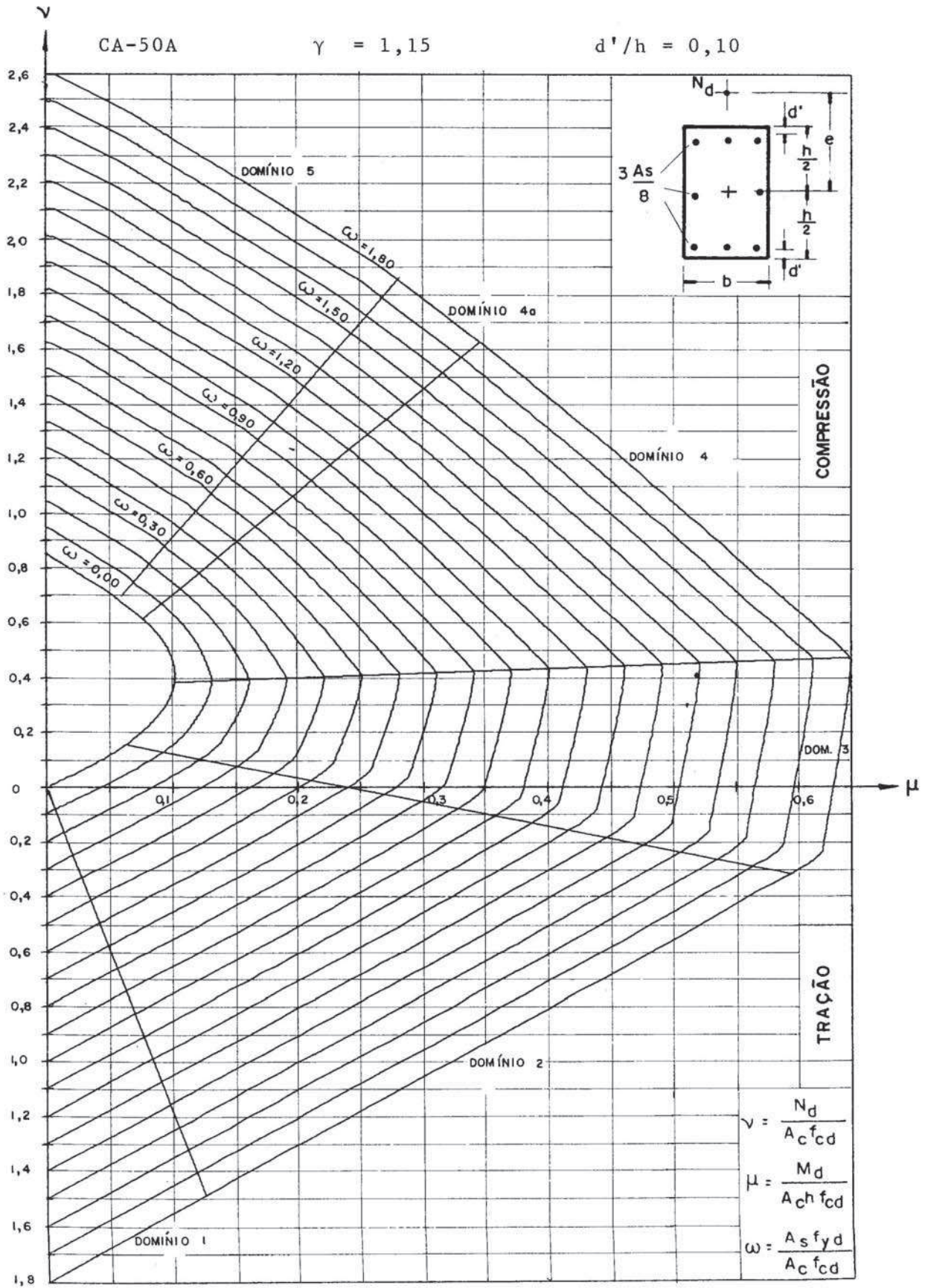
CA-50A

$\gamma_s = 1,15$

$d'/h = 0,05$



ÁBACO A-27

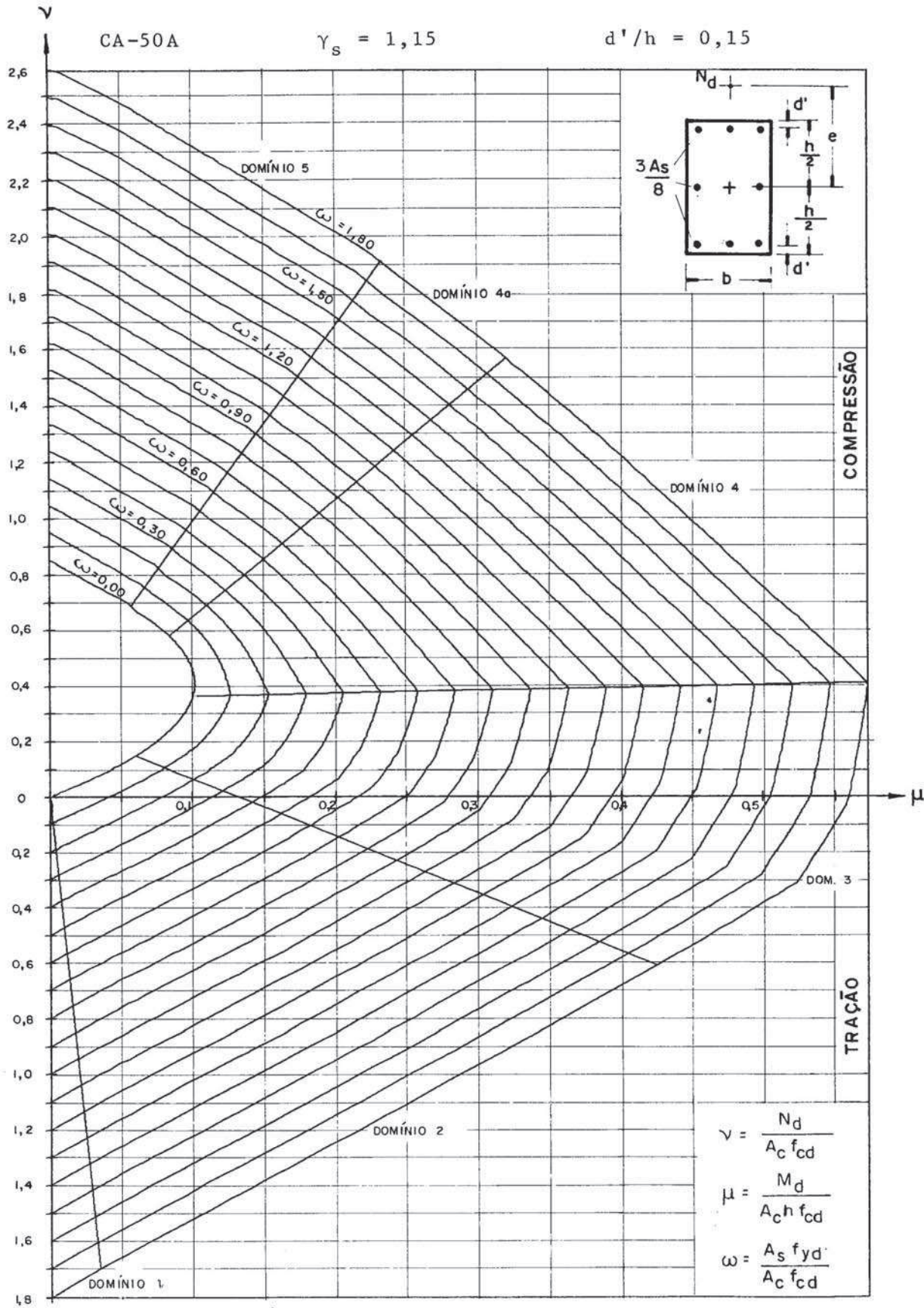


ÁBACO A-28

CA-50A

$\gamma_s = 1,15$

$d'/h = 0,15$

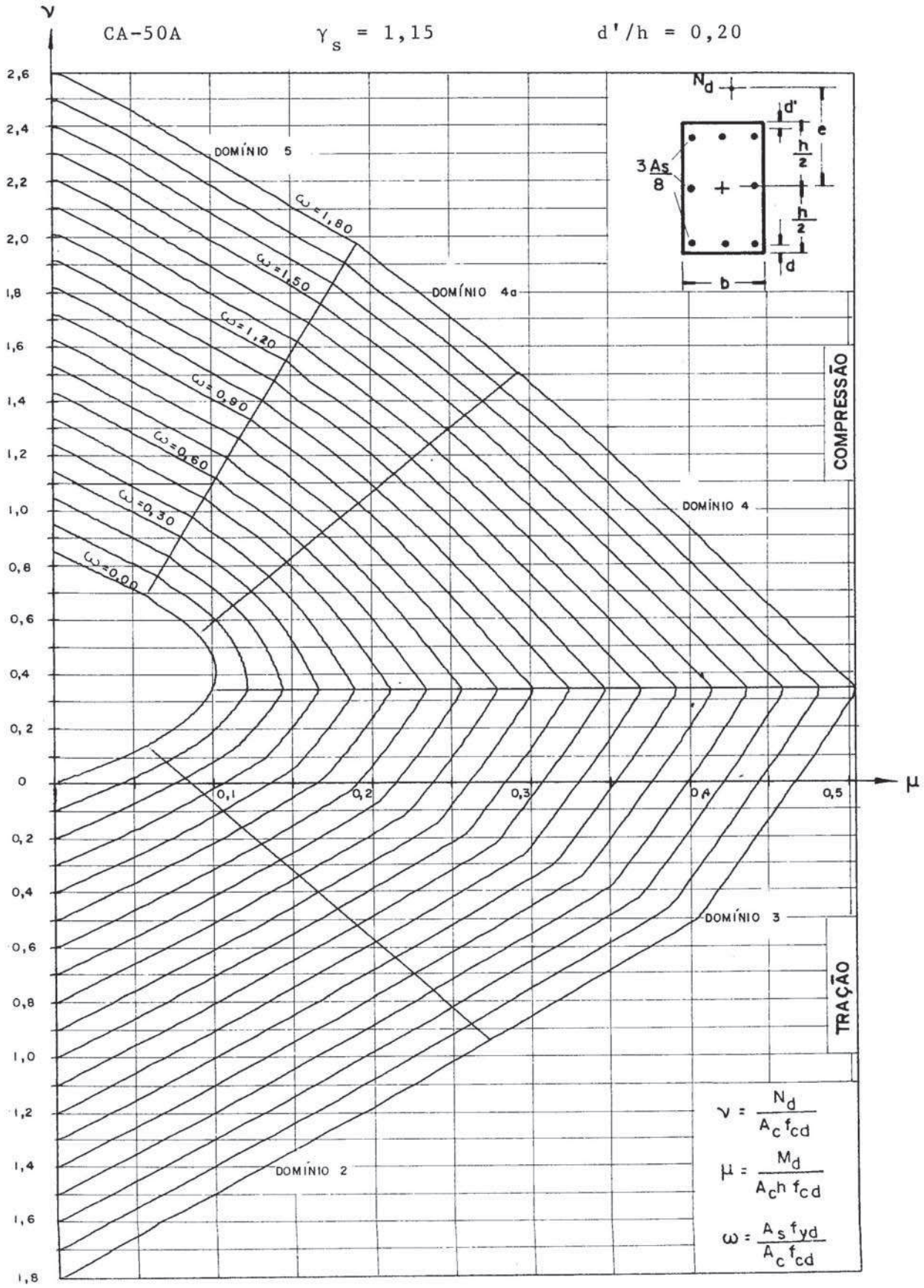


ÁBACO A-29

CA-50A

$\gamma_s = 1,15$

$d'/h = 0,20$

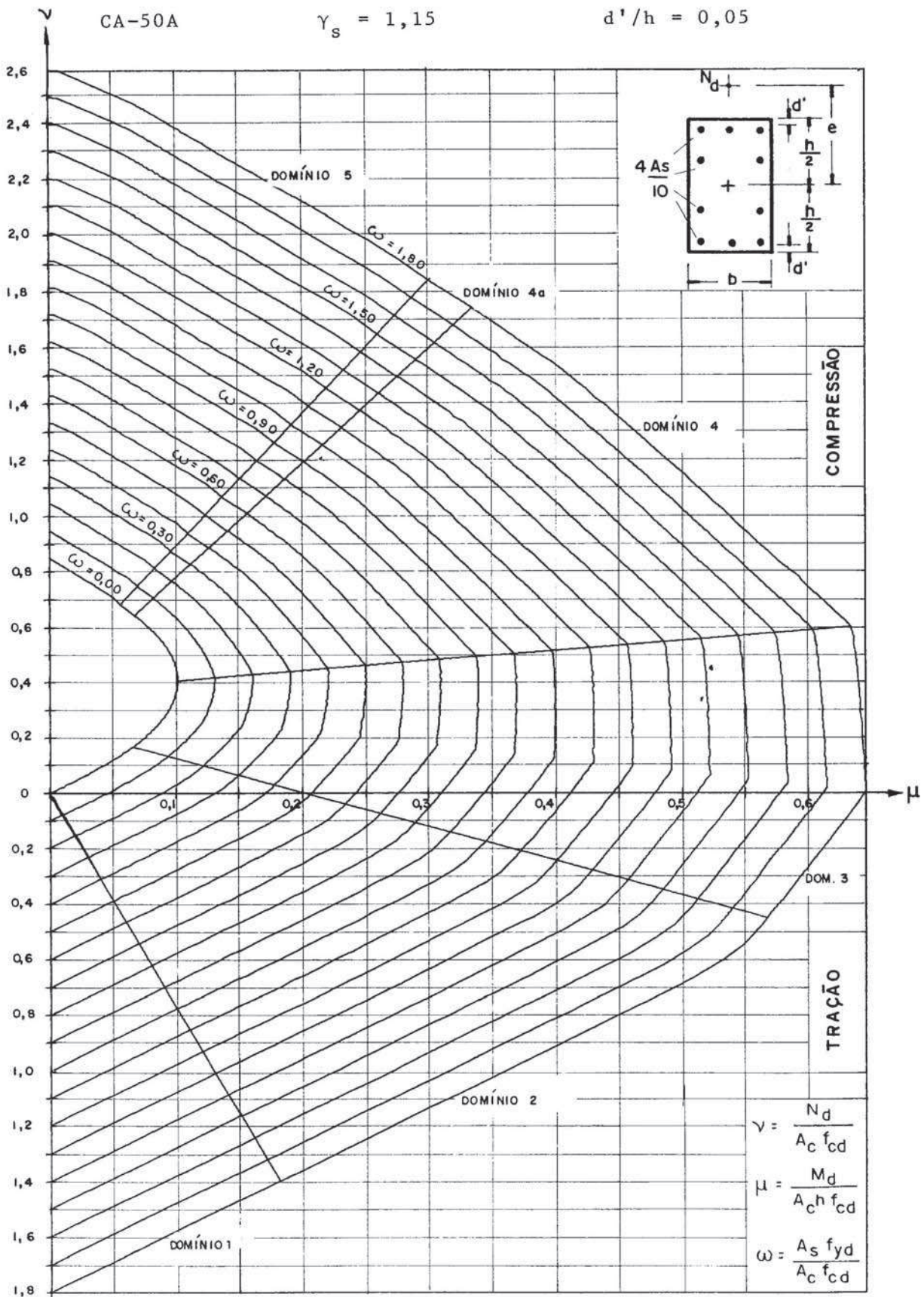


ÁBACO A-30

CA-50A

$\gamma_s = 1,15$

$d'/h = 0,05$

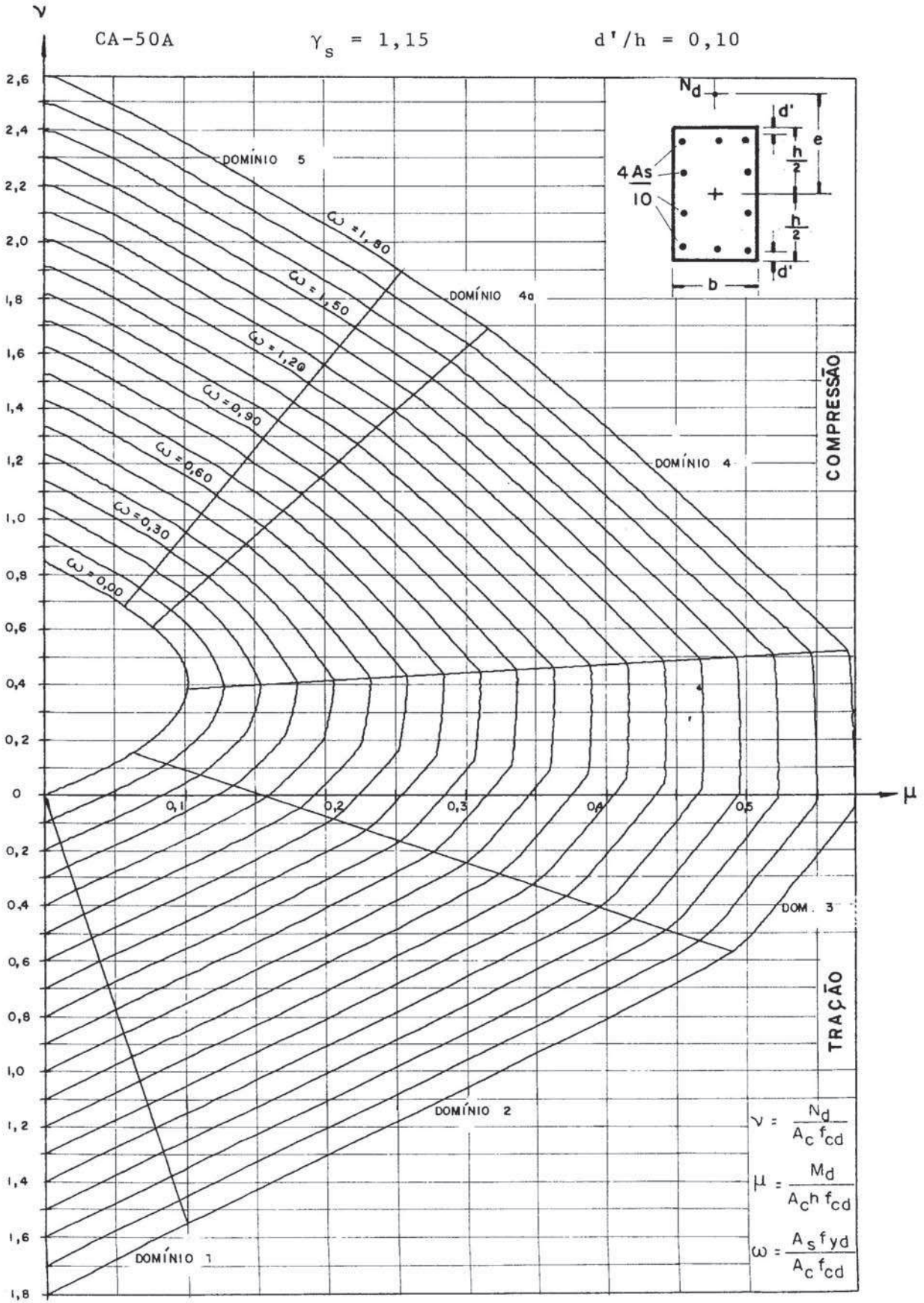


ÁBACO A-31

CA-50A

$\gamma_s = 1,15$

$d'/h = 0,10$

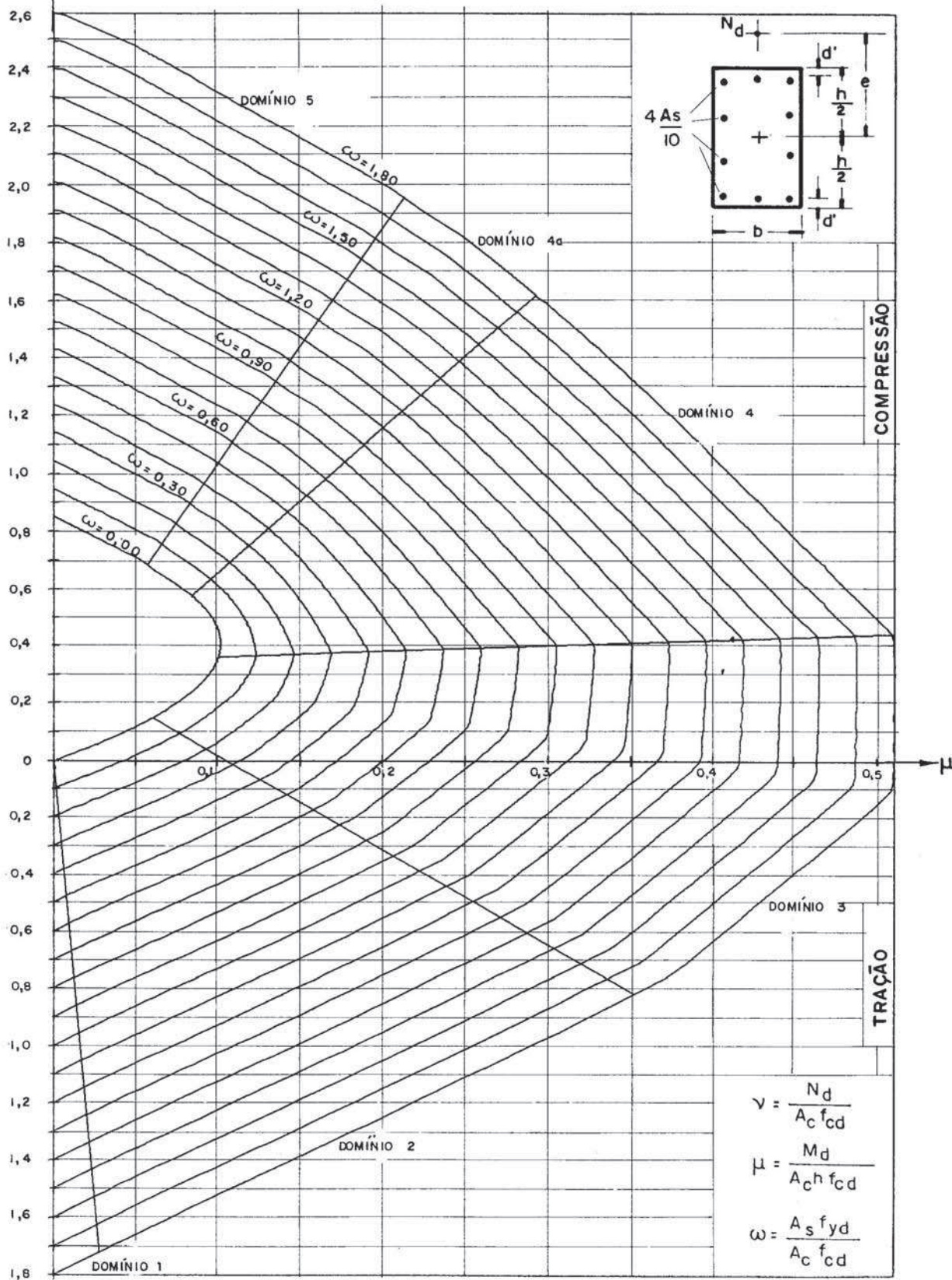


ÁBACO A-32

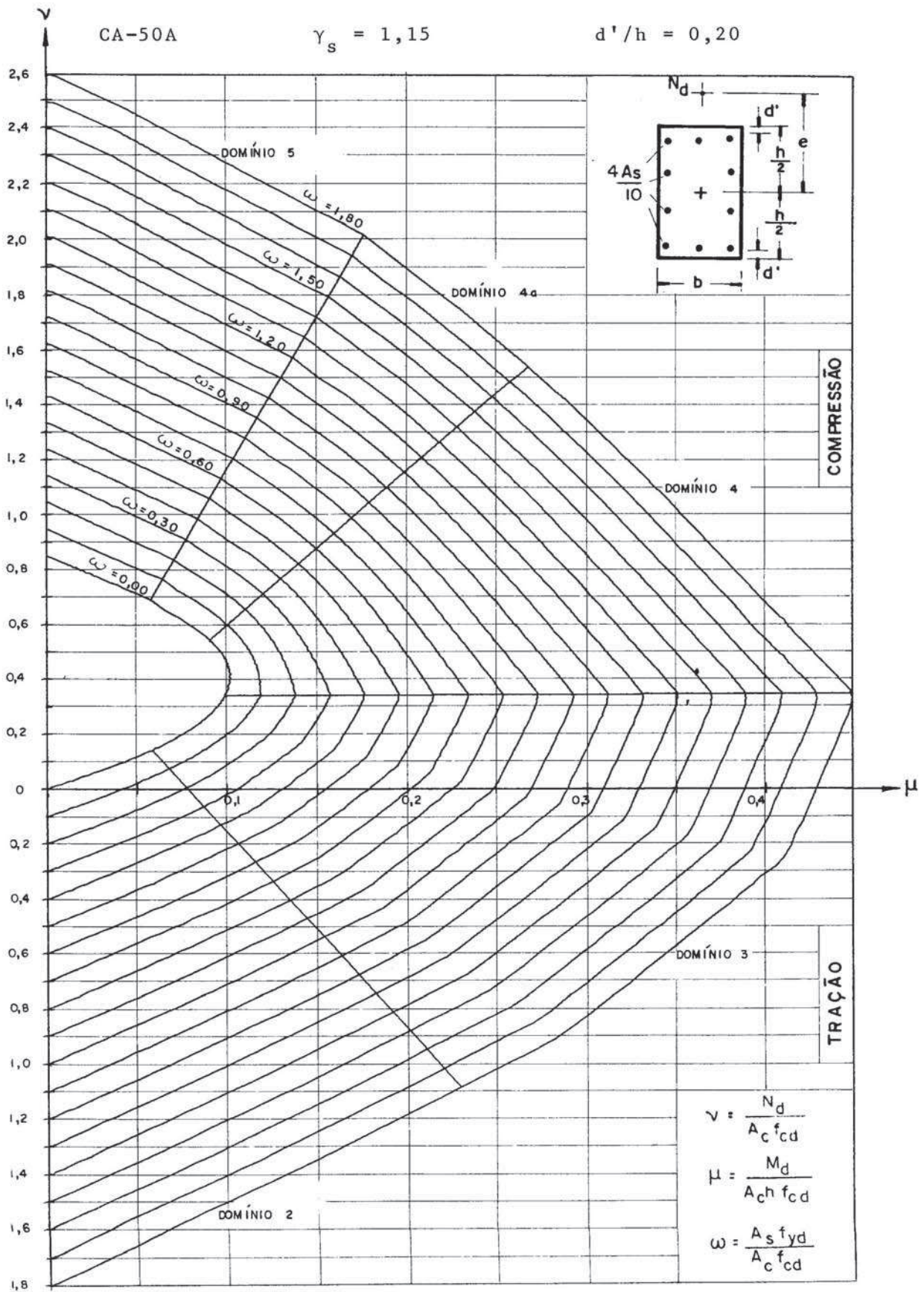
CA-50A

$\gamma_s = 1,15$

$d'/h = 0,15$



ÁBACO A-33

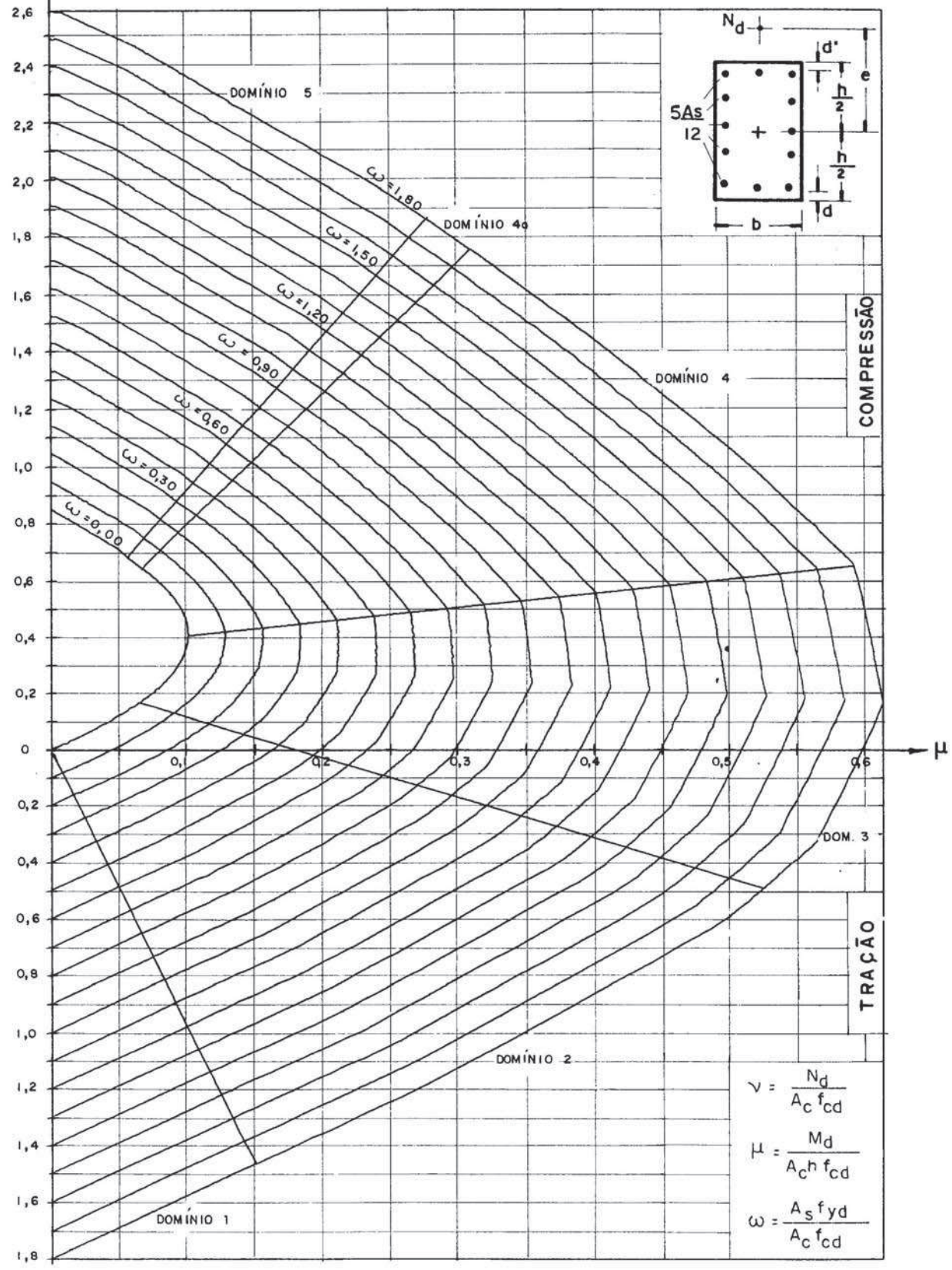


ÁBACO A-34

CA-50A

$\gamma_s = 1,15$

$d'/h = 0,05$



$$\gamma = \frac{N_d}{A_c f_{cd}}$$

$$\mu = \frac{M_d}{A_c h f_{cd}}$$

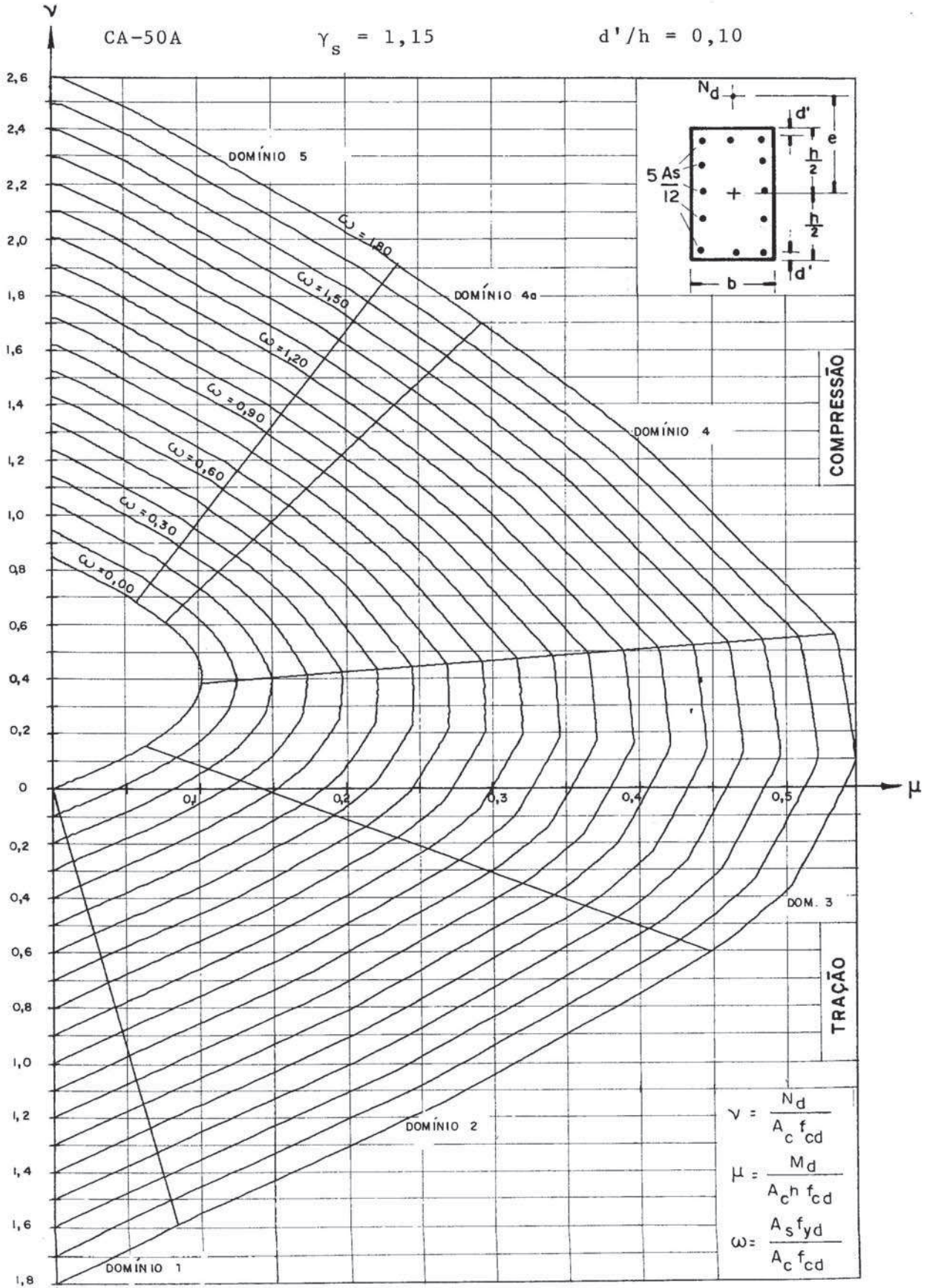
$$\omega = \frac{A_s f_{yd}}{A_c f_{cd}}$$

ÁBACO A-35

CA-50A

$\gamma_s = 1,15$

$d'/h = 0,10$

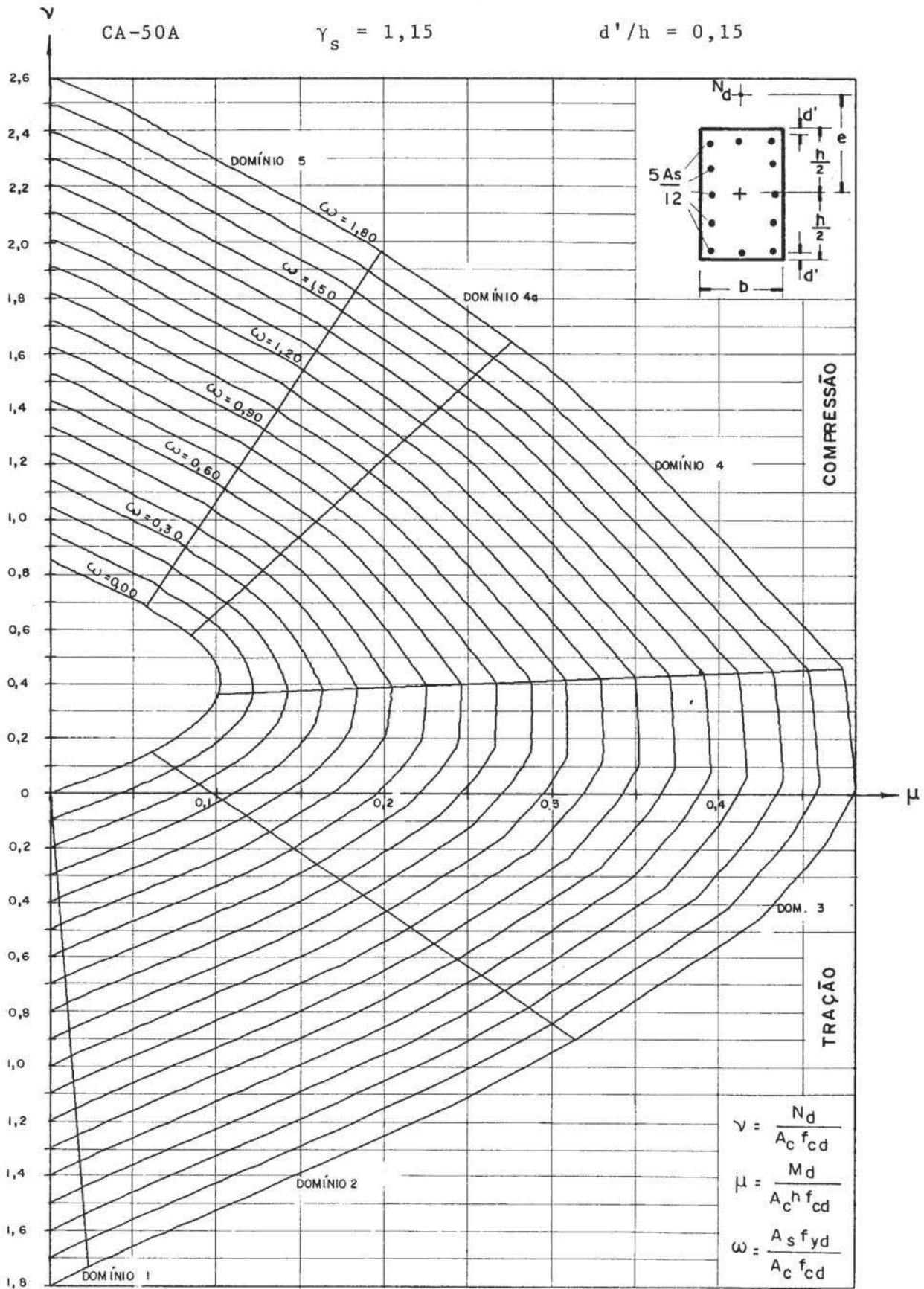


ÁBACO A-36

CA-50A

$\gamma_s = 1,15$

$d'/h = 0,15$

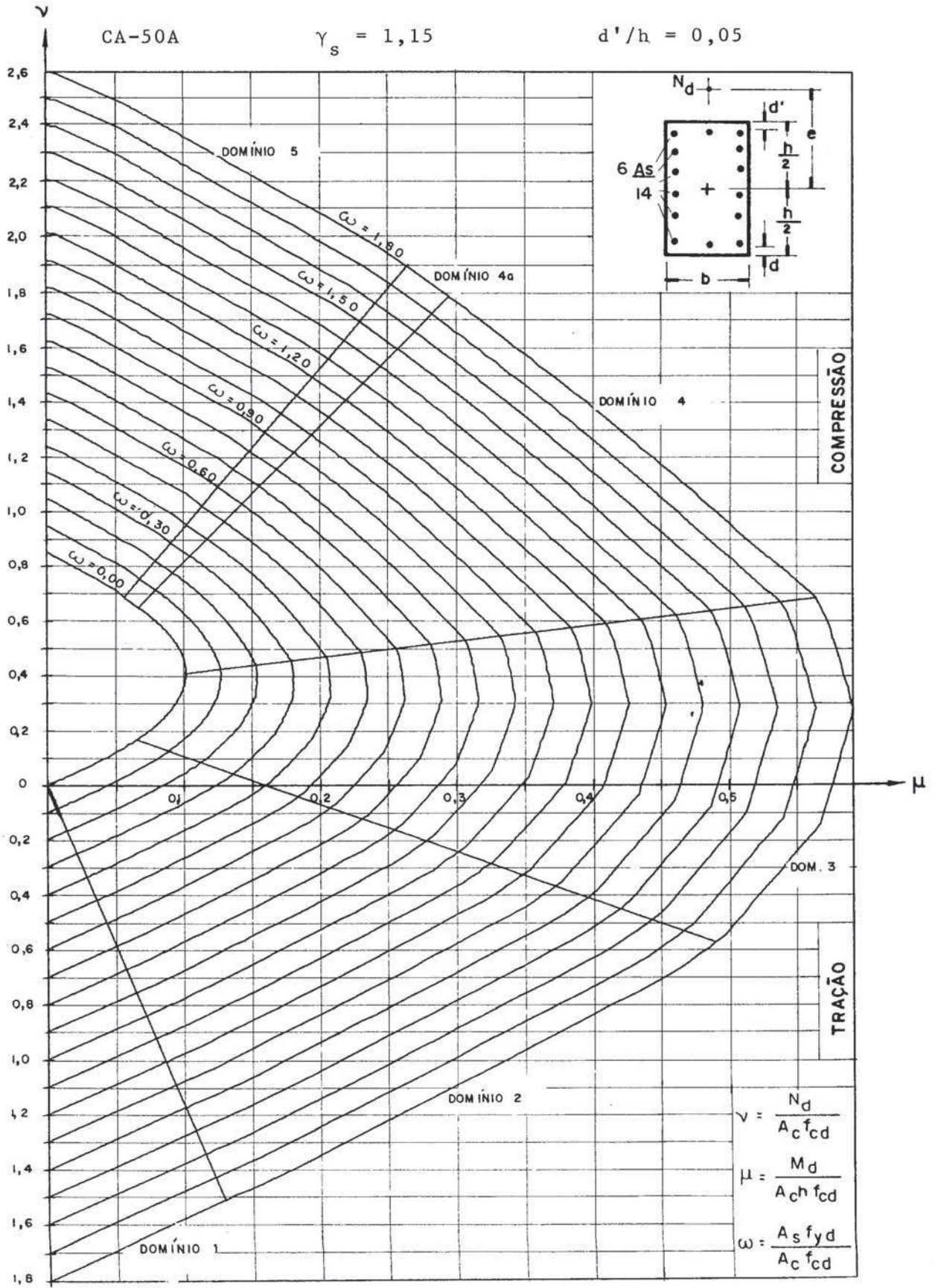


ÁBACO A-37

CA-50A

$\gamma_s = 1,15$

$d'/h = 0,05$

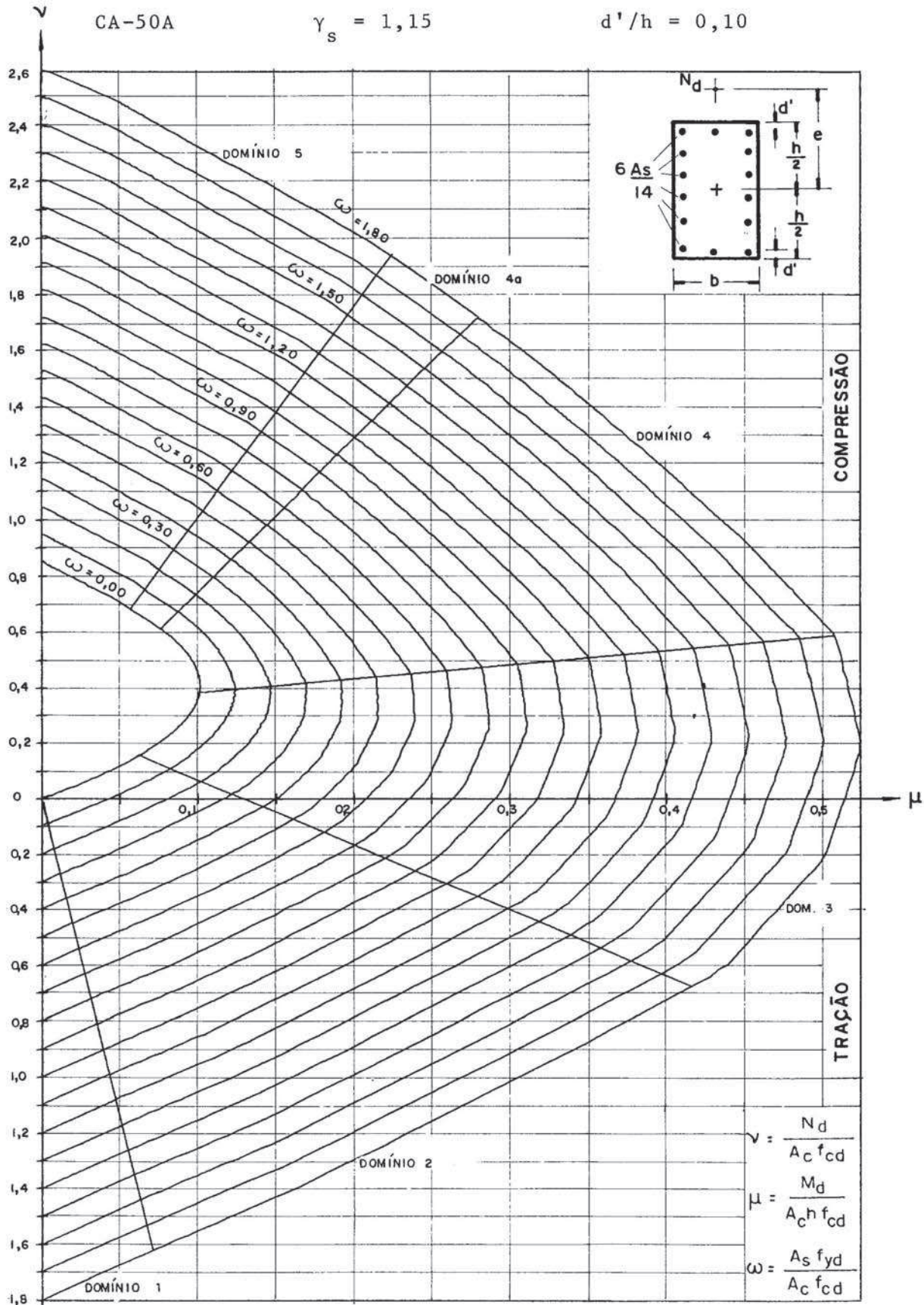


ÁBACO A-38

CA-50A

$\gamma_s = 1,15$

$d'/h = 0,10$

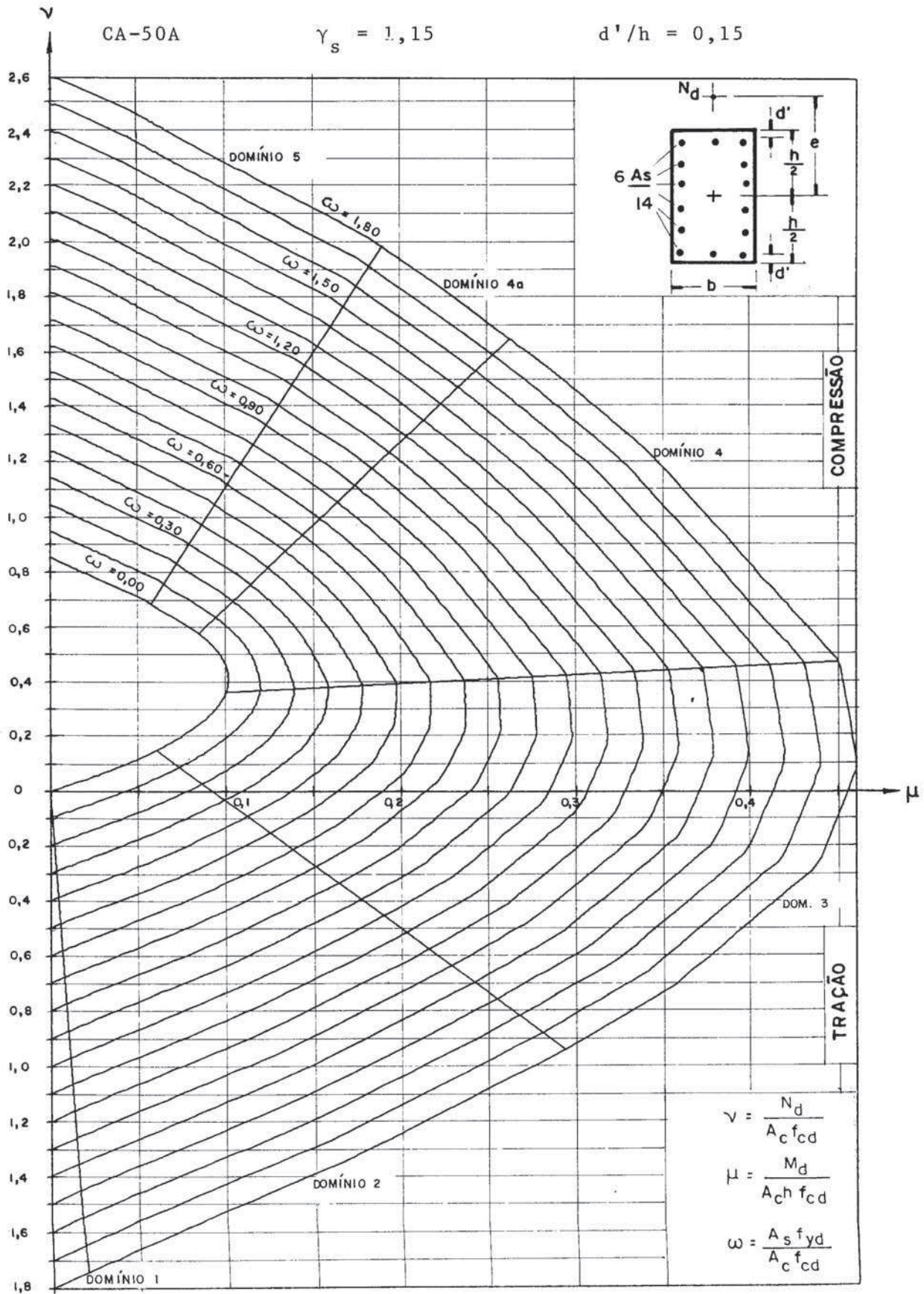


ÁBACO A-39

CA-50A

$\gamma_s = 1,15$

$d'/h = 0,15$

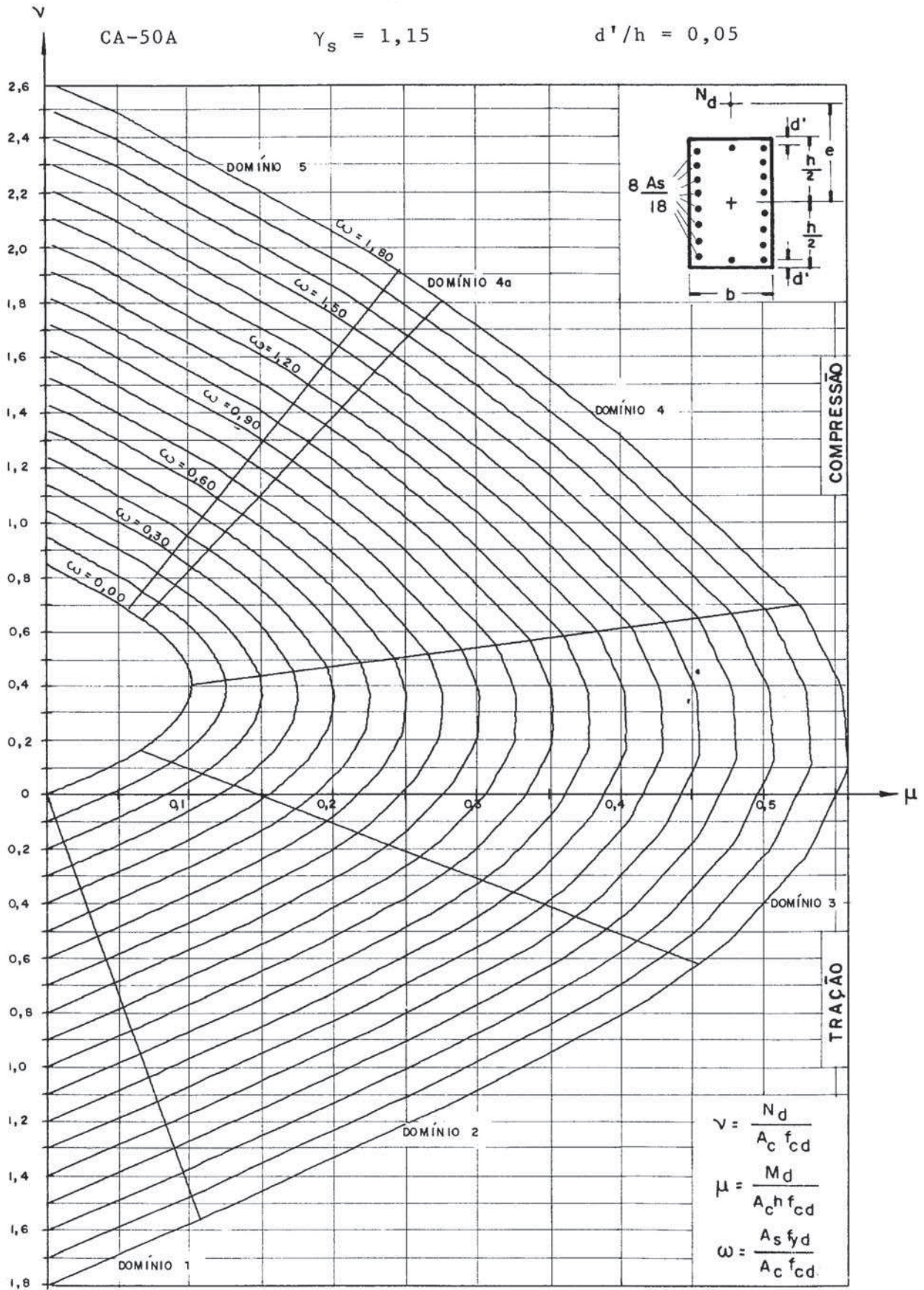


ÁBACO A-40

CA-50A

$\gamma_s = 1,15$

$d'/h = 0,05$

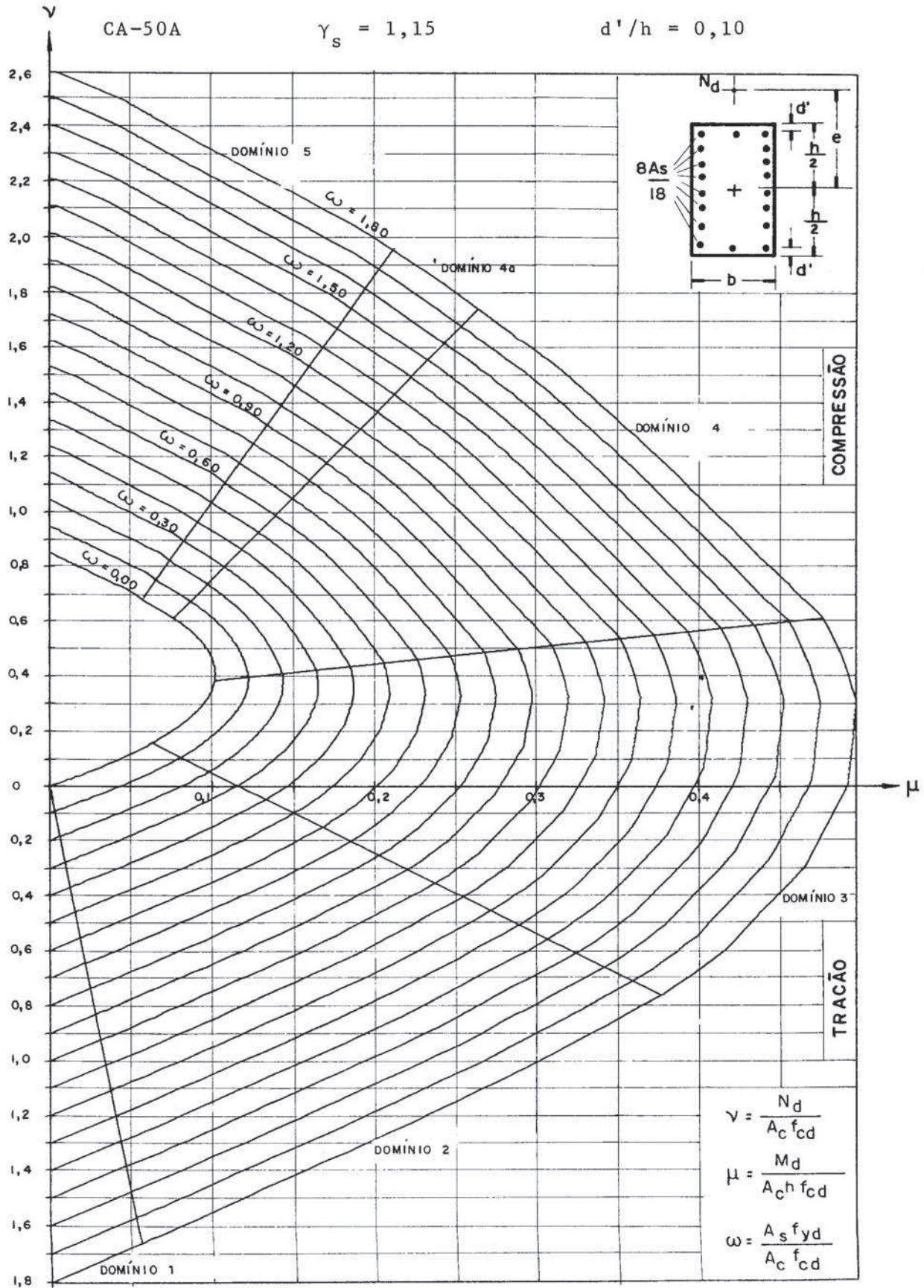


ÁBACO A-41

CA-50A

$\gamma_s = 1,15$

$d'/h = 0,10$

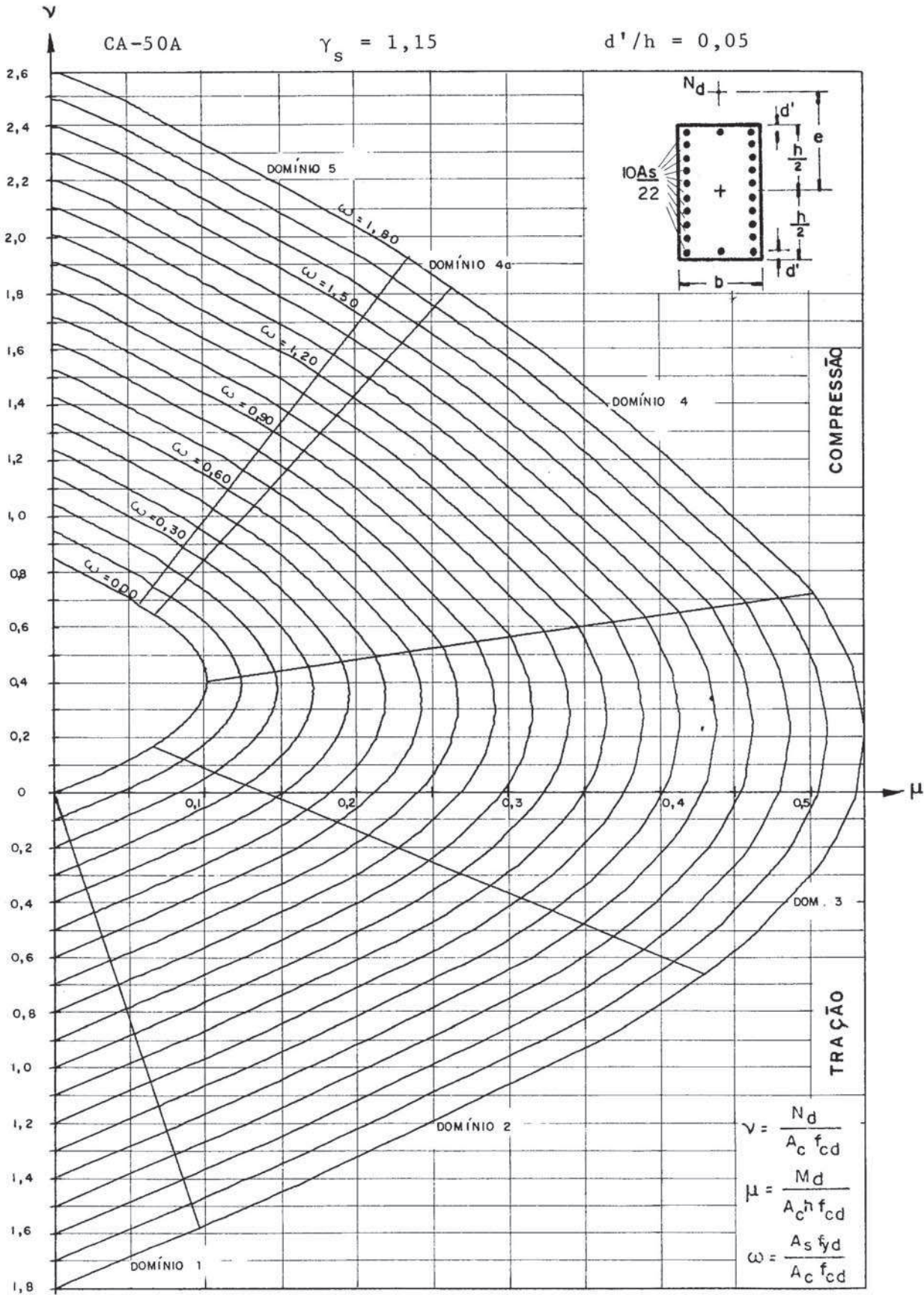


ÁBACO A-42

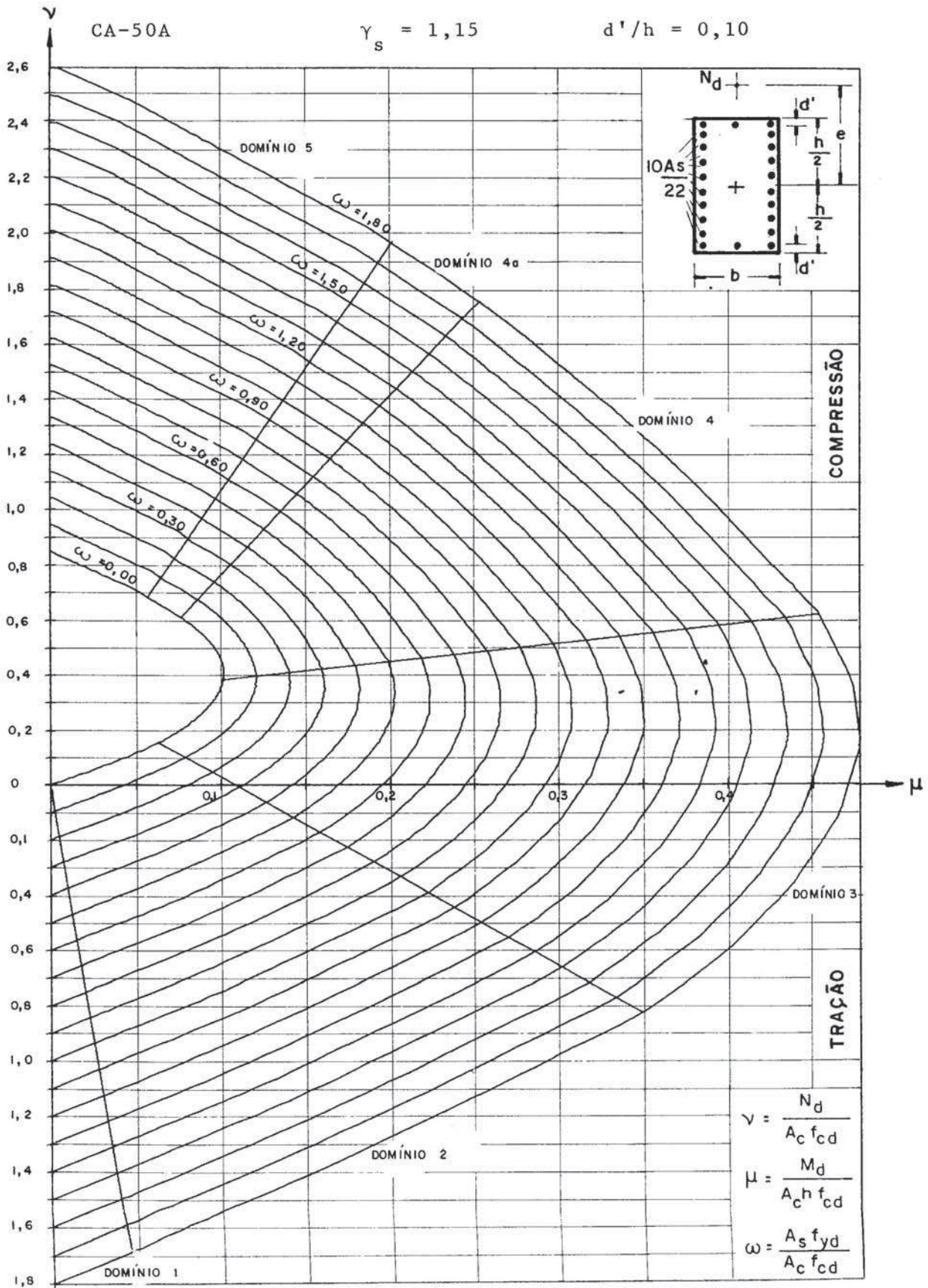
CA-50A

$\gamma_s = 1,15$

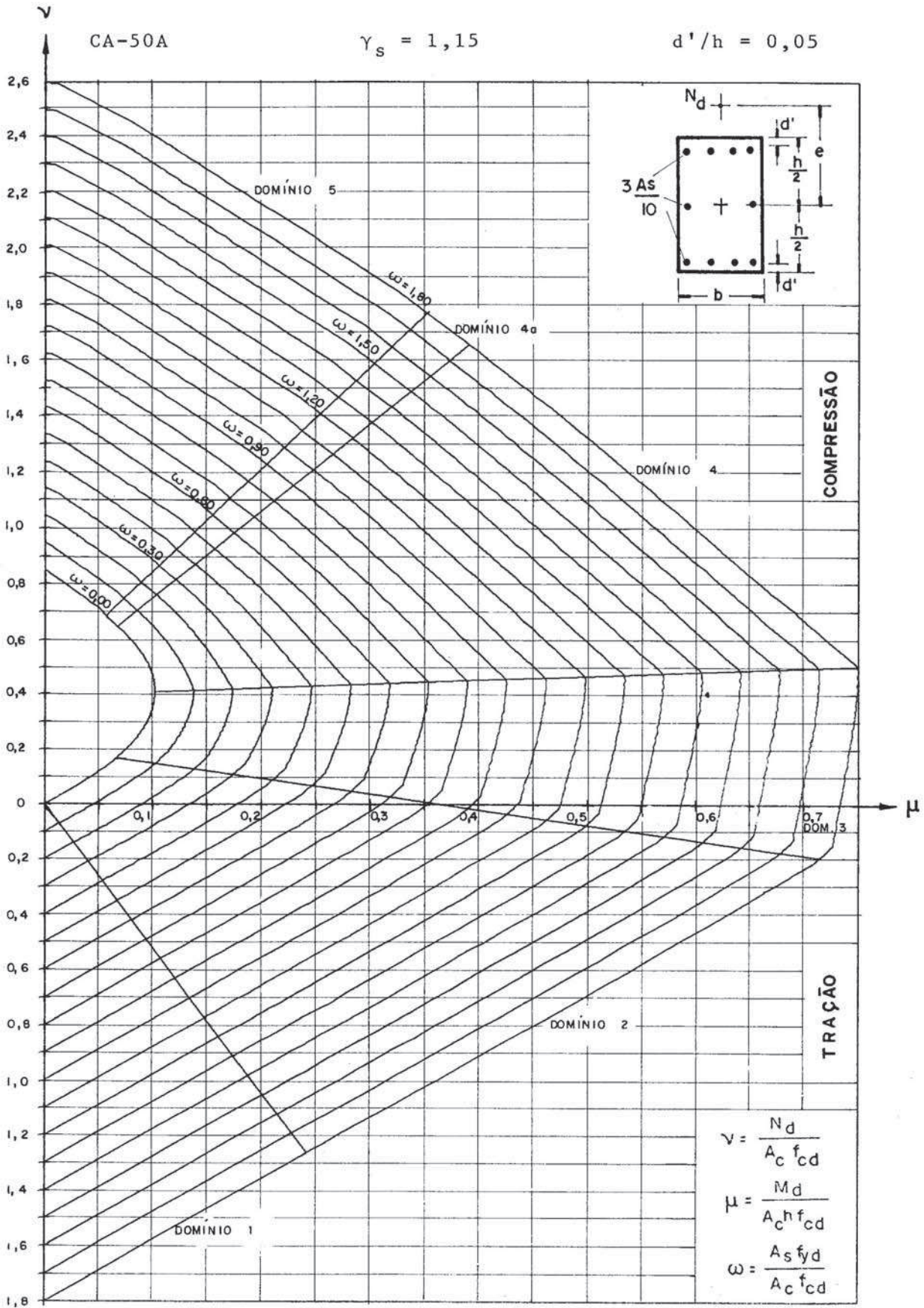
$d'/h = 0,05$



ÁBACO A-43



ÁBACO A-44

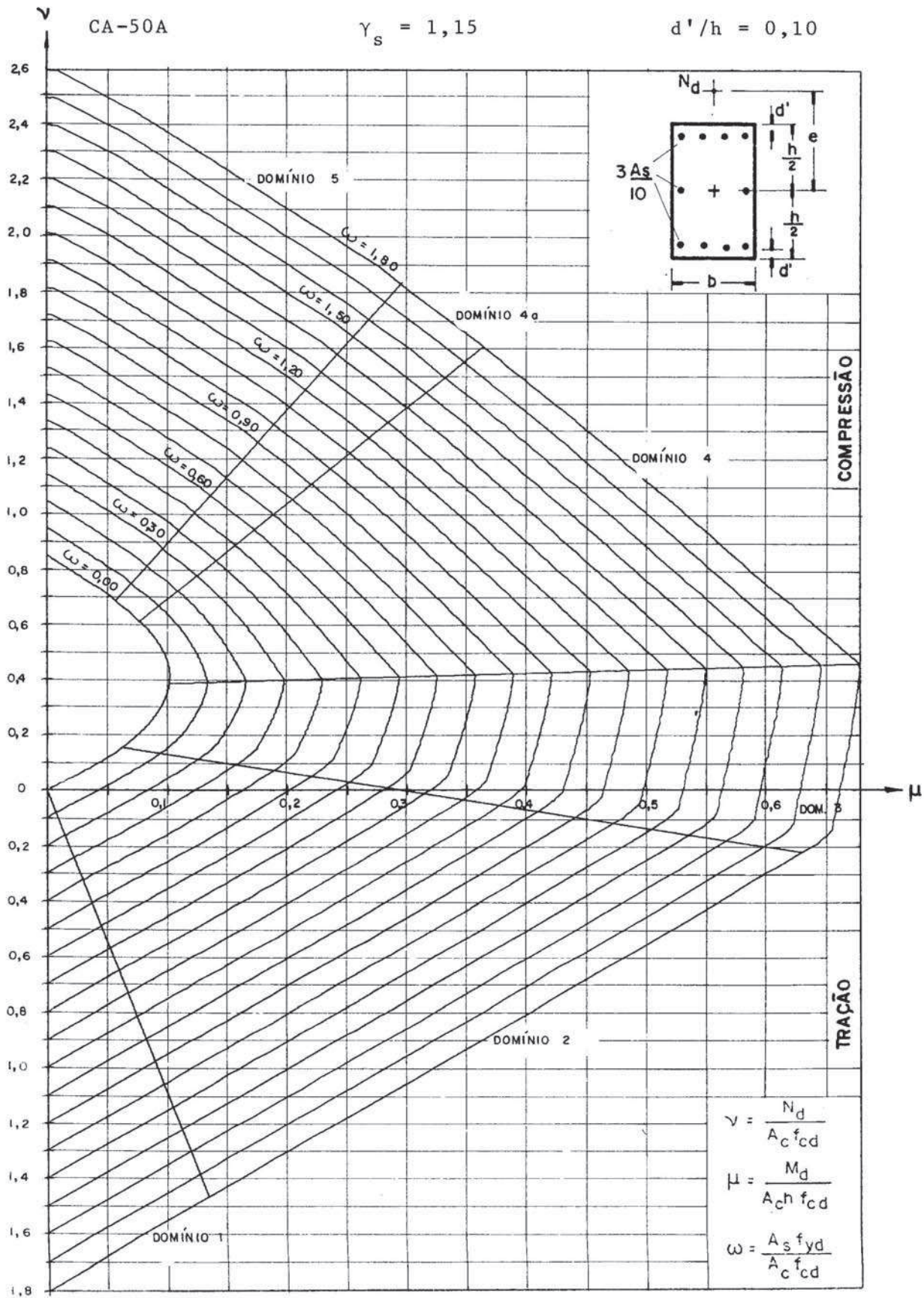


ÁBACO A-45

CA-50A

$\gamma_s = 1,15$

$d'/h = 0,10$

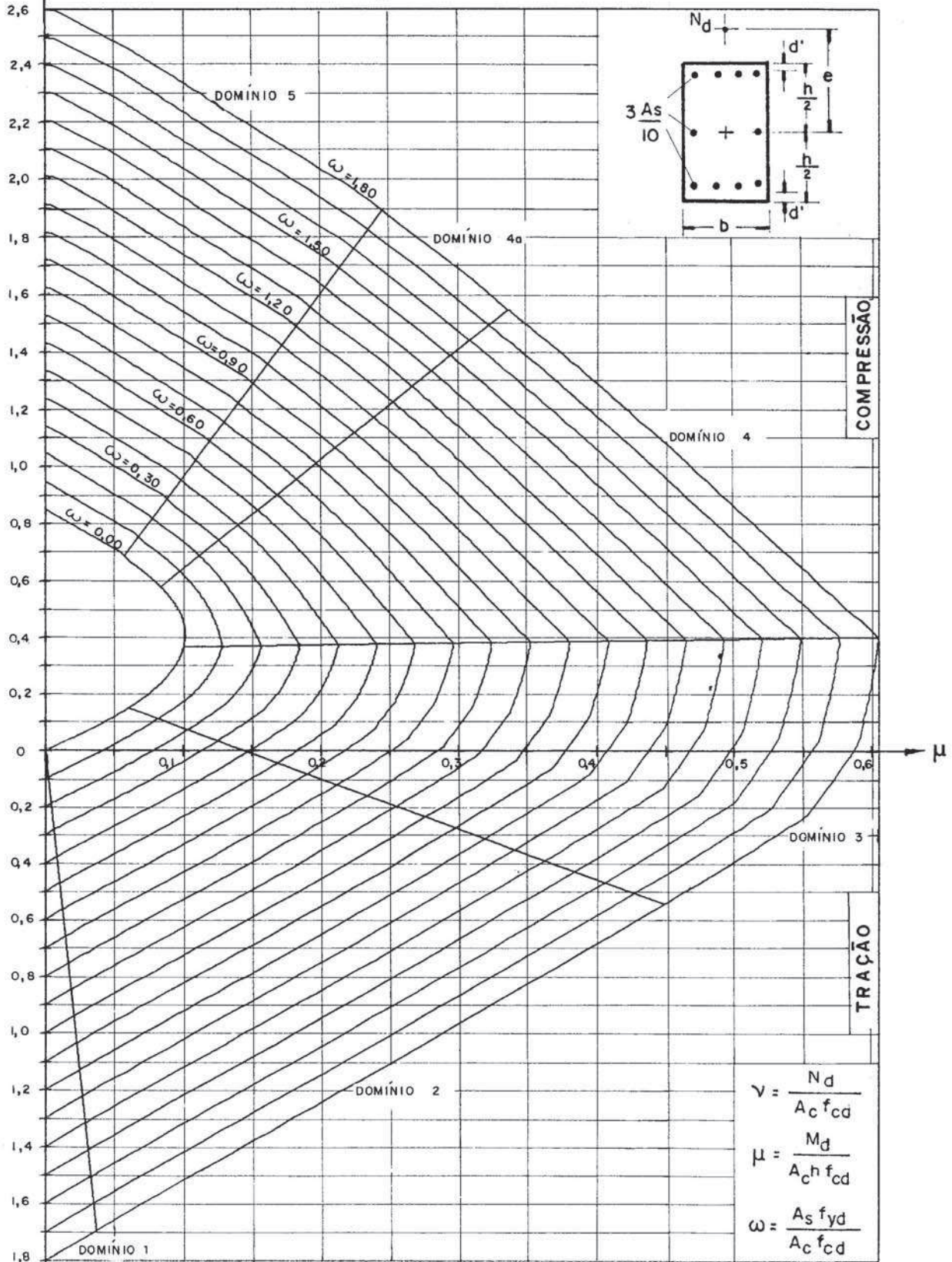


ÁBACO A-46

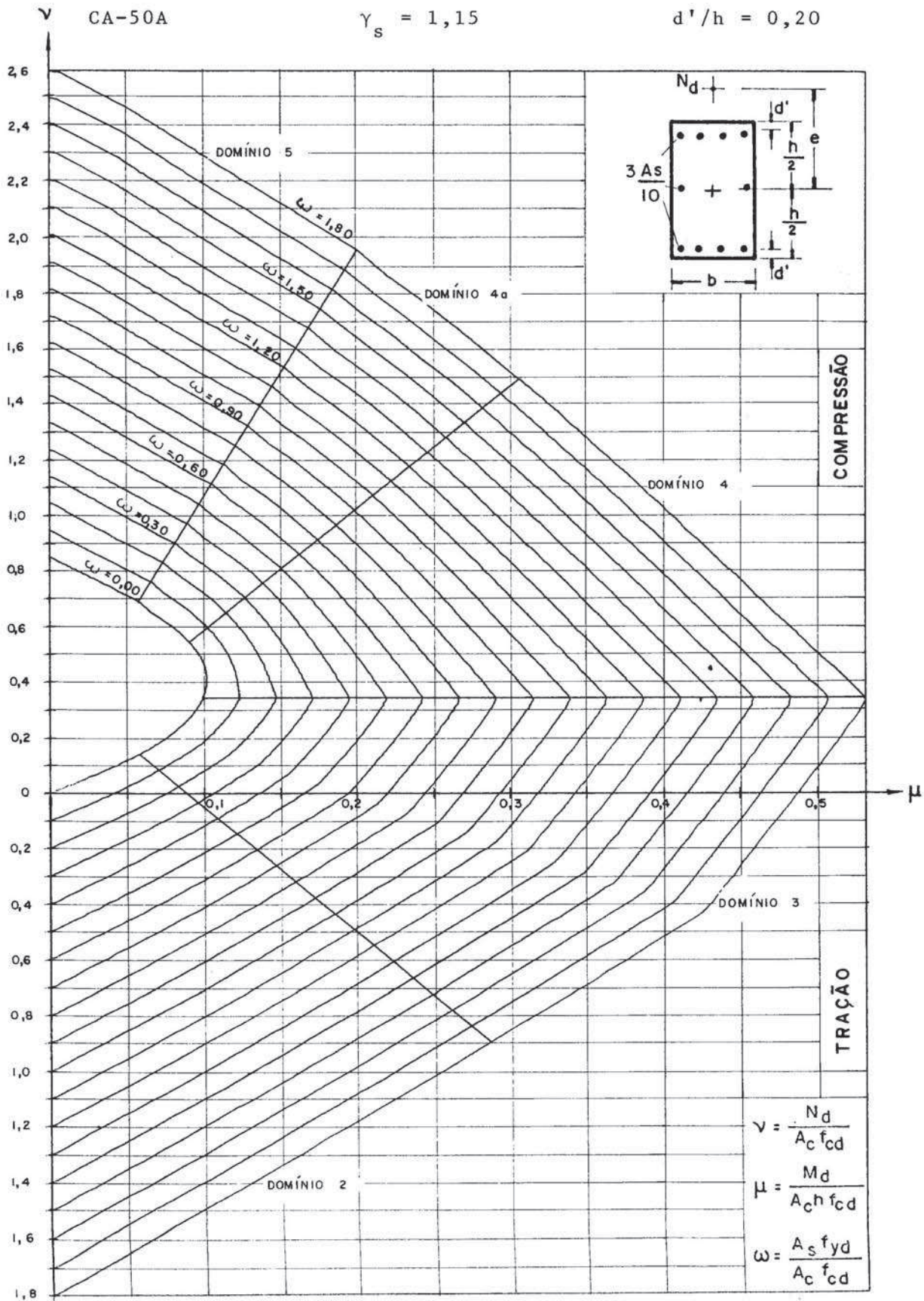
CA-50A

$\gamma_s = 1,15$

$d'/h = 0,15$



ÁBACO A-47

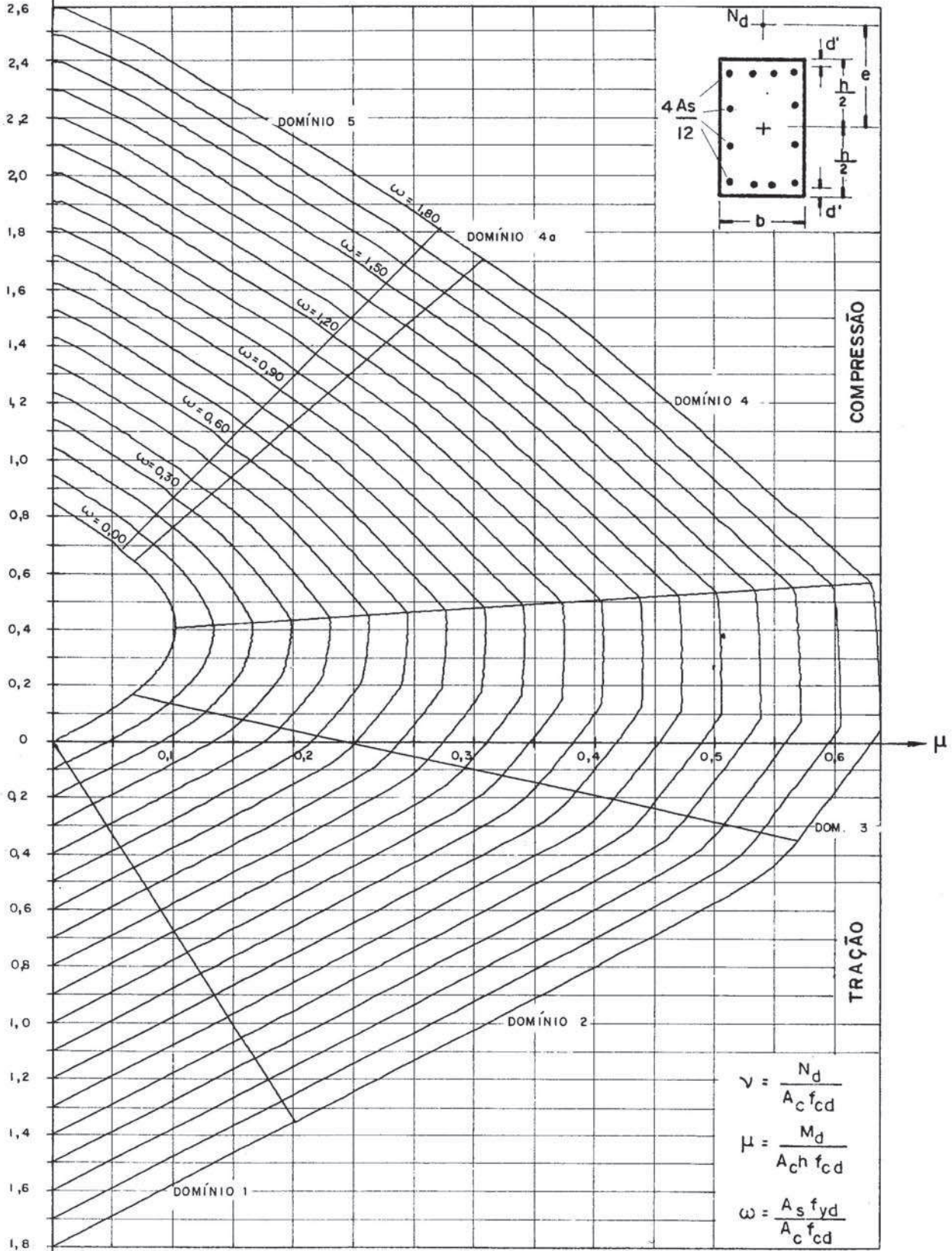


ÁBACO A-48

CA-50A

$\gamma_s = 1,15$

$d'/h = 0,05$

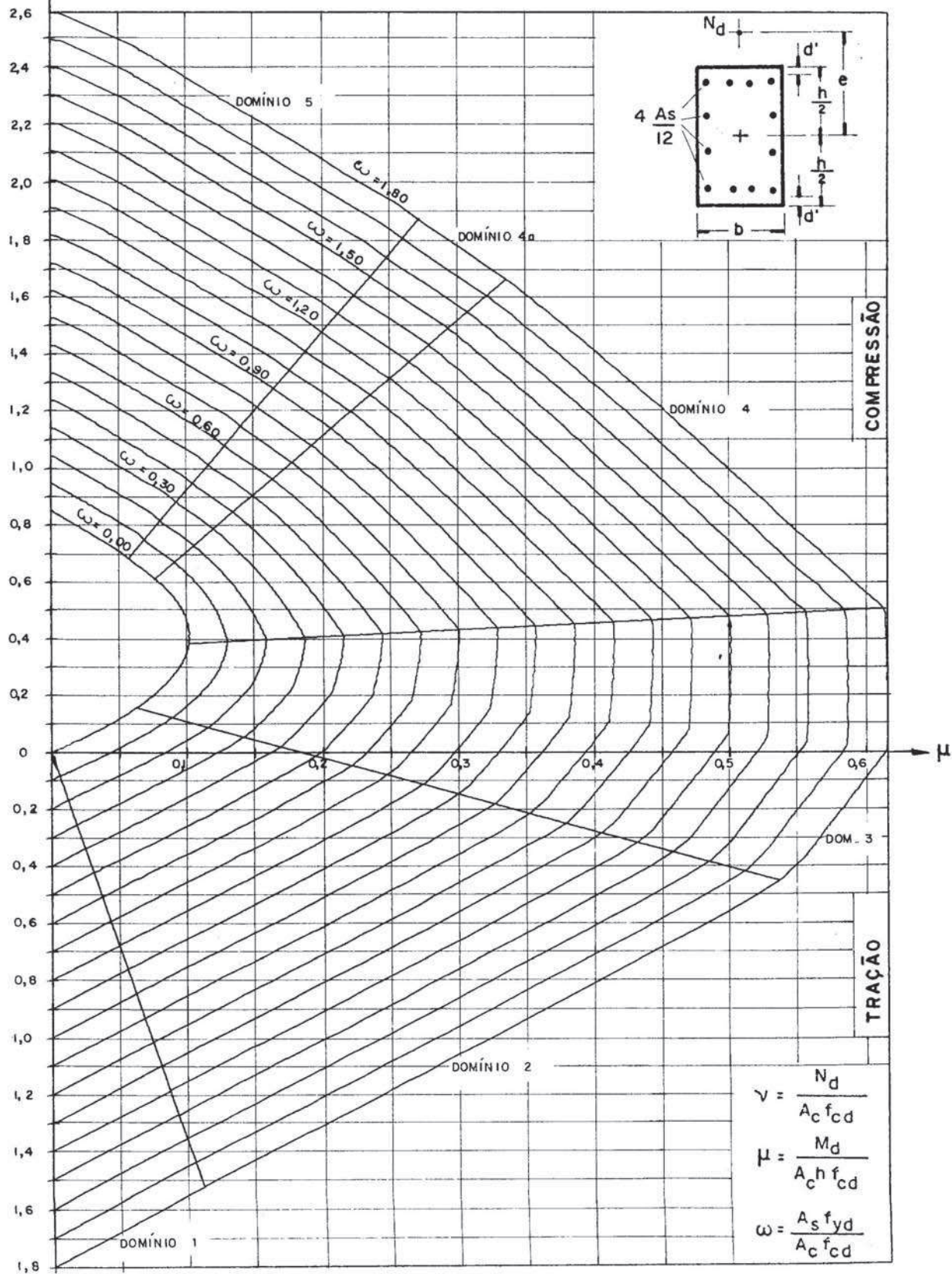


ÁBACO A-49

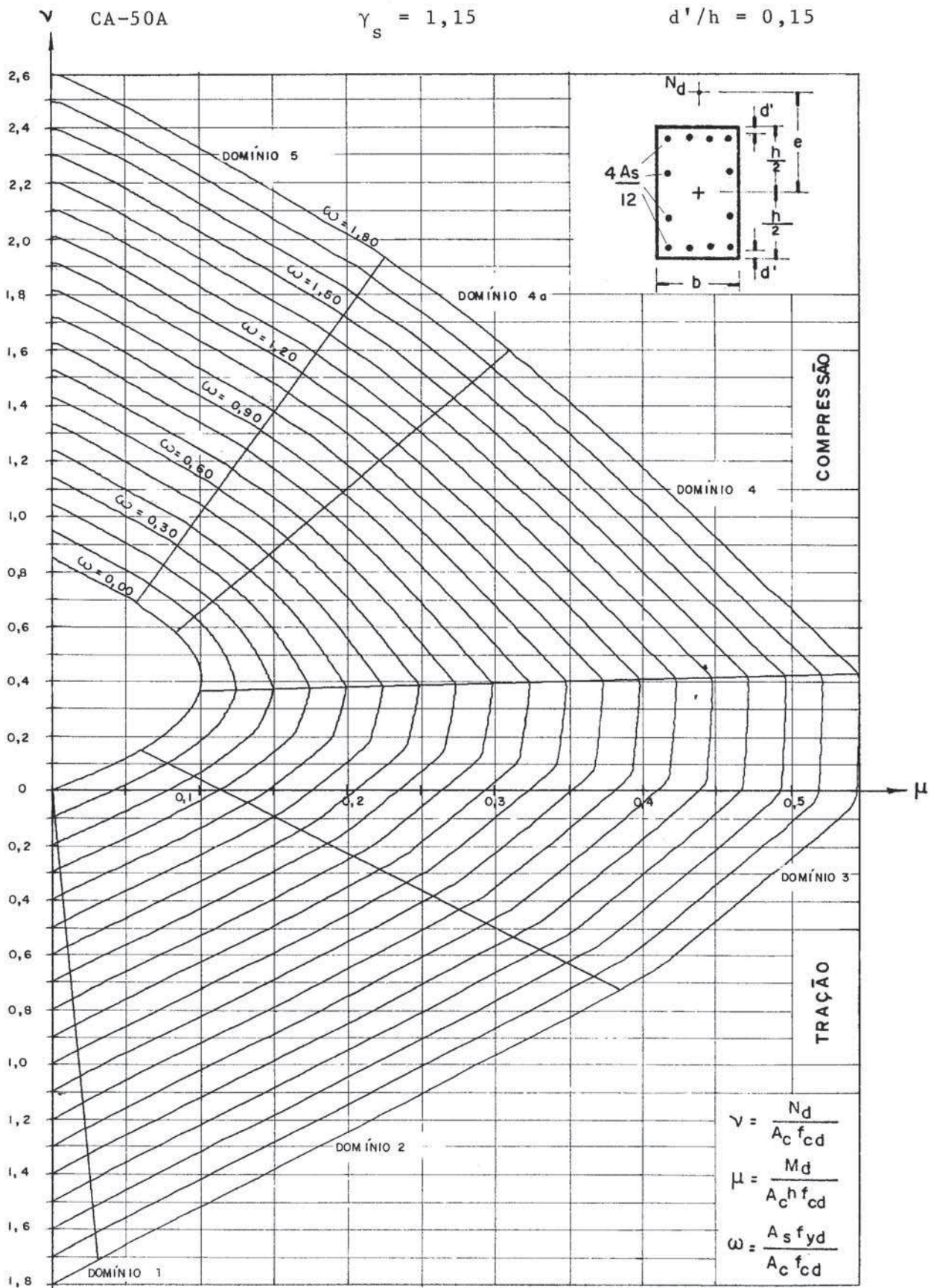
CA-50A

$\gamma_s = 1,15$

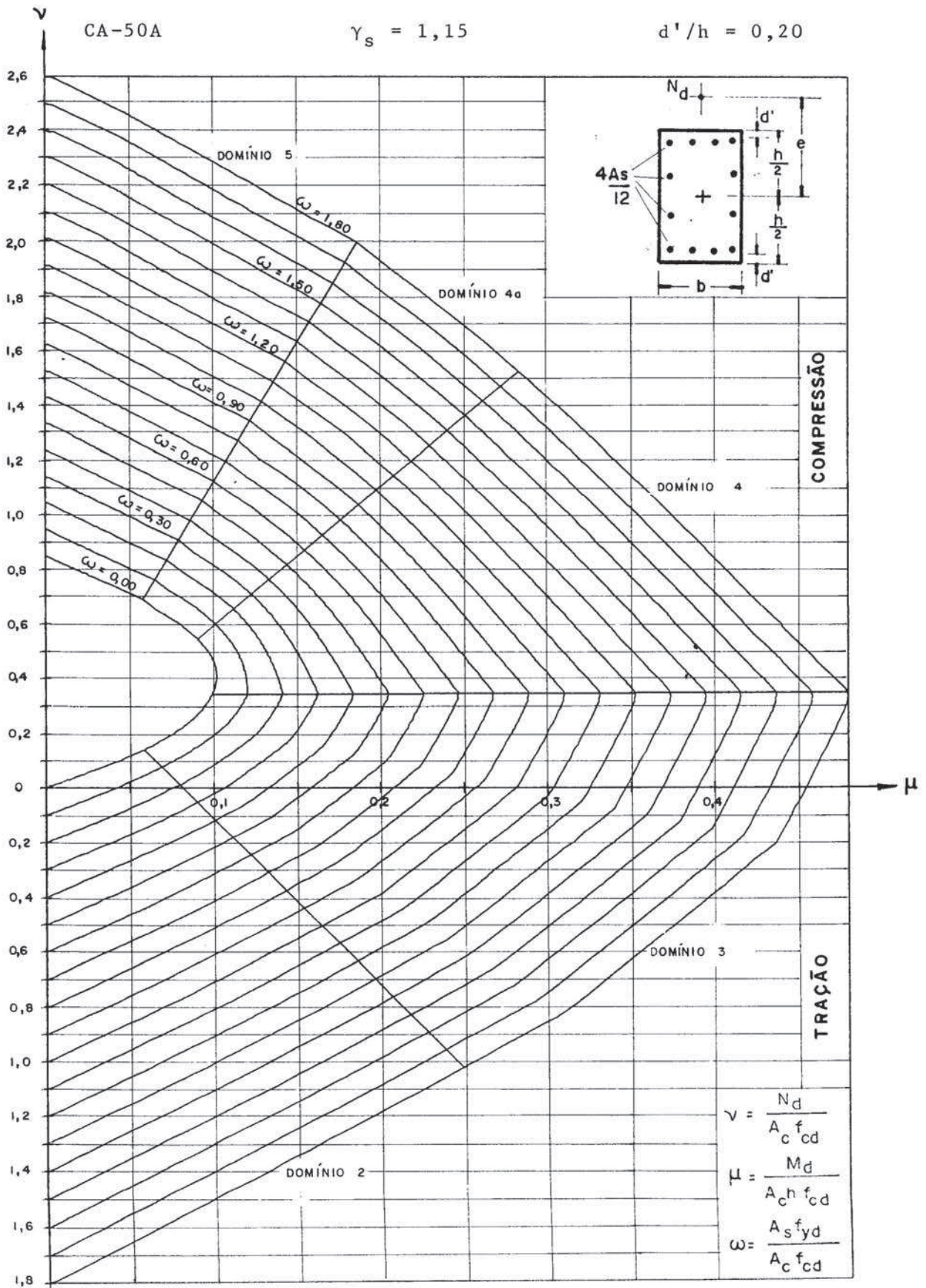
$d'/h = 0,10$



ÁBACO A-50



ÁBACO A-51

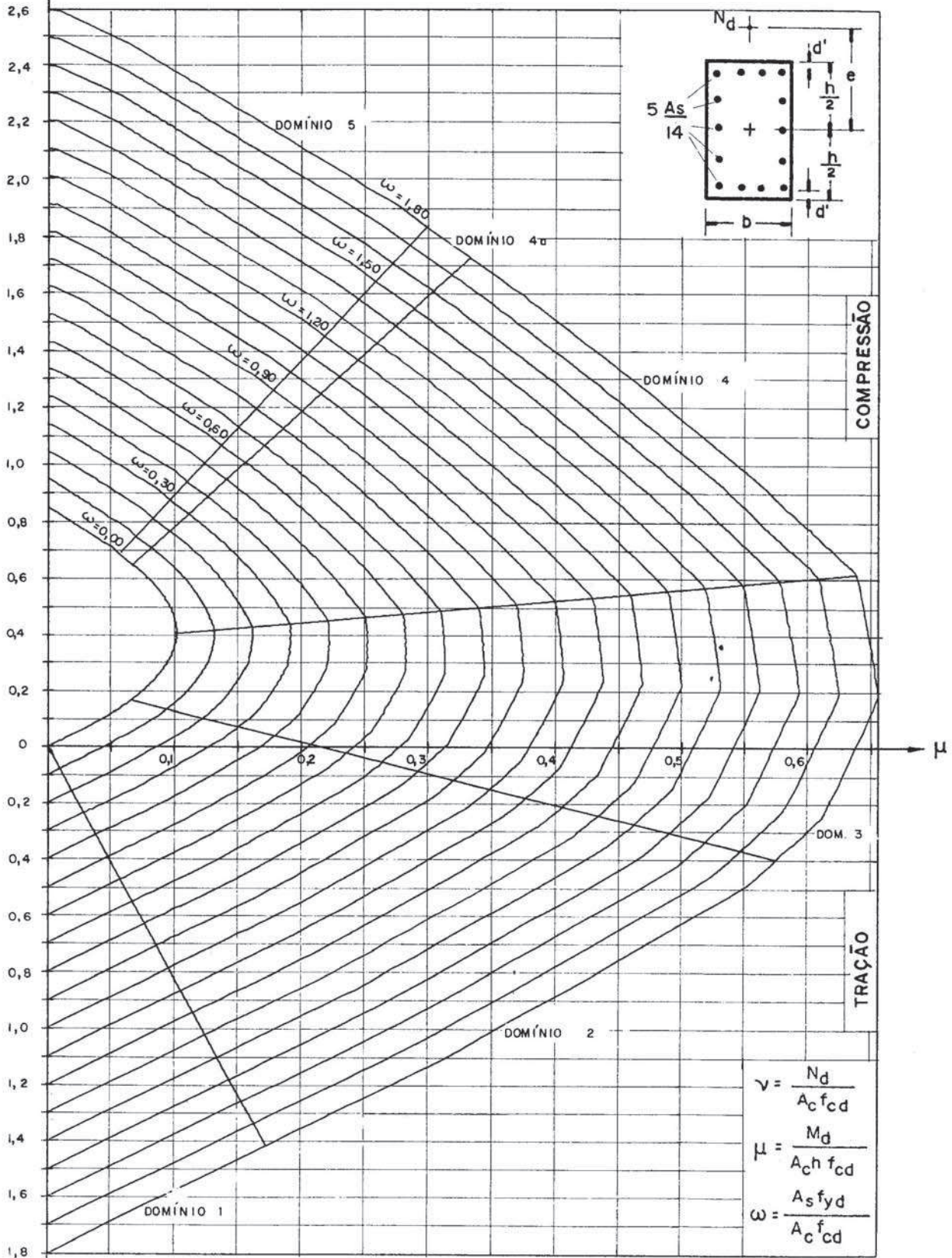


ÂBACO A-52

CA-50A

$\gamma_s = 1,15$

$d'/h = 0,05$

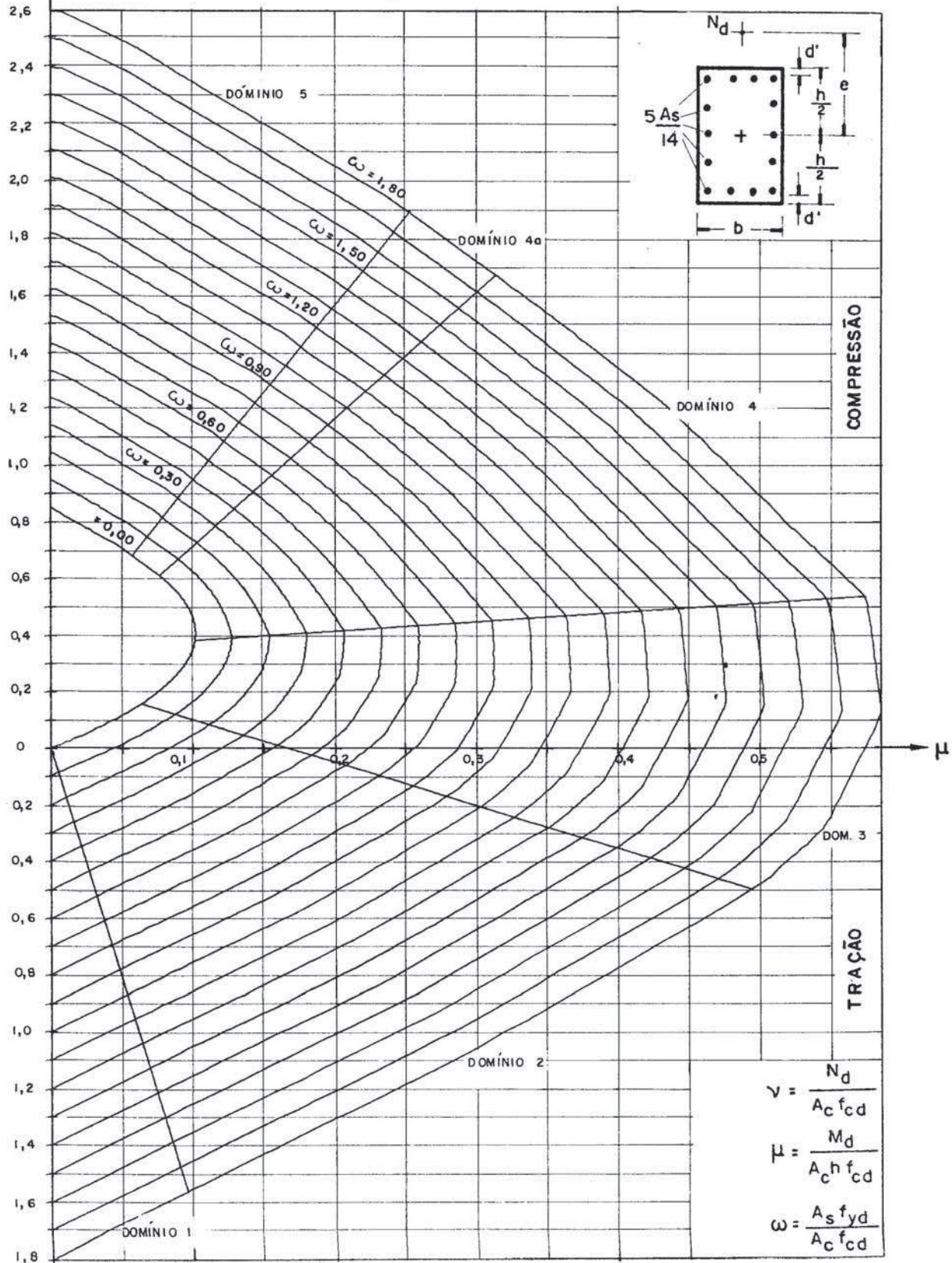


ÁBACO A-53

CA-50A

$\gamma_s = 1,15$

$d'/h = 0,10$

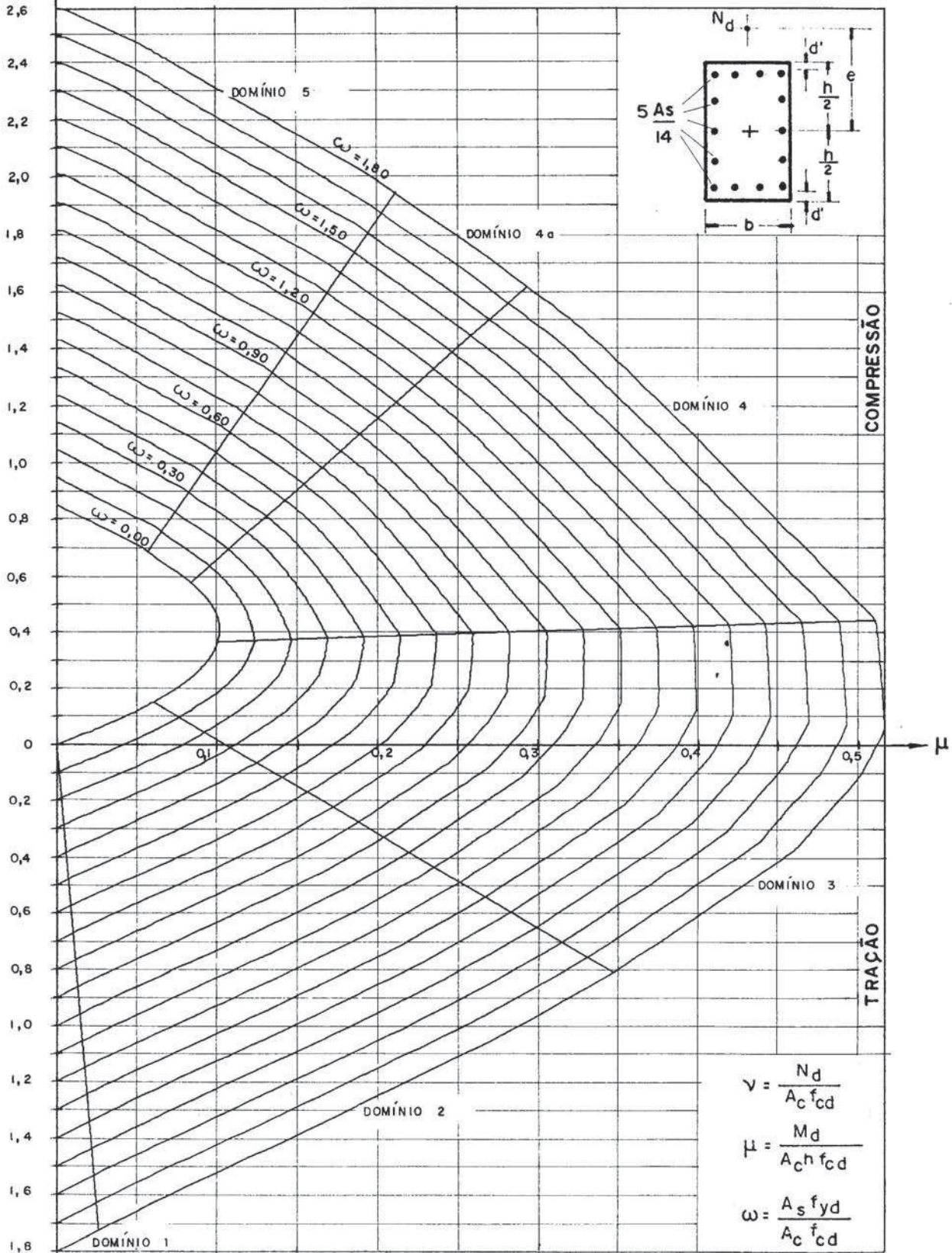


ÁBACO A-54

CA-50A

$\gamma_s = 1,15$

$d'/h = 0,15$

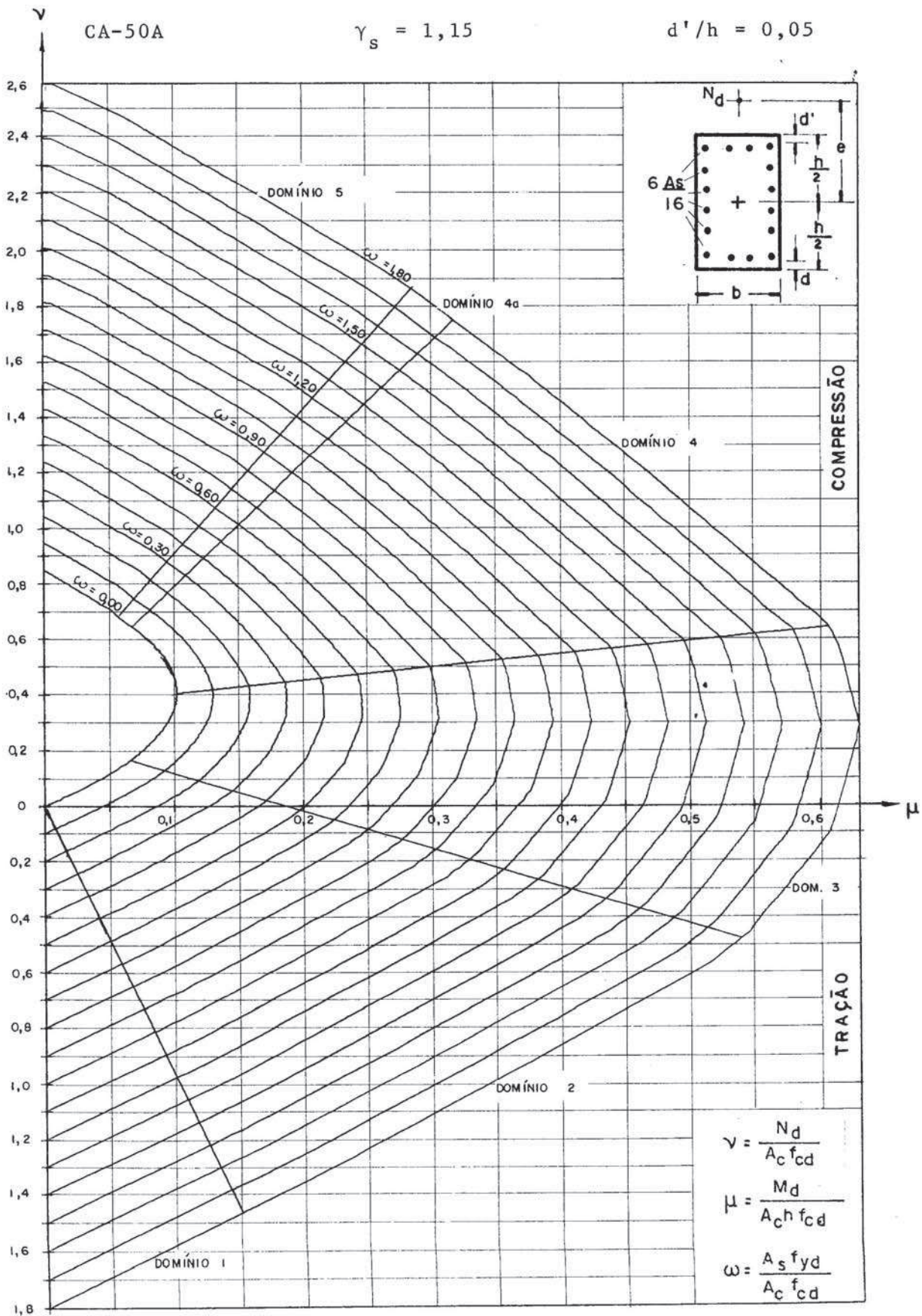


ÁBACO A-55

CA-50A

$\gamma_s = 1,15$

$d'/h = 0,05$

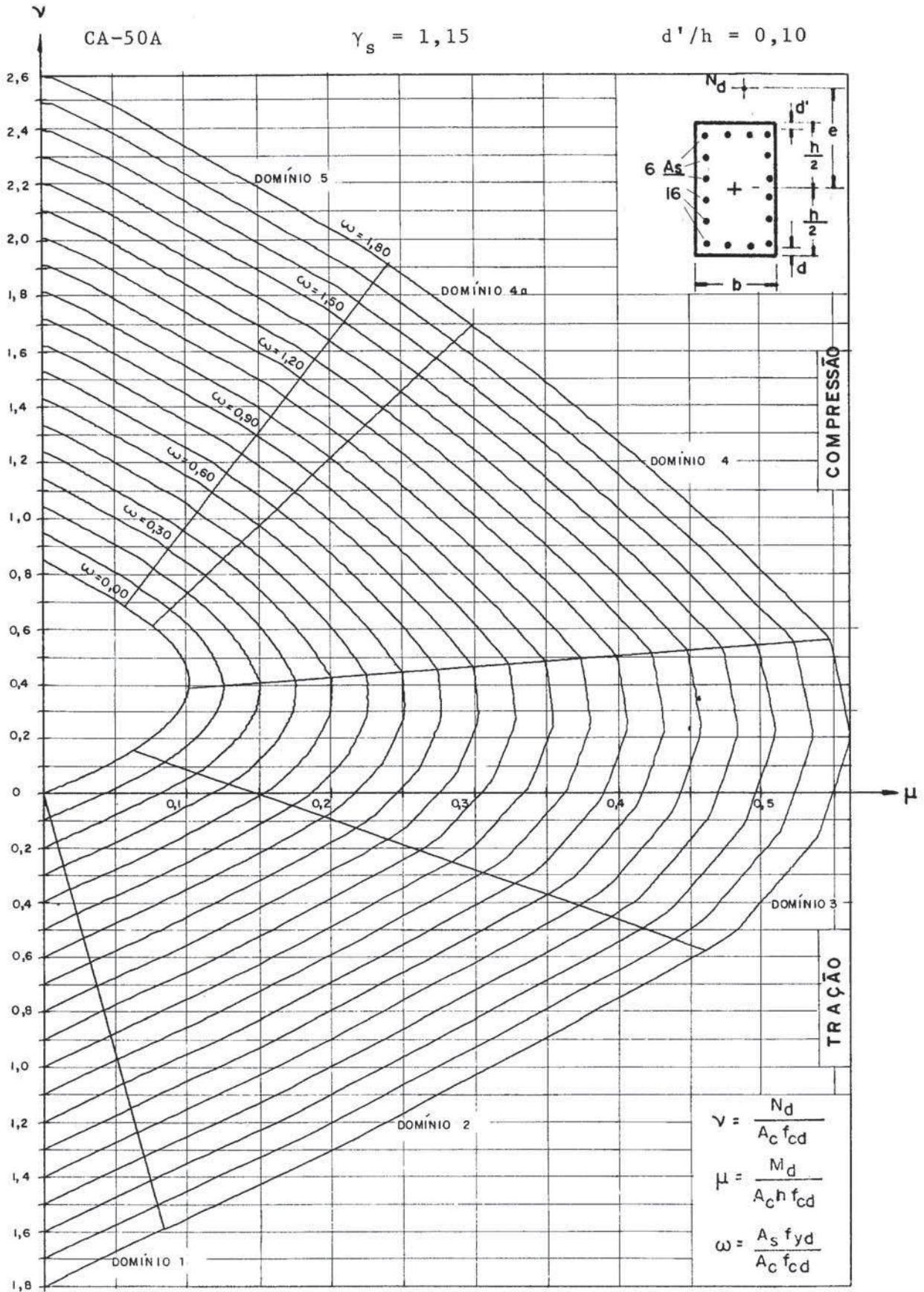


ÁBACO A-56

CA-50A

$\gamma_s = 1,15$

$d'/h = 0,10$

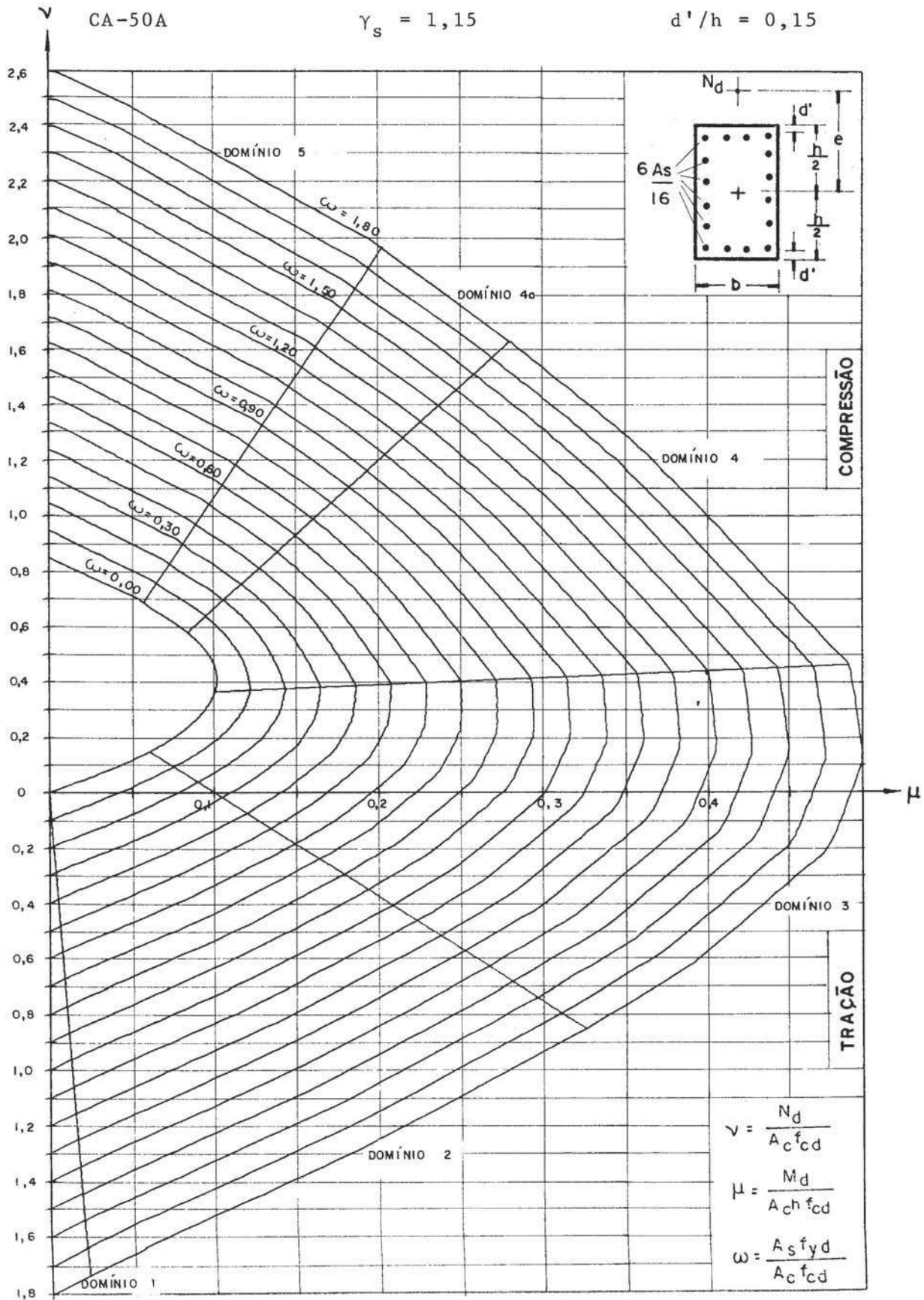


ÁBACO A-57

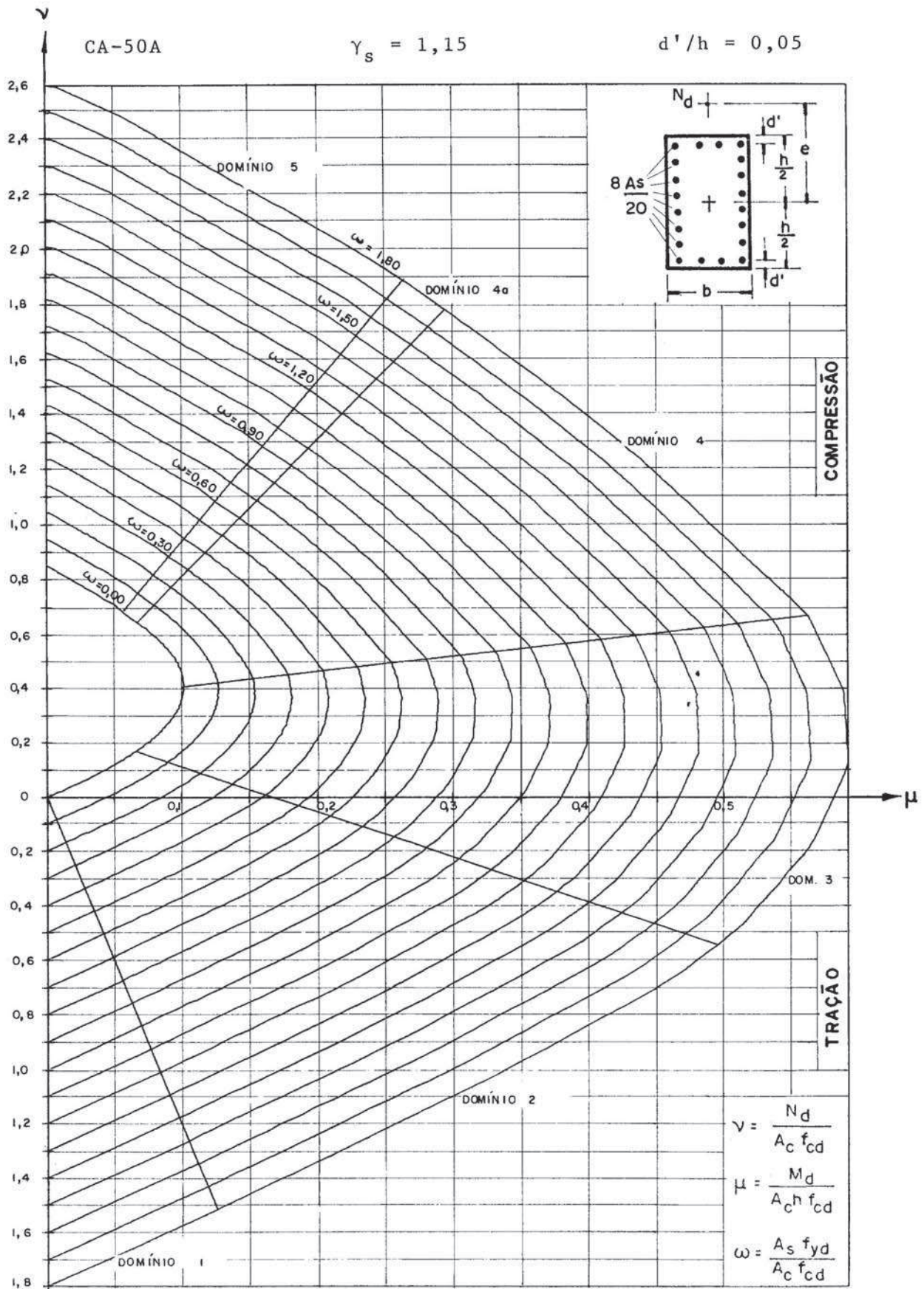
CA-50A

$\gamma_s = 1,15$

$d'/h = 0,15$



ÁBACO A-58

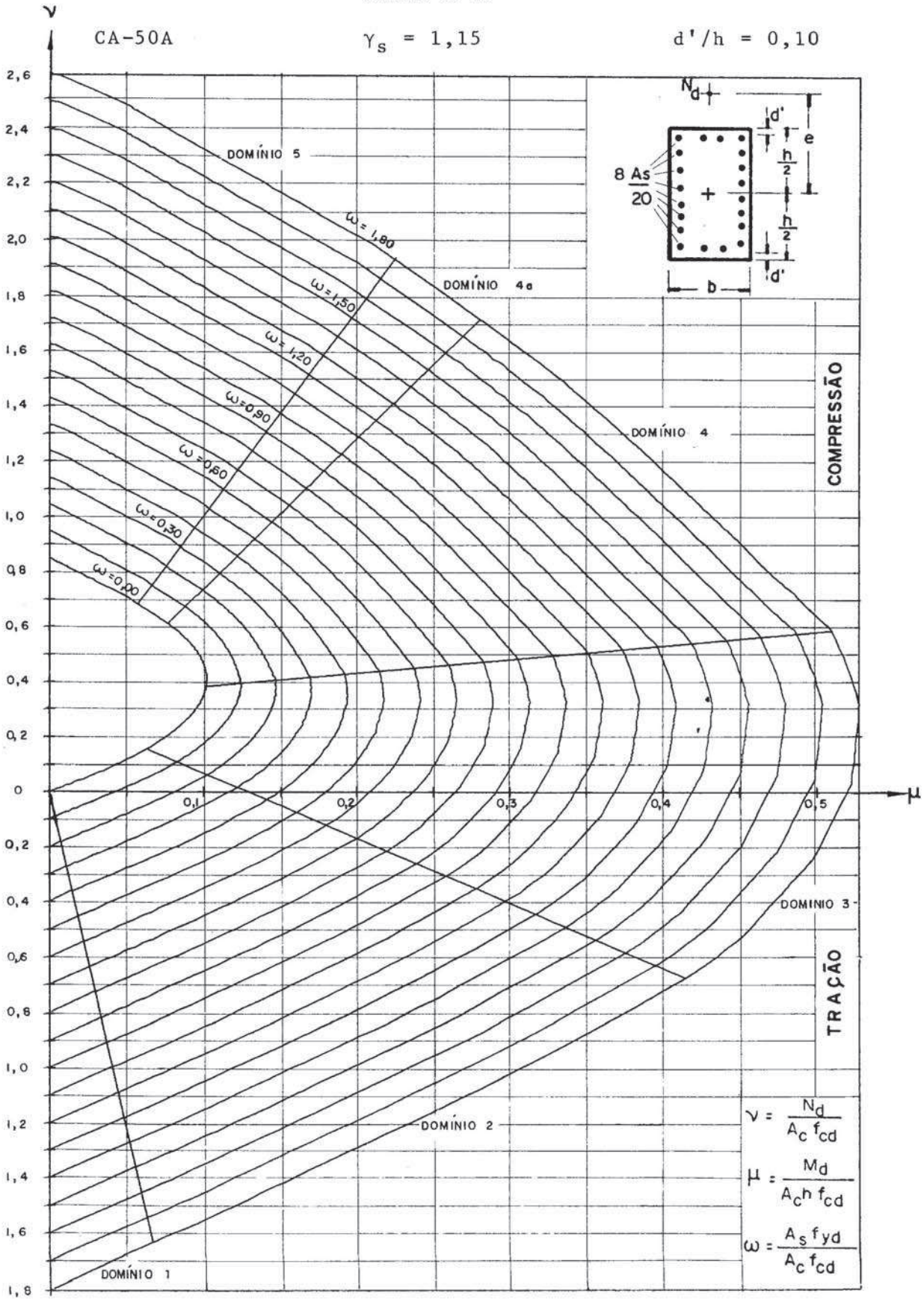


ÁBACO A-59

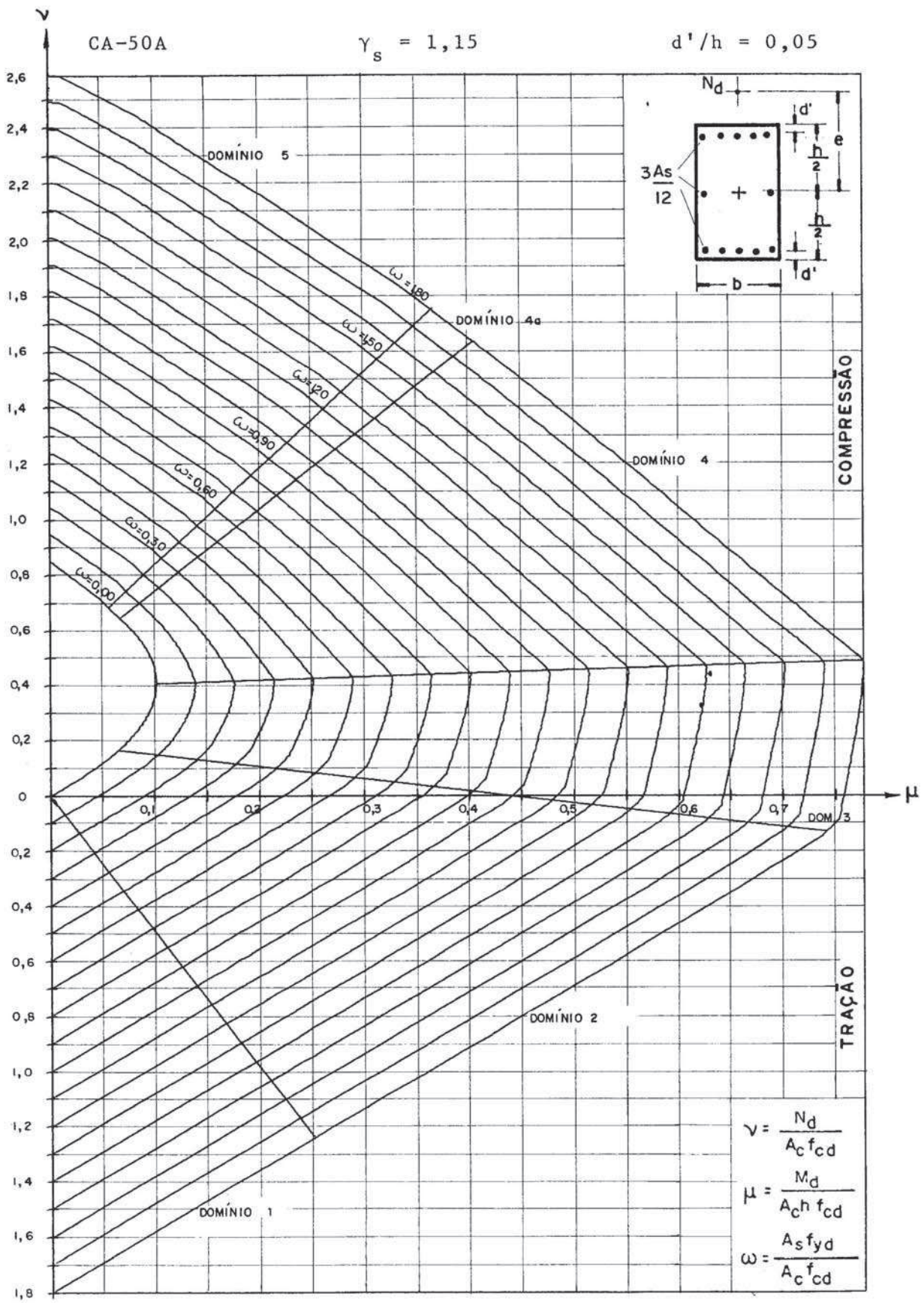
CA-50A

$\gamma_s = 1,15$

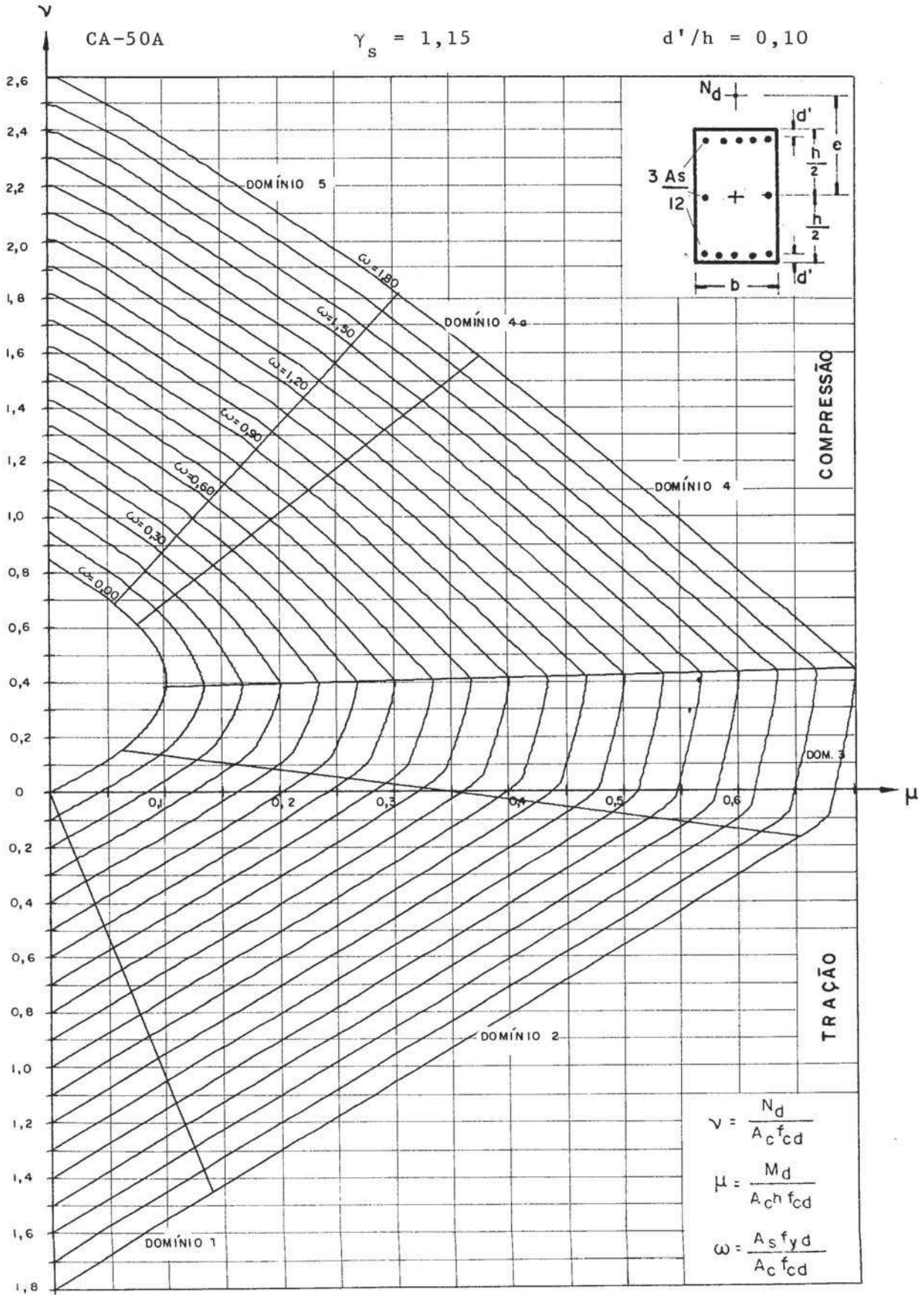
$d'/h = 0,10$



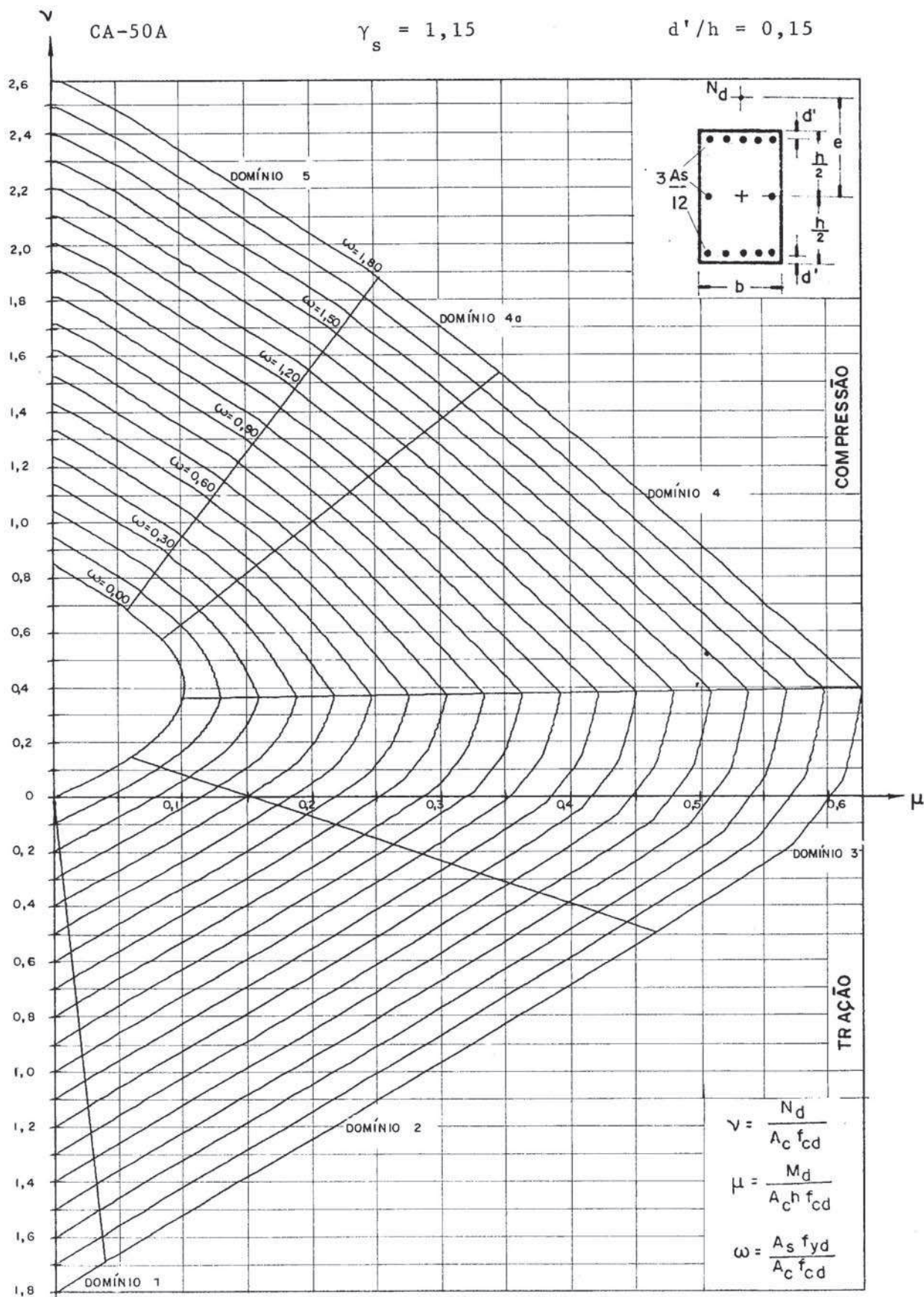
ÁBACO A-60



ÁBACO A-61



ÁBACO A-62



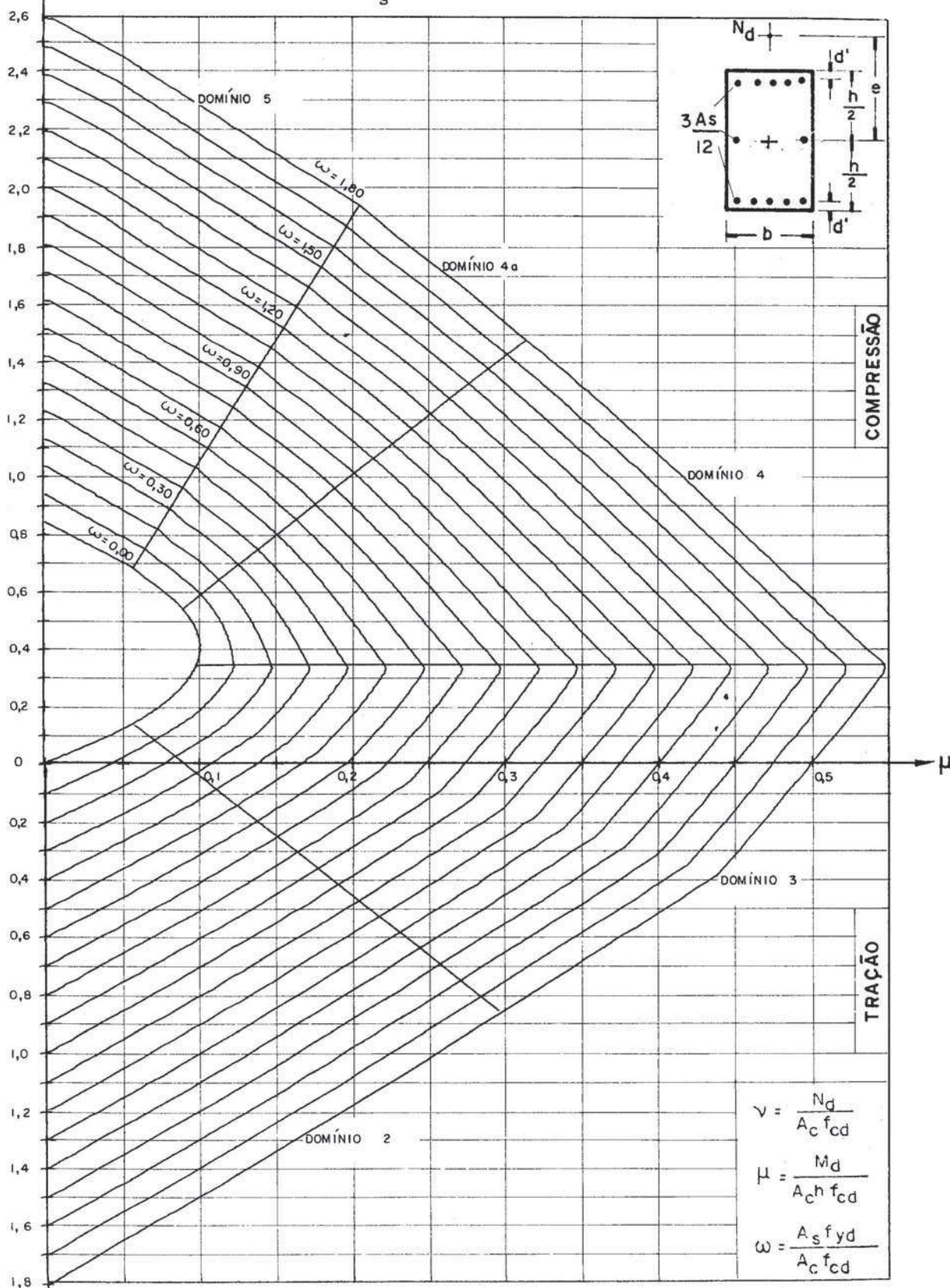
v

ÁBACO A-63

CA-50A

$\gamma_s = 1,15$

$d'/h = 0,20$

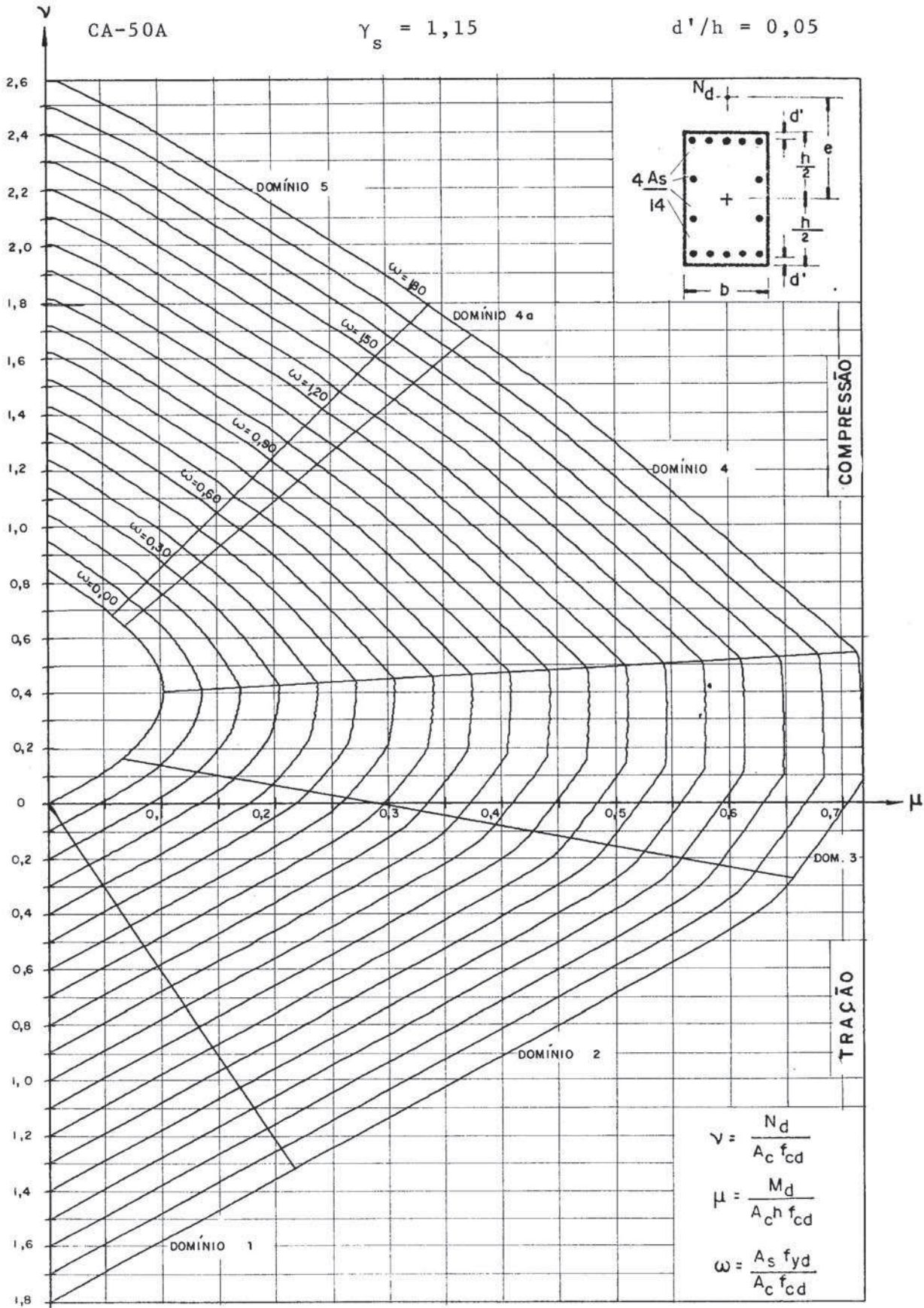


ÁBACO A-64

CA-50A

$\gamma_s = 1,15$

$d'/h = 0,05$

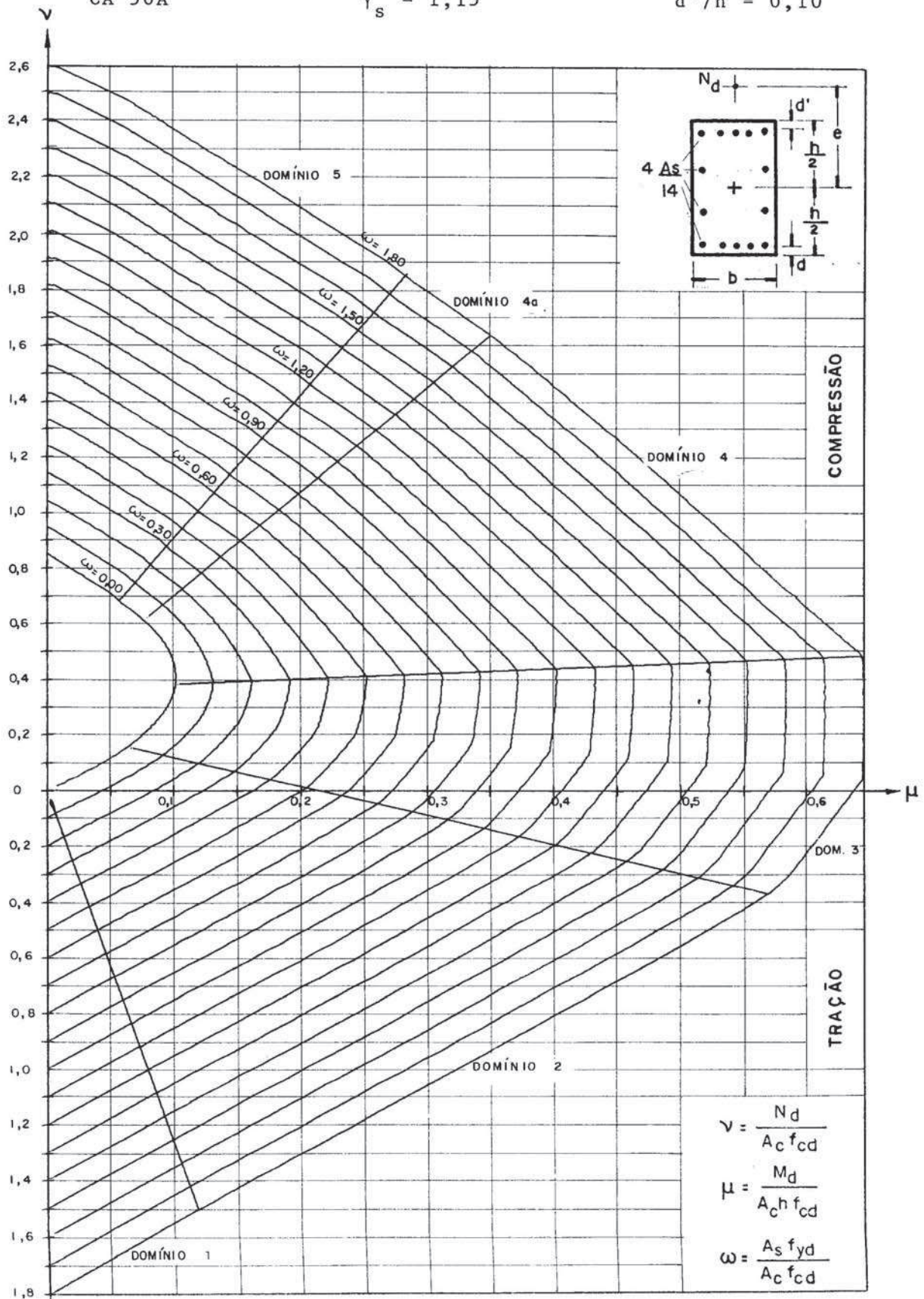


ÁBACO A-65

CA-50A

$\gamma_s = 1,15$

$d'/h = 0,10$

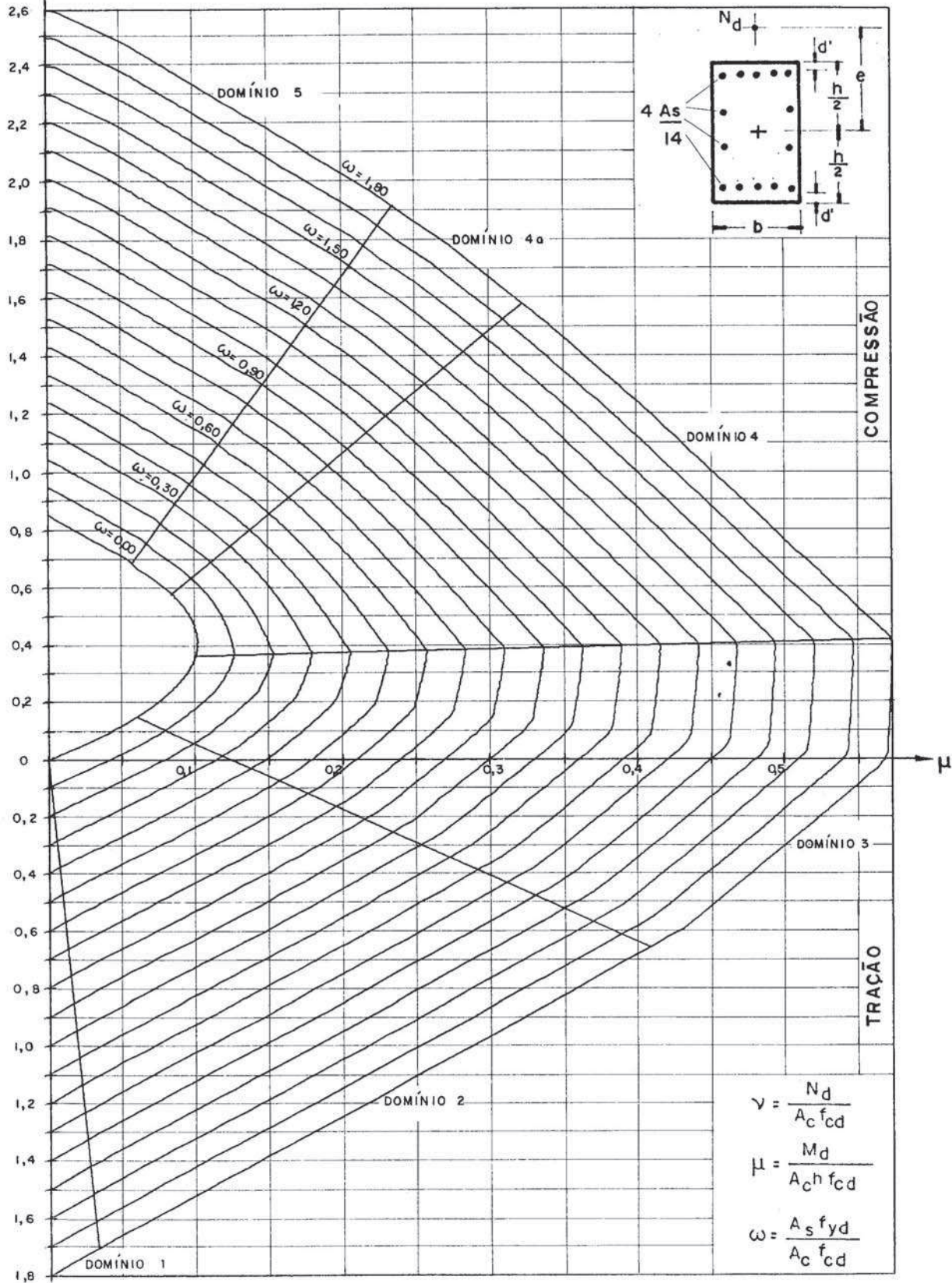


ÁBACO A-66

CA-50A

$\gamma_s = 1,15$

$d'/h = 0,15$

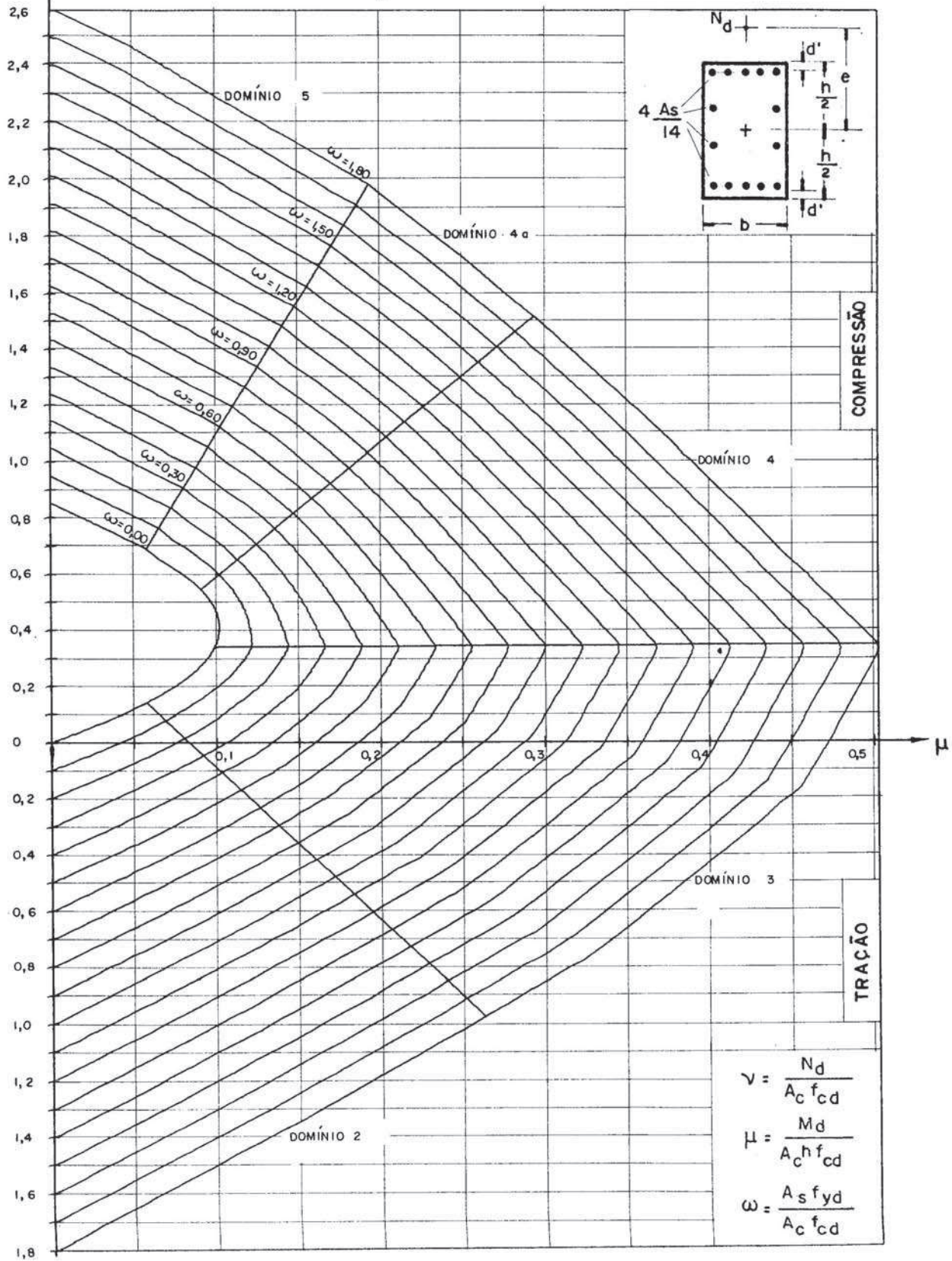


ÁBACO A-67

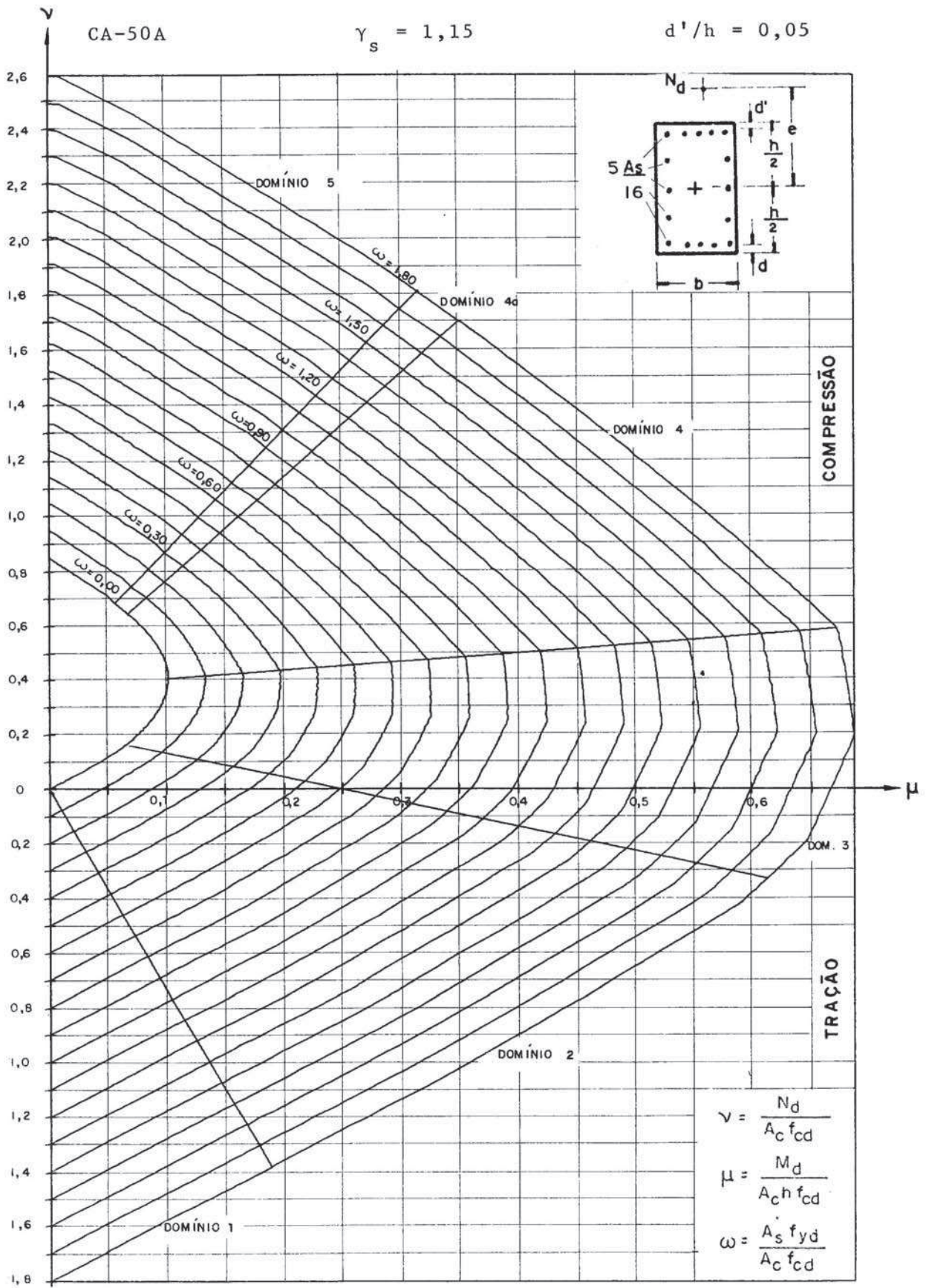
CA-50A

$\gamma_s = 1,15$

$d'/h = 0,20$



ÁBACO A-68

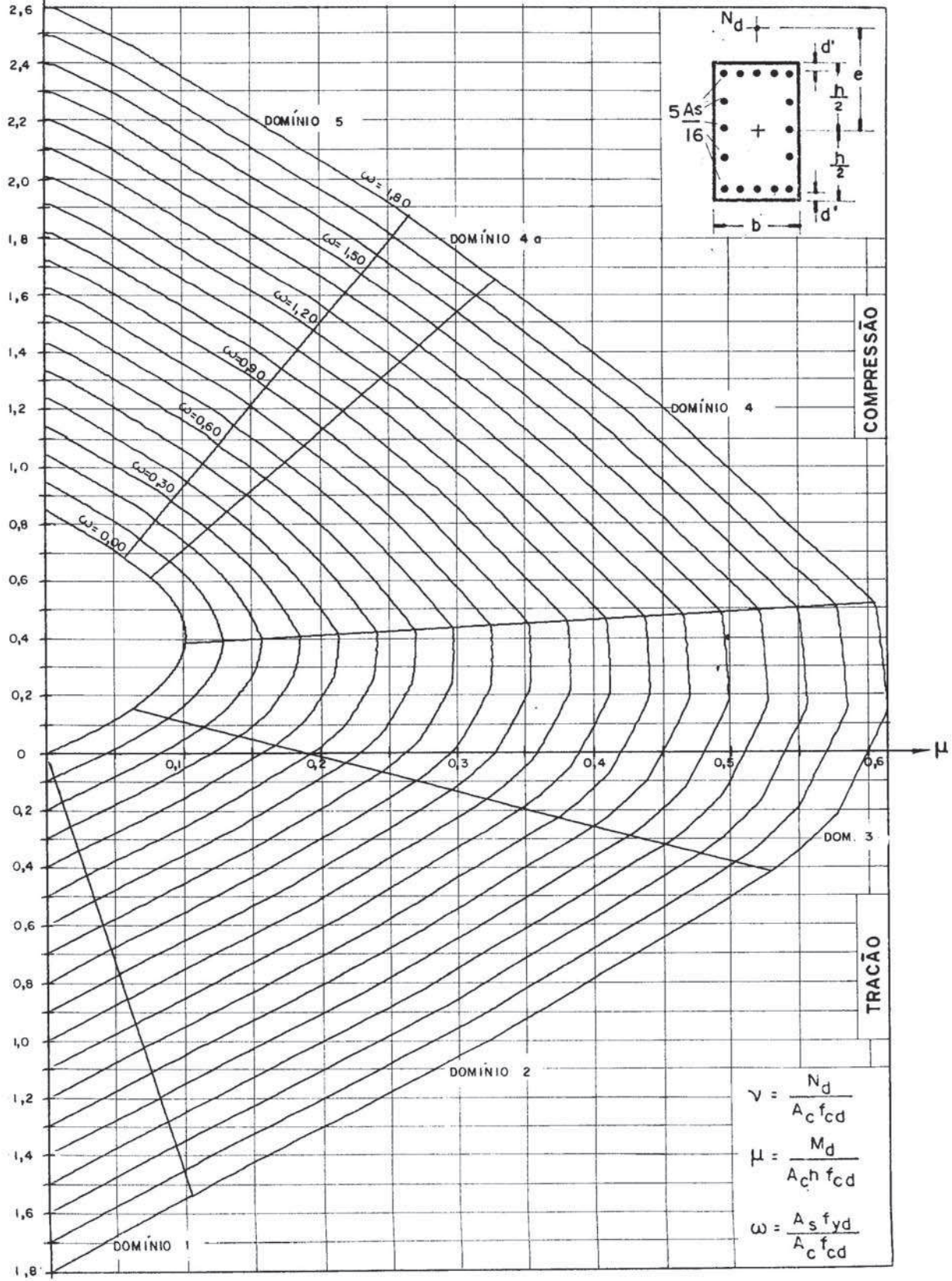


ÁBACO A-69

CA-50A

$\gamma_s = 1,15$

$d'/h = 0,10$

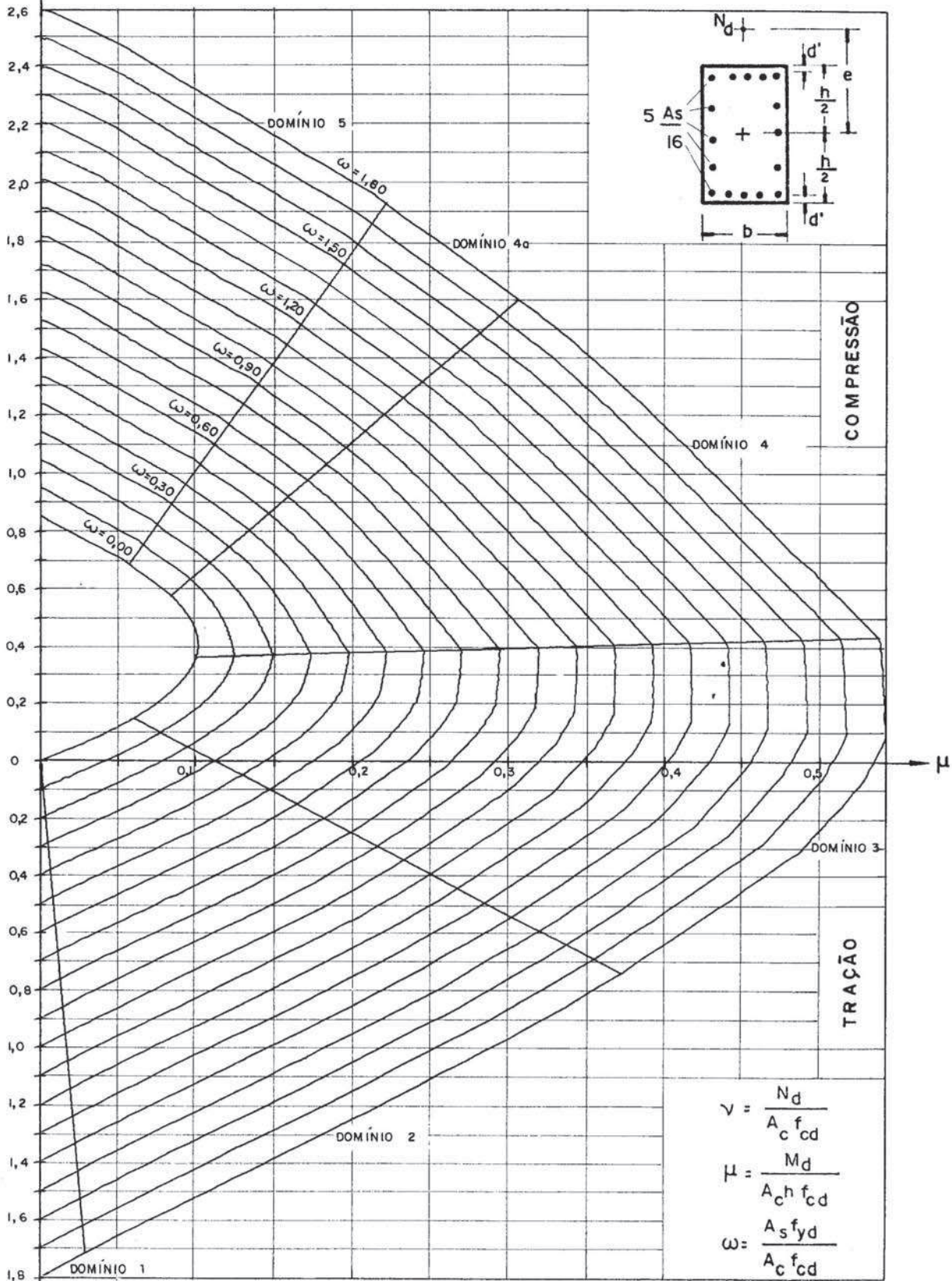


ÁBACO A-70

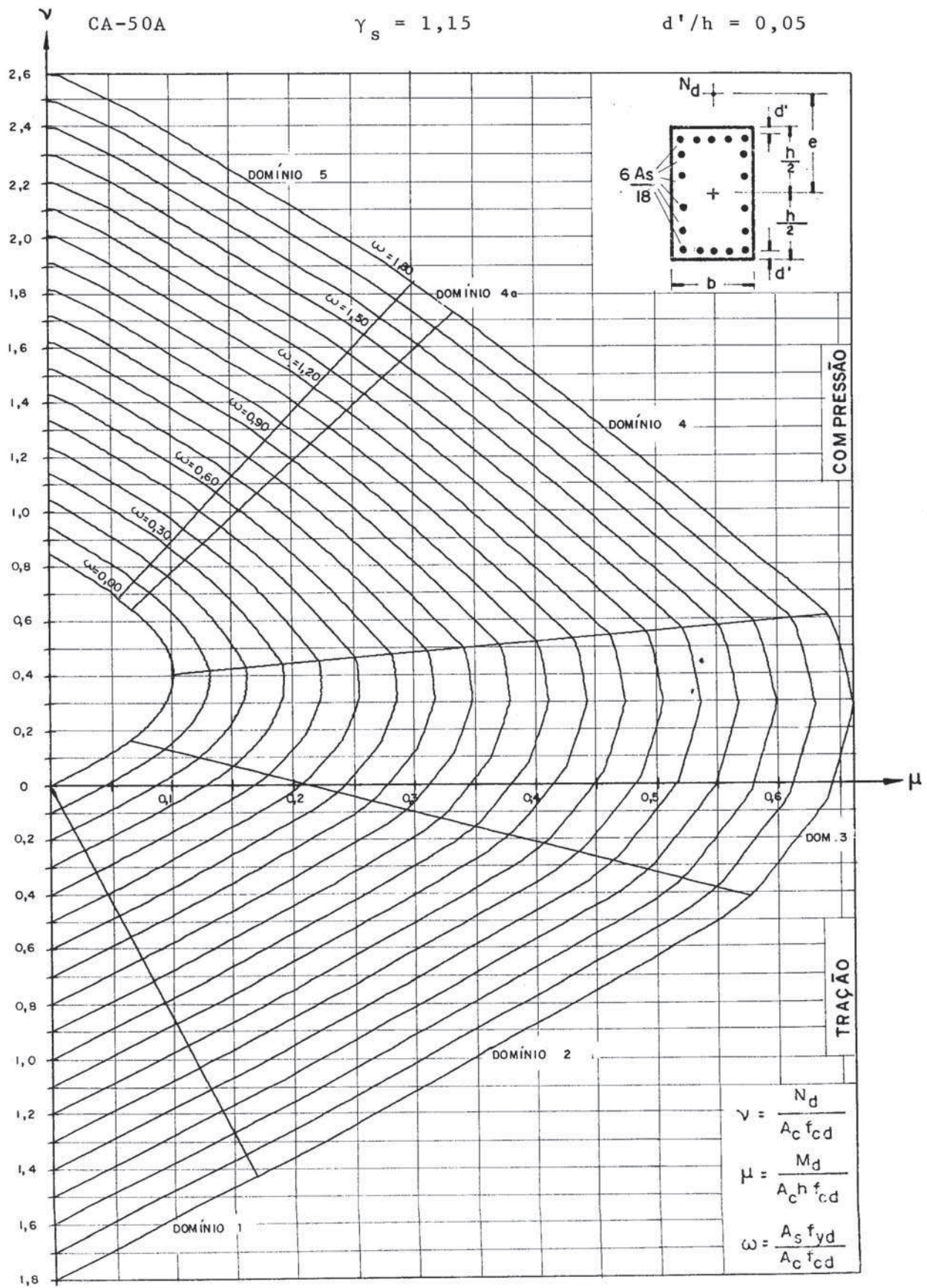
CA-50A

$\gamma_s = 1,15$

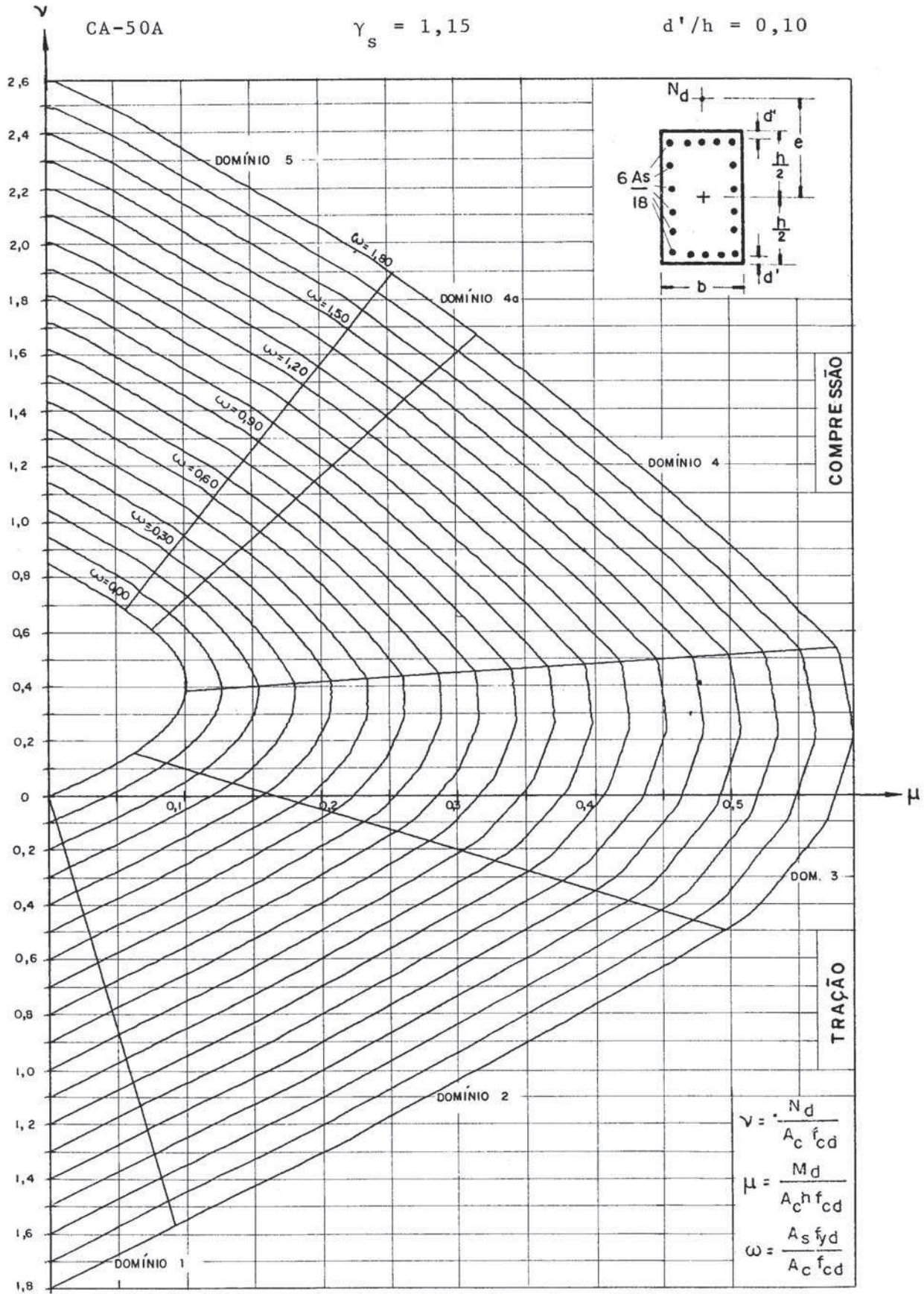
$d'/h = 0,15$



ÁBACO A-71



ÁBACO A-72

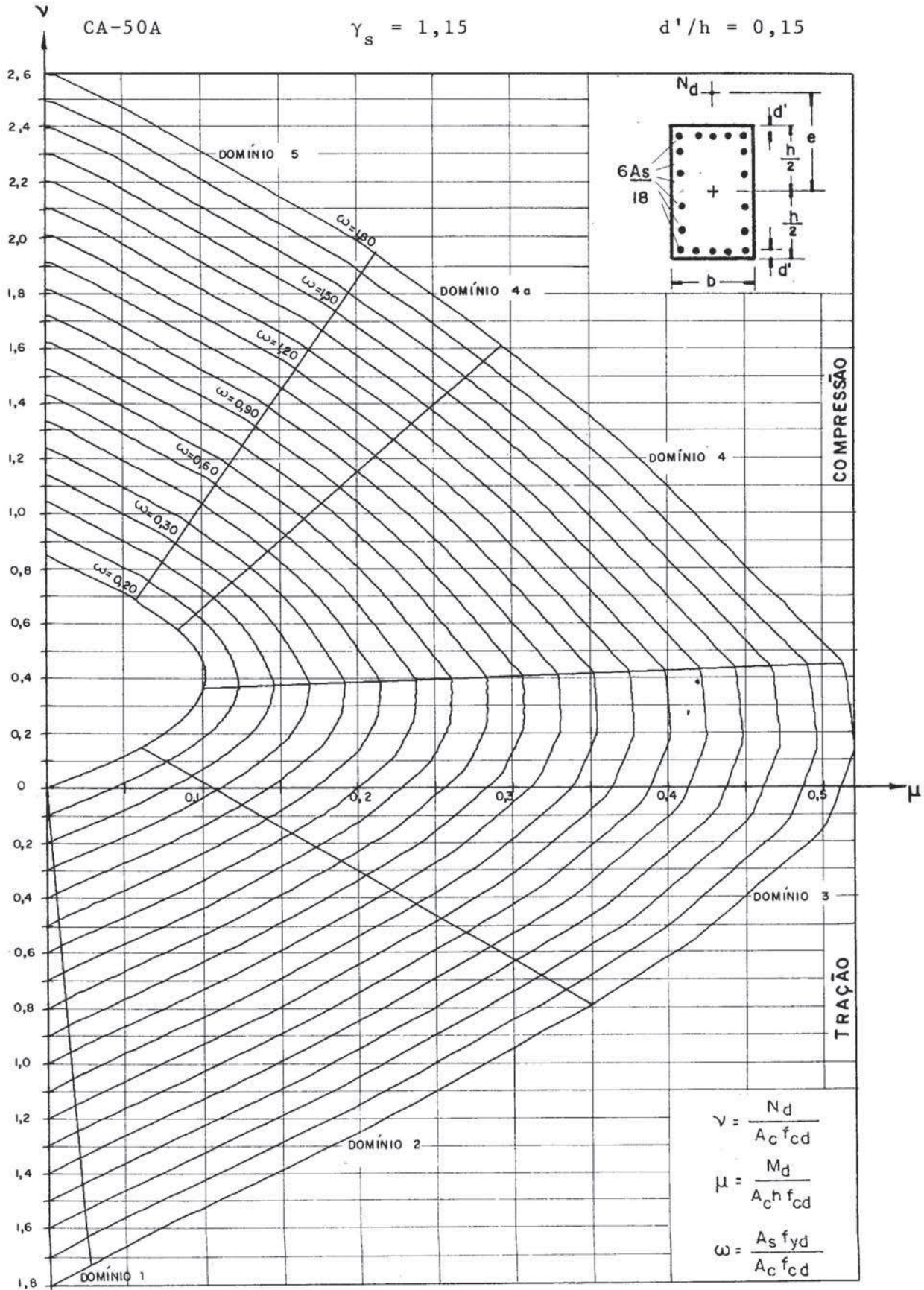


ÁBACO A-73

CA-50A

$\gamma_s = 1,15$

$d'/h = 0,15$

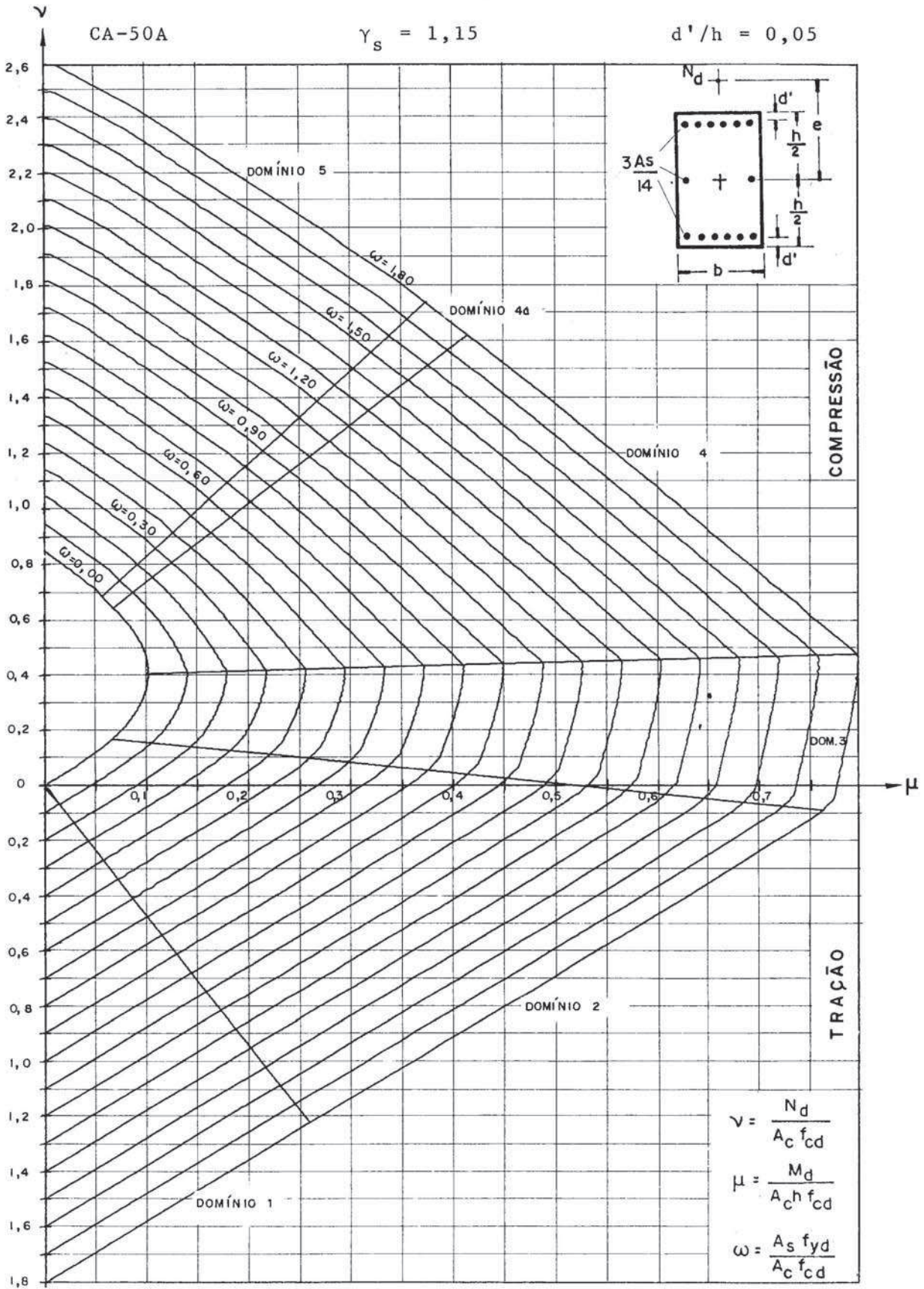


ÁBACO A-74

CA-50A

$\gamma_s = 1,15$

$d'/h = 0,05$

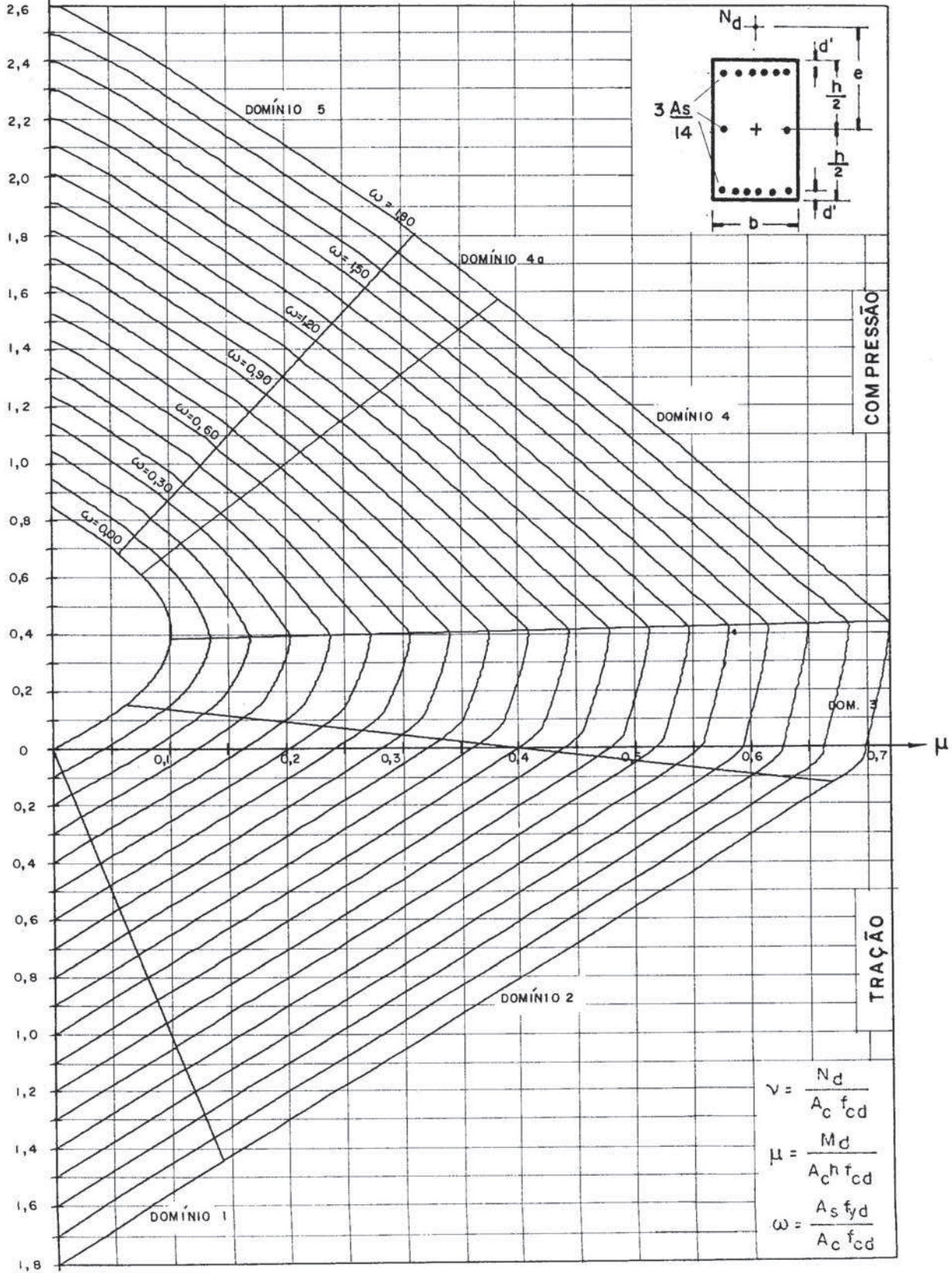


ÁBACO A-75

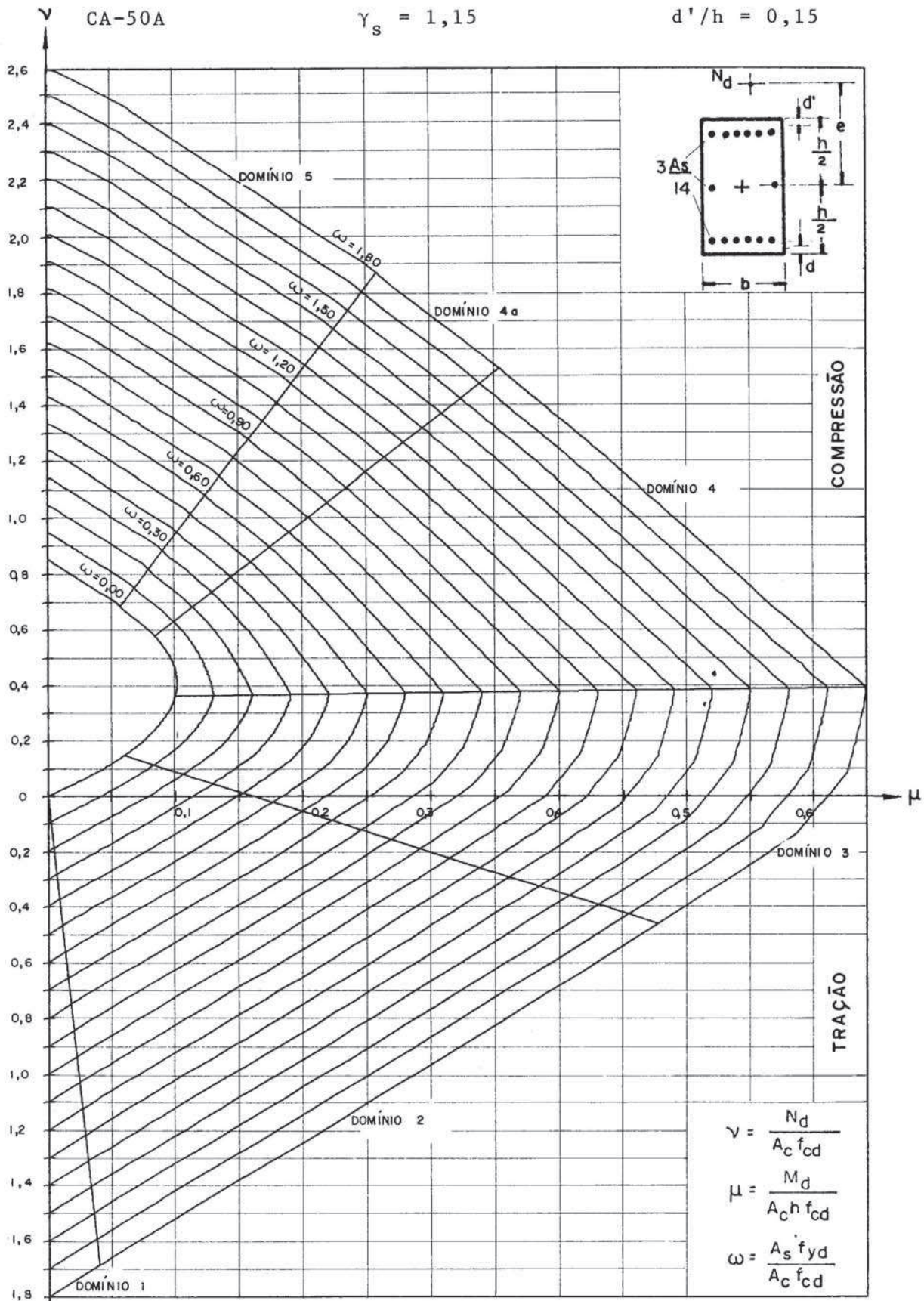
CA-50A

$\gamma_s = 1,15$

$d'/h = 0,10$



ÁBACO A-76

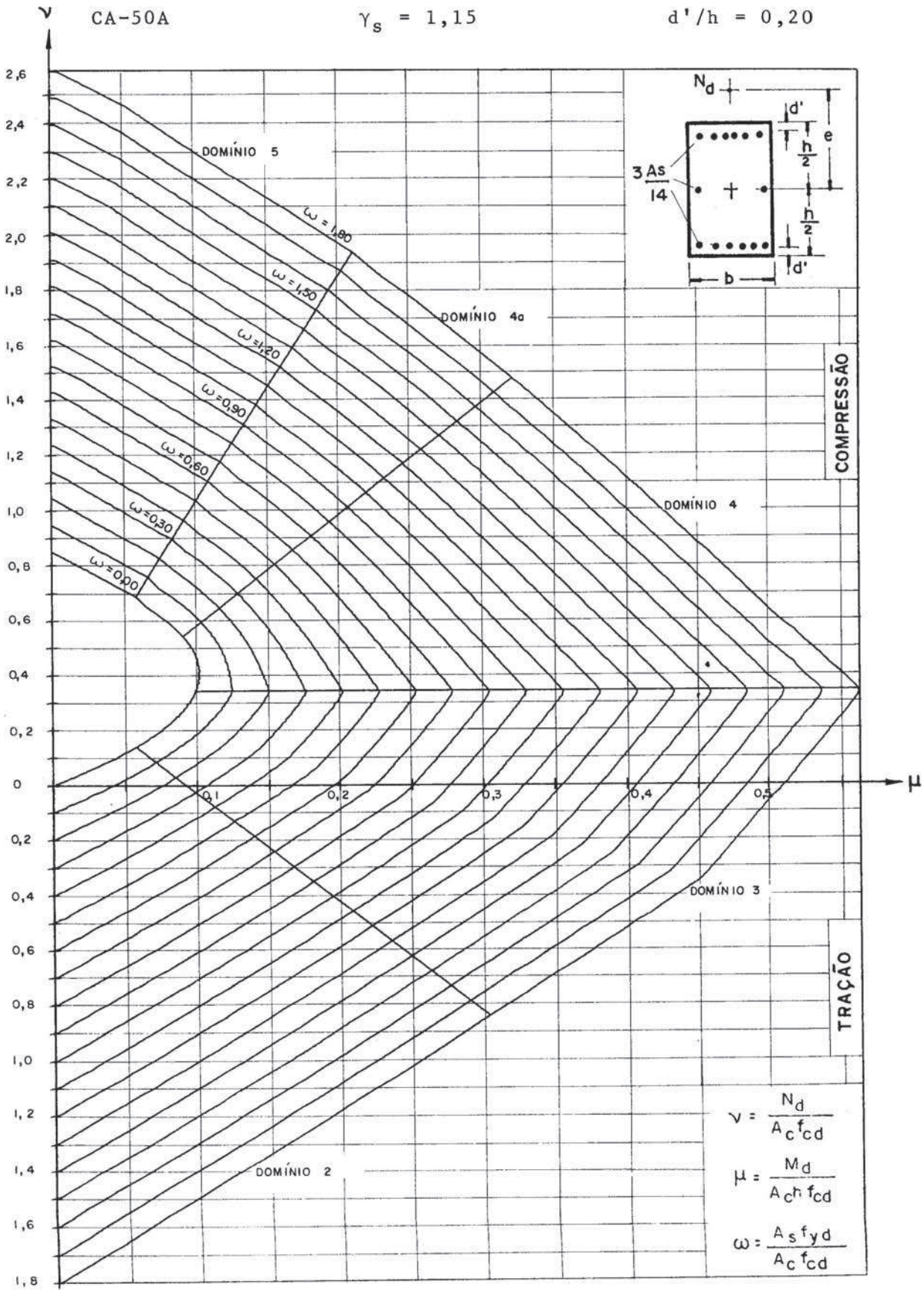


ÁBACO A-77

CA-50A

$\gamma_s = 1,15$

$d'/h = 0,20$

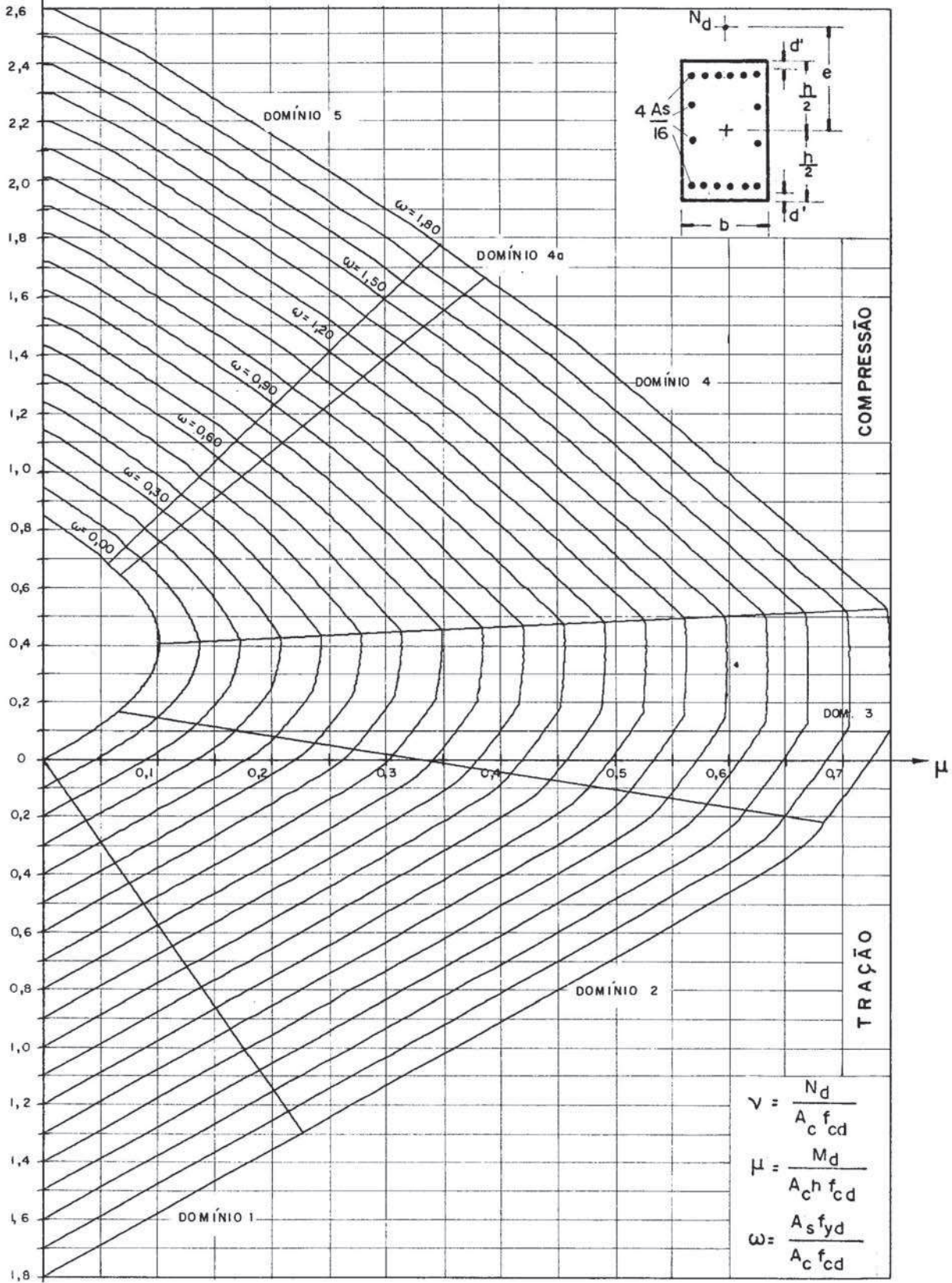


ÁBACO A-78

CA-50A

$\gamma_s = 1,15$

$d'/h = 0,05$

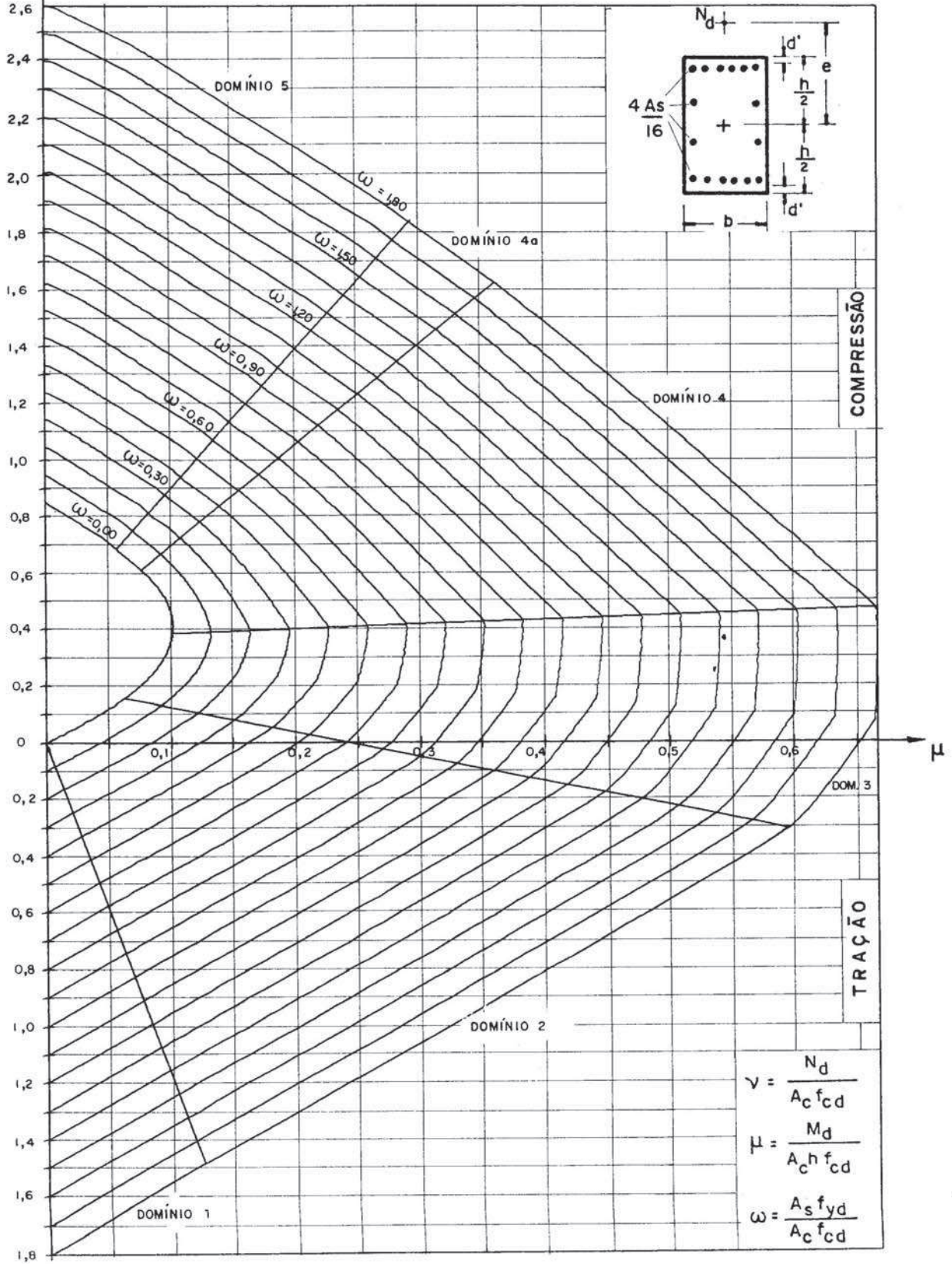


ÁBACO A-79

CA-50A

$\gamma_s = 1,15$

$d'/h = 0,10$

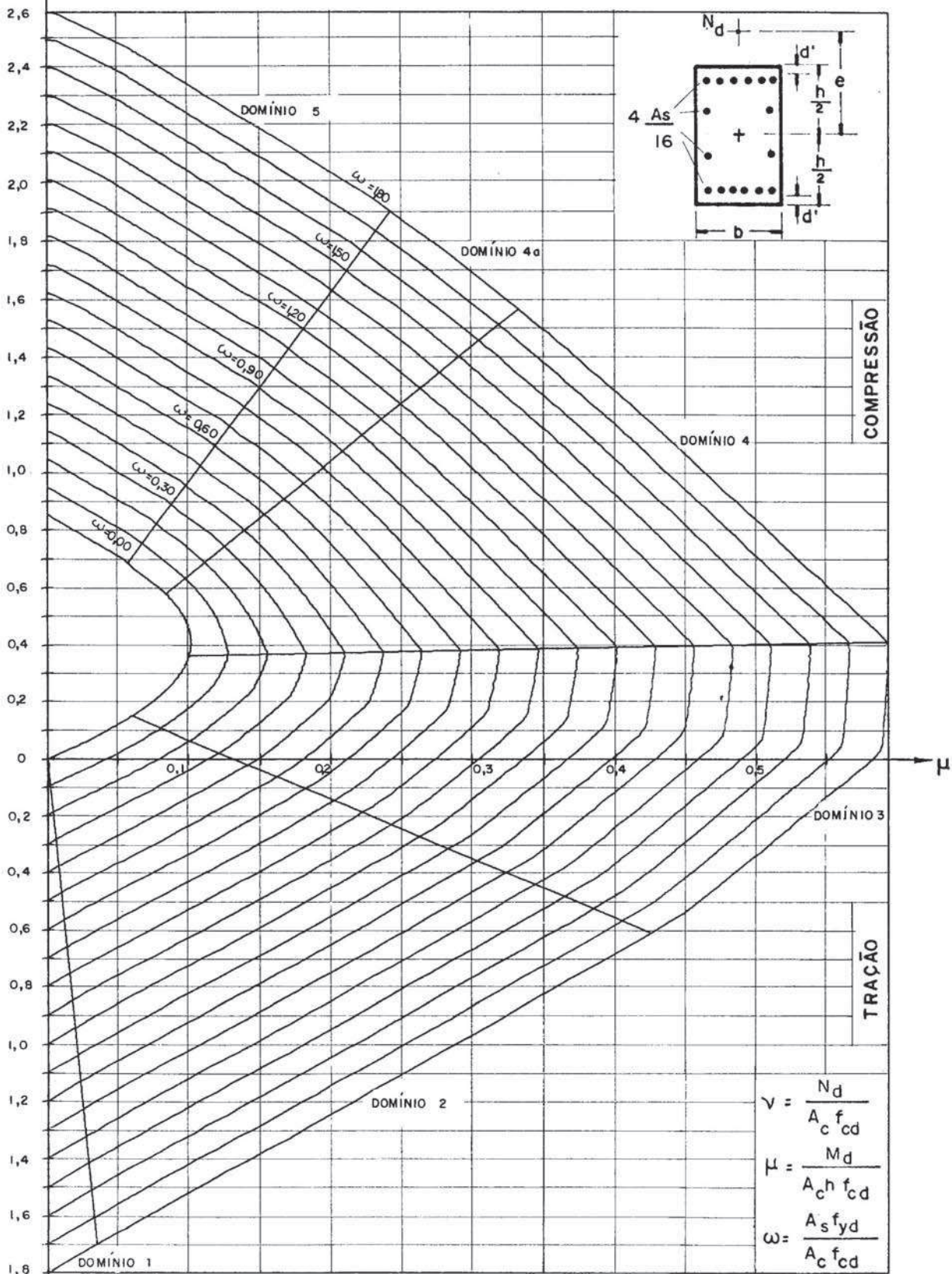


ÁBACO A-80

CA-50A

$\gamma_s = 1,15$

$d'/h = 0,15$

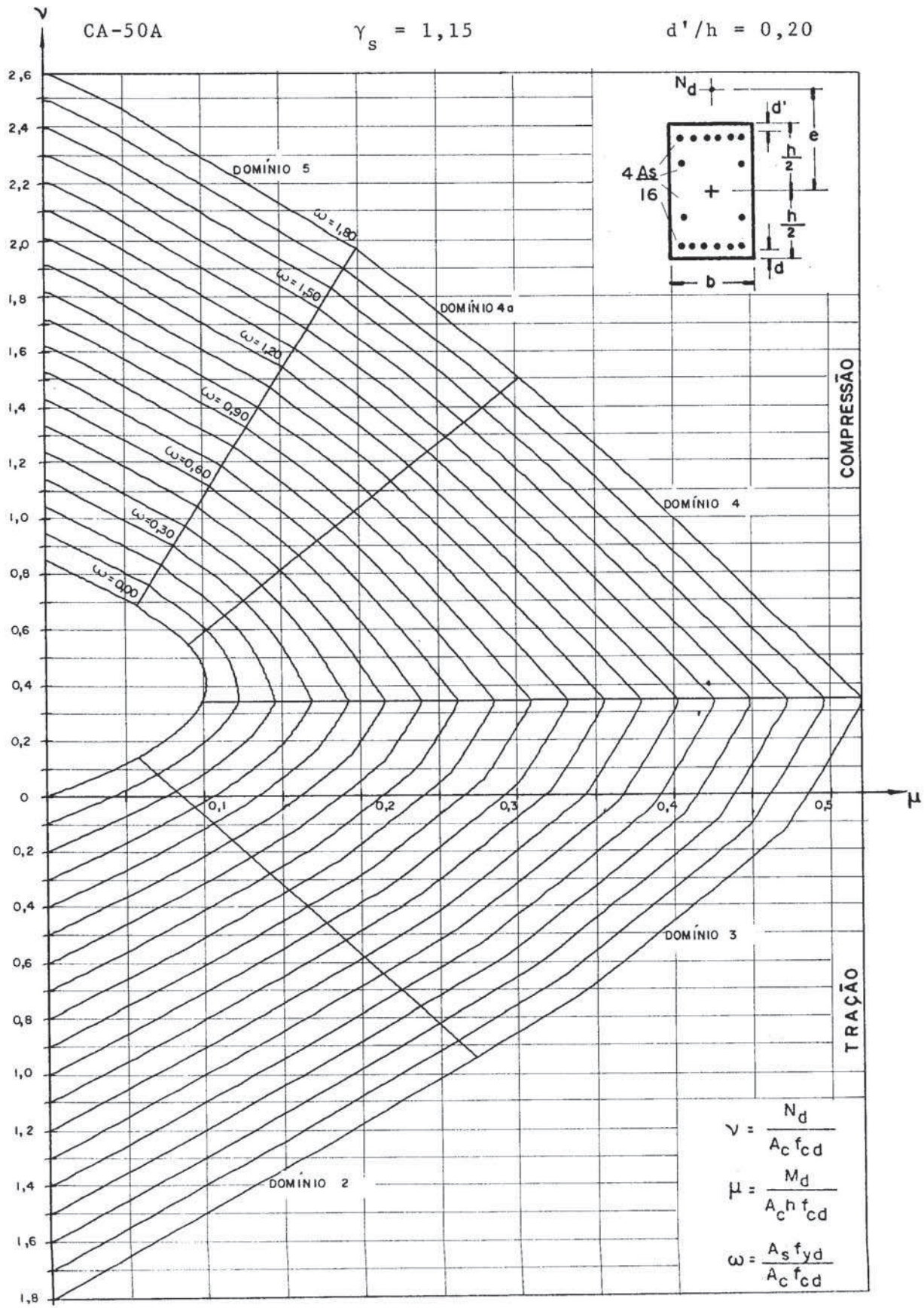


ÁBACO A-81

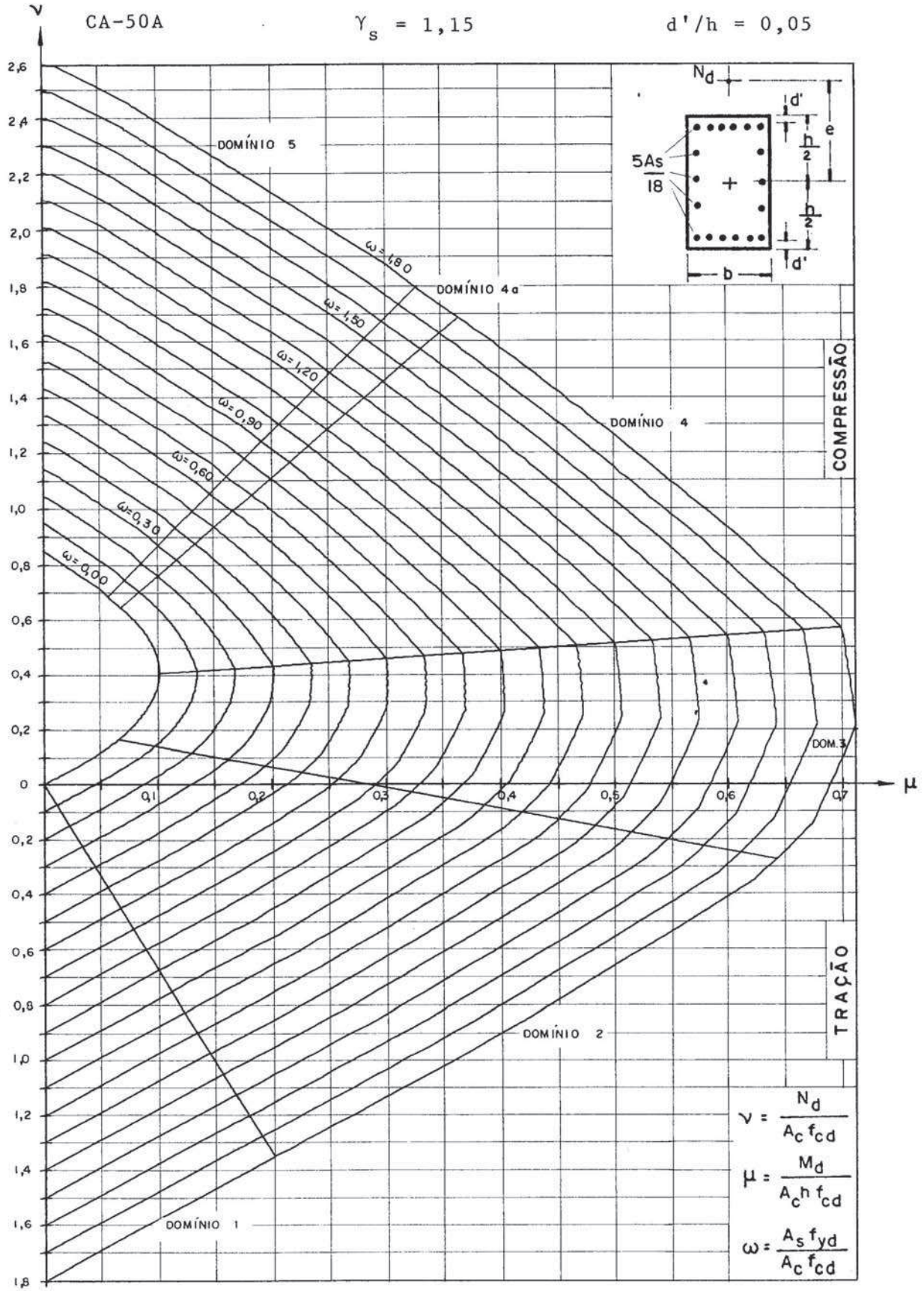
CA-50A

$\gamma_s = 1,15$

$d'/h = 0,20$



ÁBACO A-82

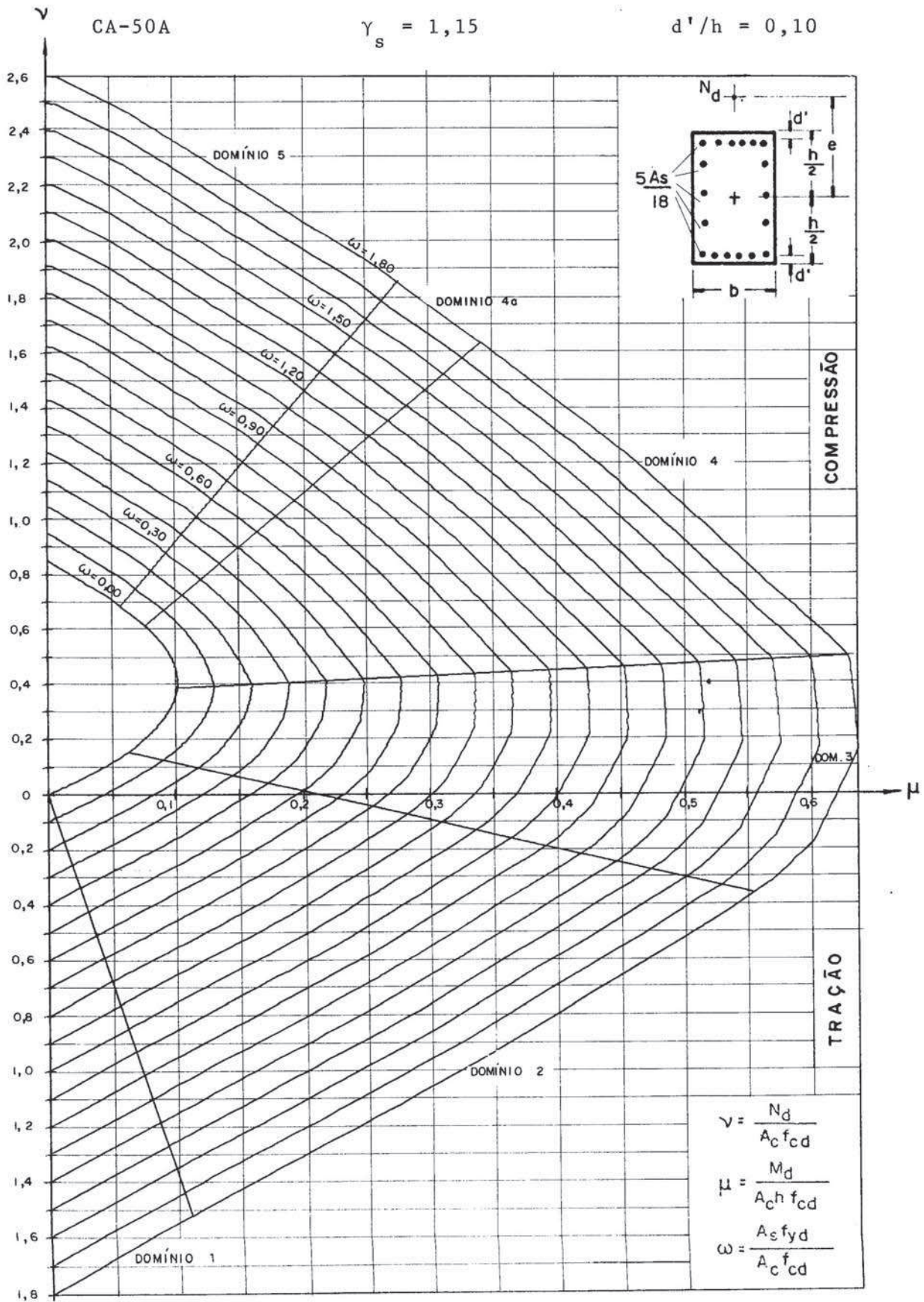


ÁBACO A-83

CA-50A

$\gamma_s = 1,15$

$d'/h = 0,10$

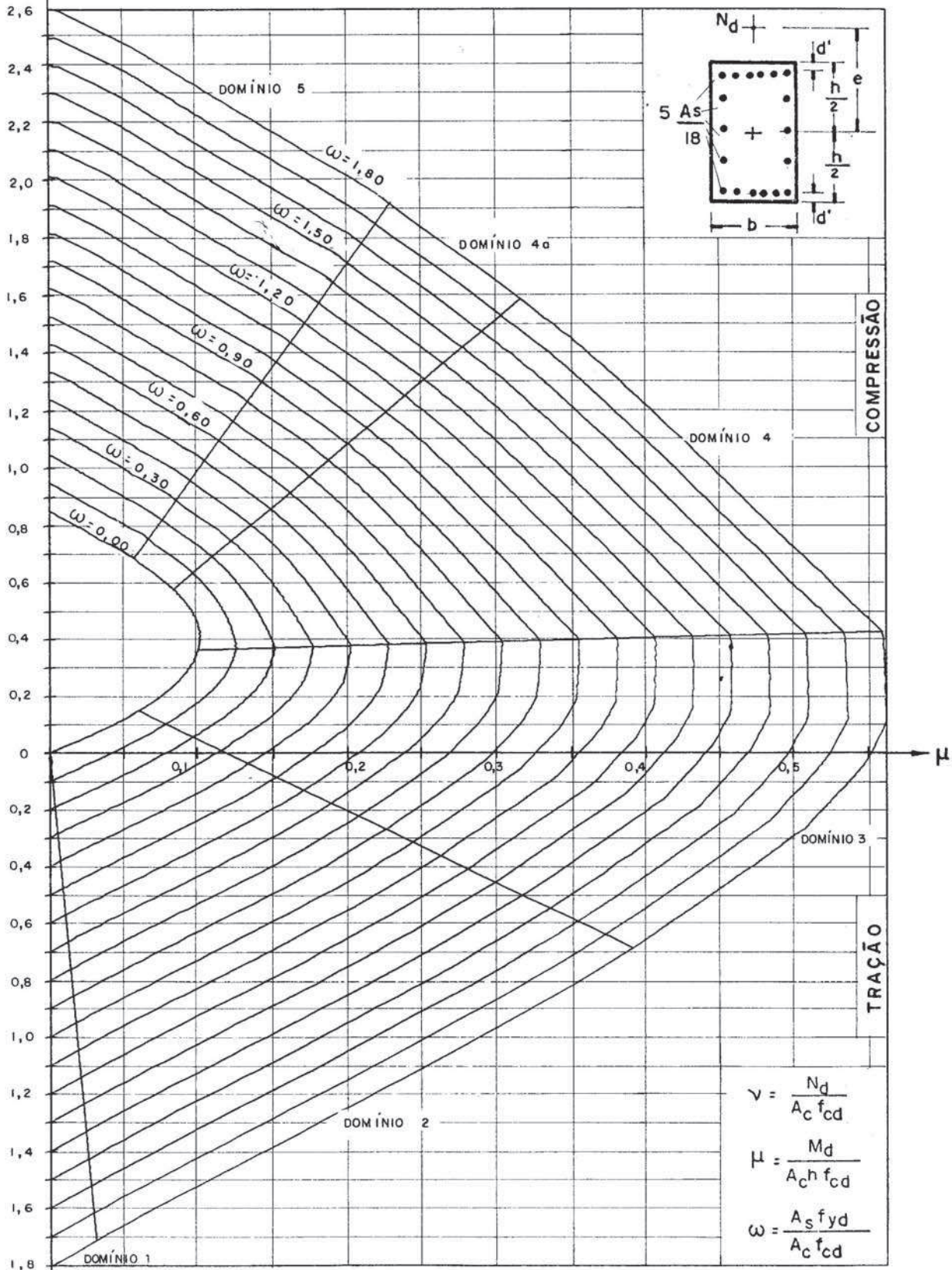


ÁBACO A-84

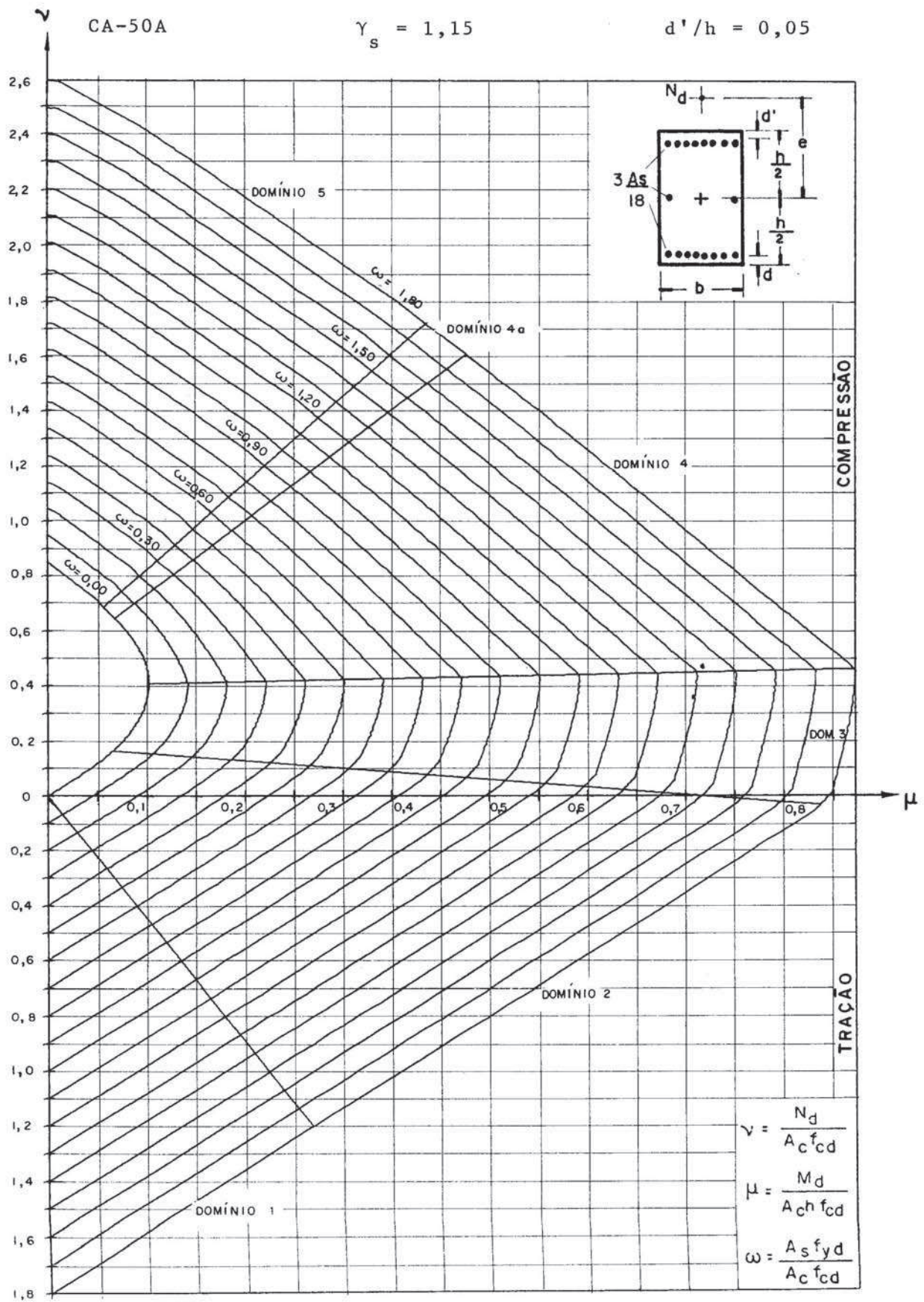
CA-50A

$\gamma_s = 1,15$

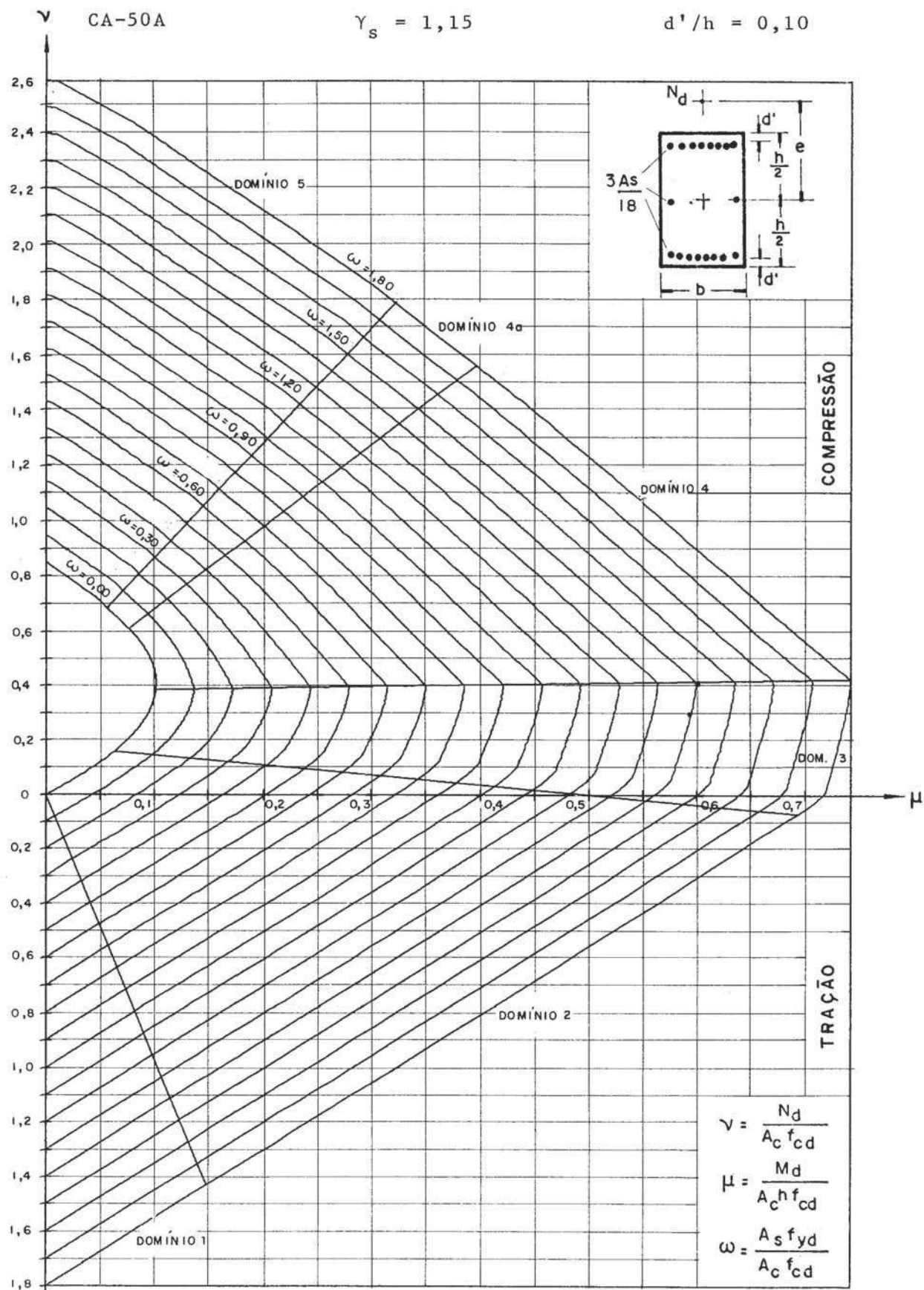
$d'/h = 0,15$



ÁBACO A-85



ÁBACO A-86

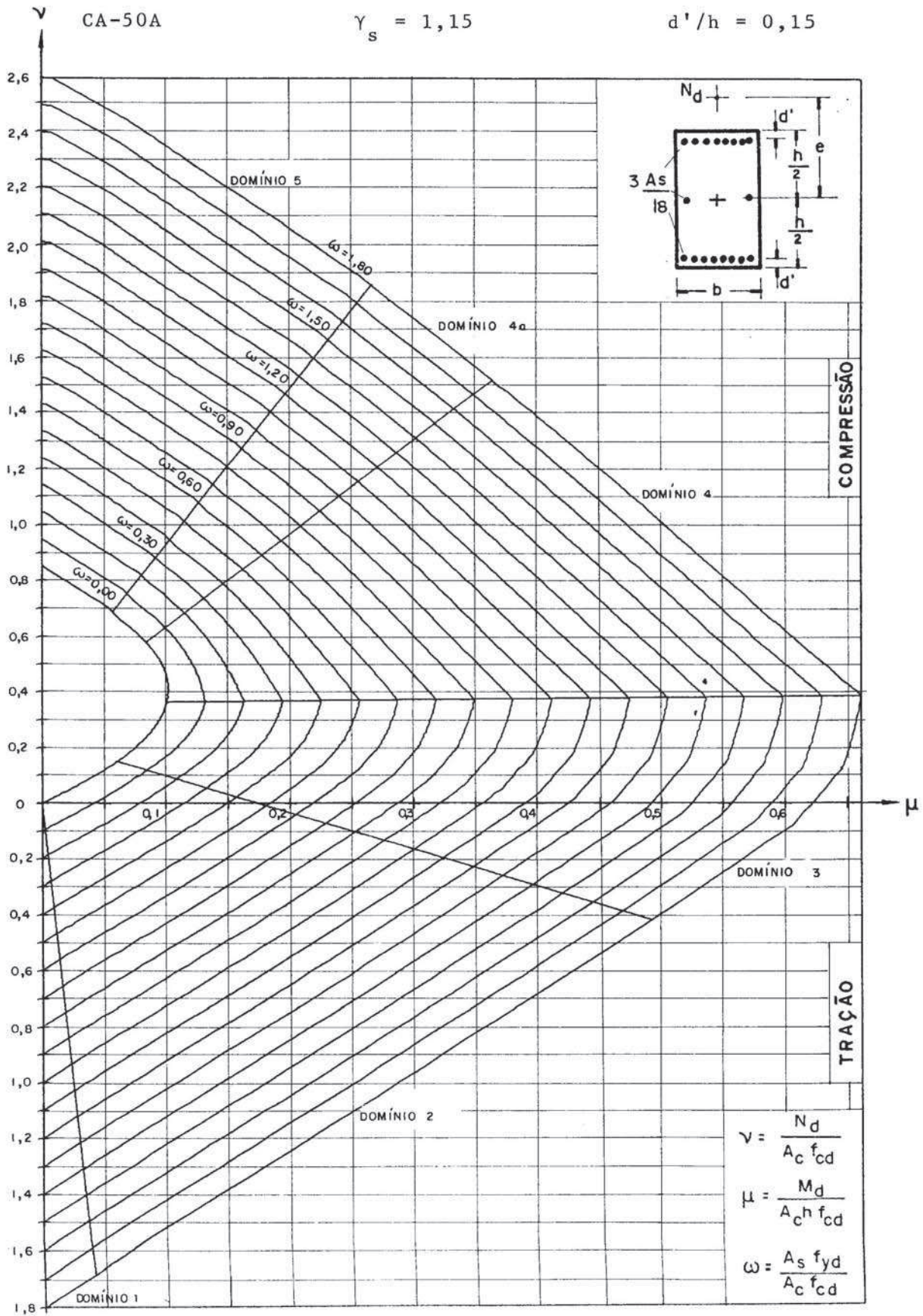


ÁBACO A-87

CA-50A

$\gamma_s = 1,15$

$d'/h = 0,15$

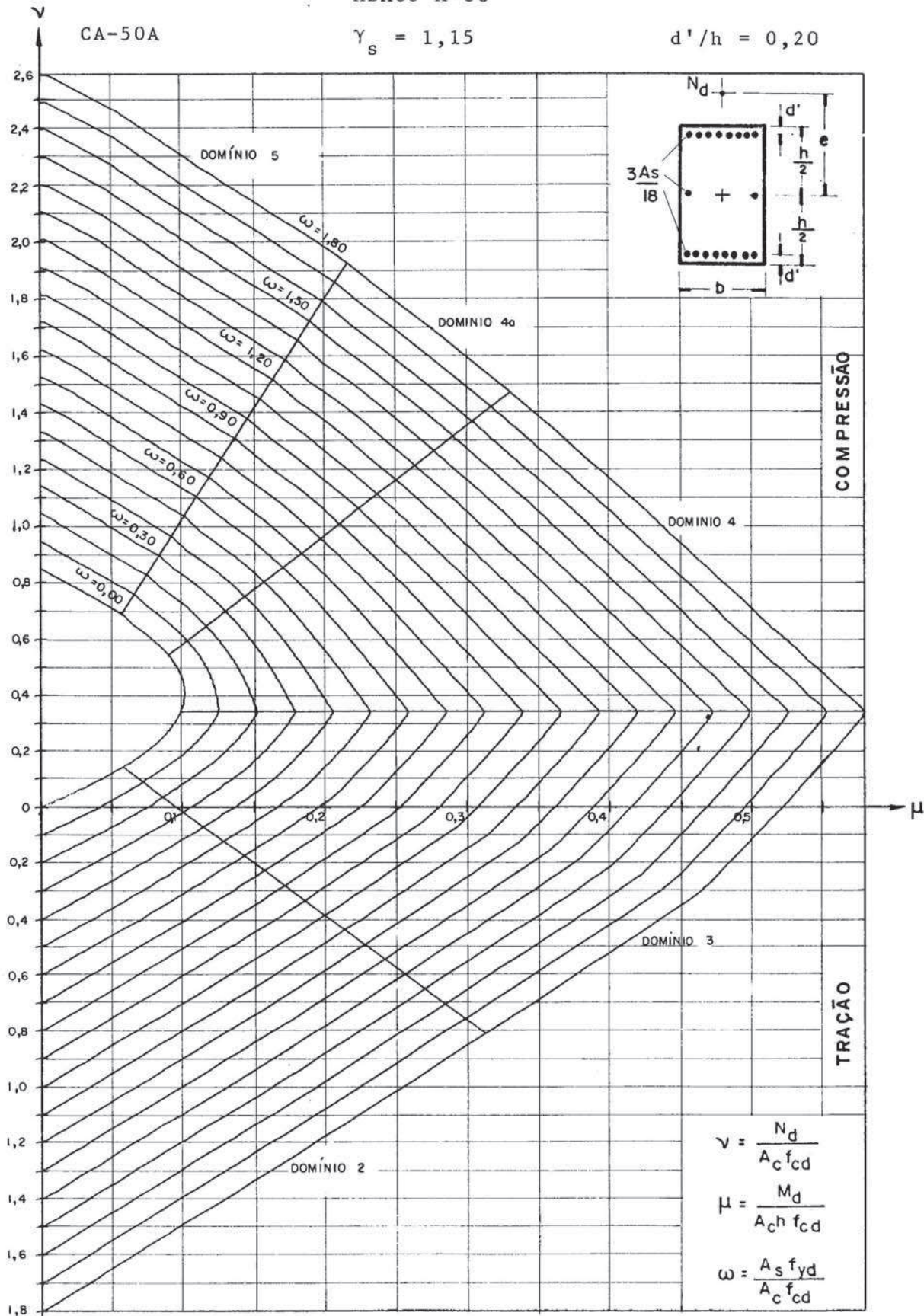


ÁBACO A-88

CA-50A

$\gamma_s = 1,15$

$d'/h = 0,20$

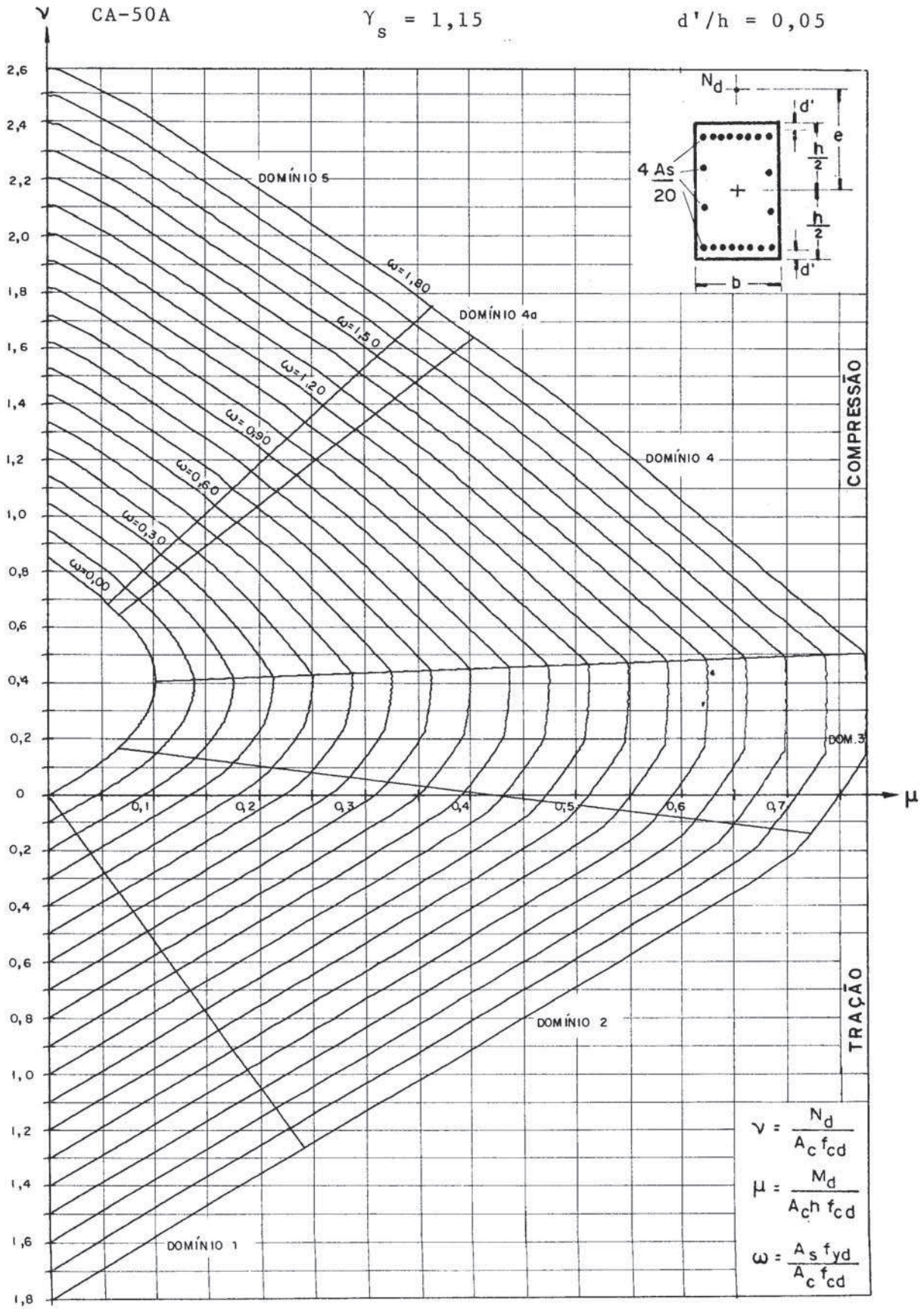


ÁBACO A-89

CA-50A

$\gamma_s = 1,15$

$d'/h = 0,05$

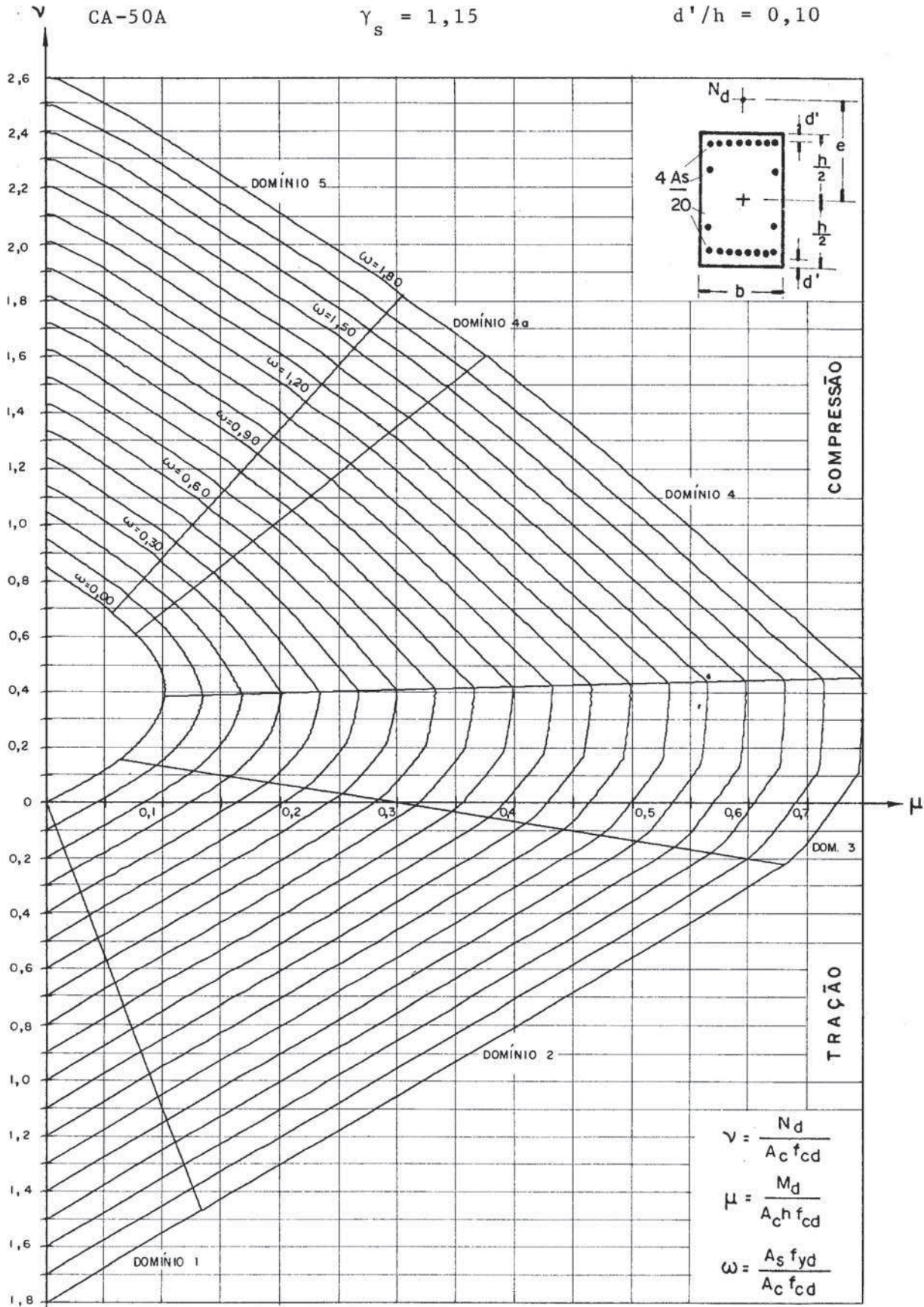


ÁBACO A-90

CA-50A

$\gamma_s = 1,15$

$d'/h = 0,10$

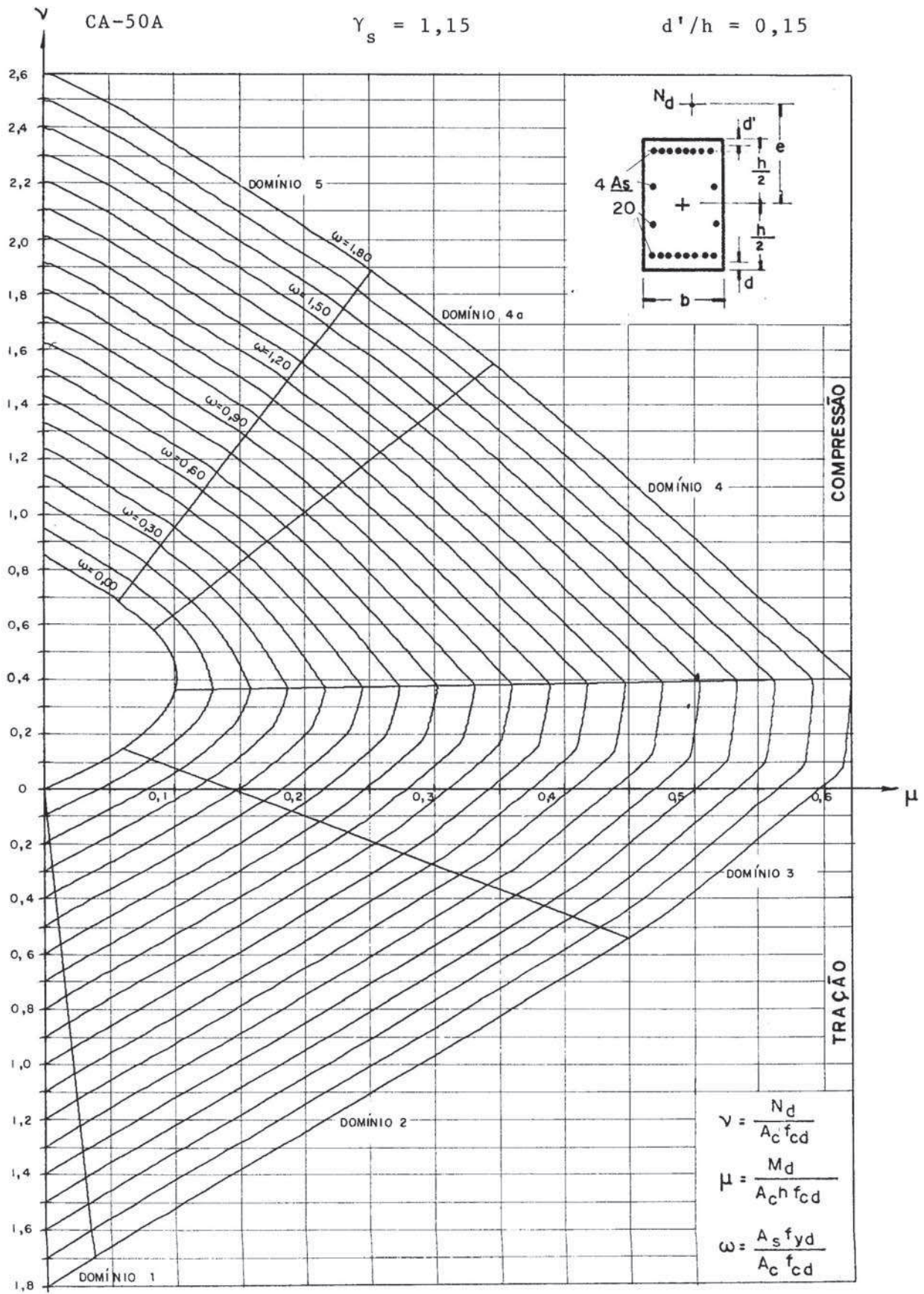


ÁBACO A-91

CA-50A

$\gamma_s = 1,15$

$d'/h = 0,15$

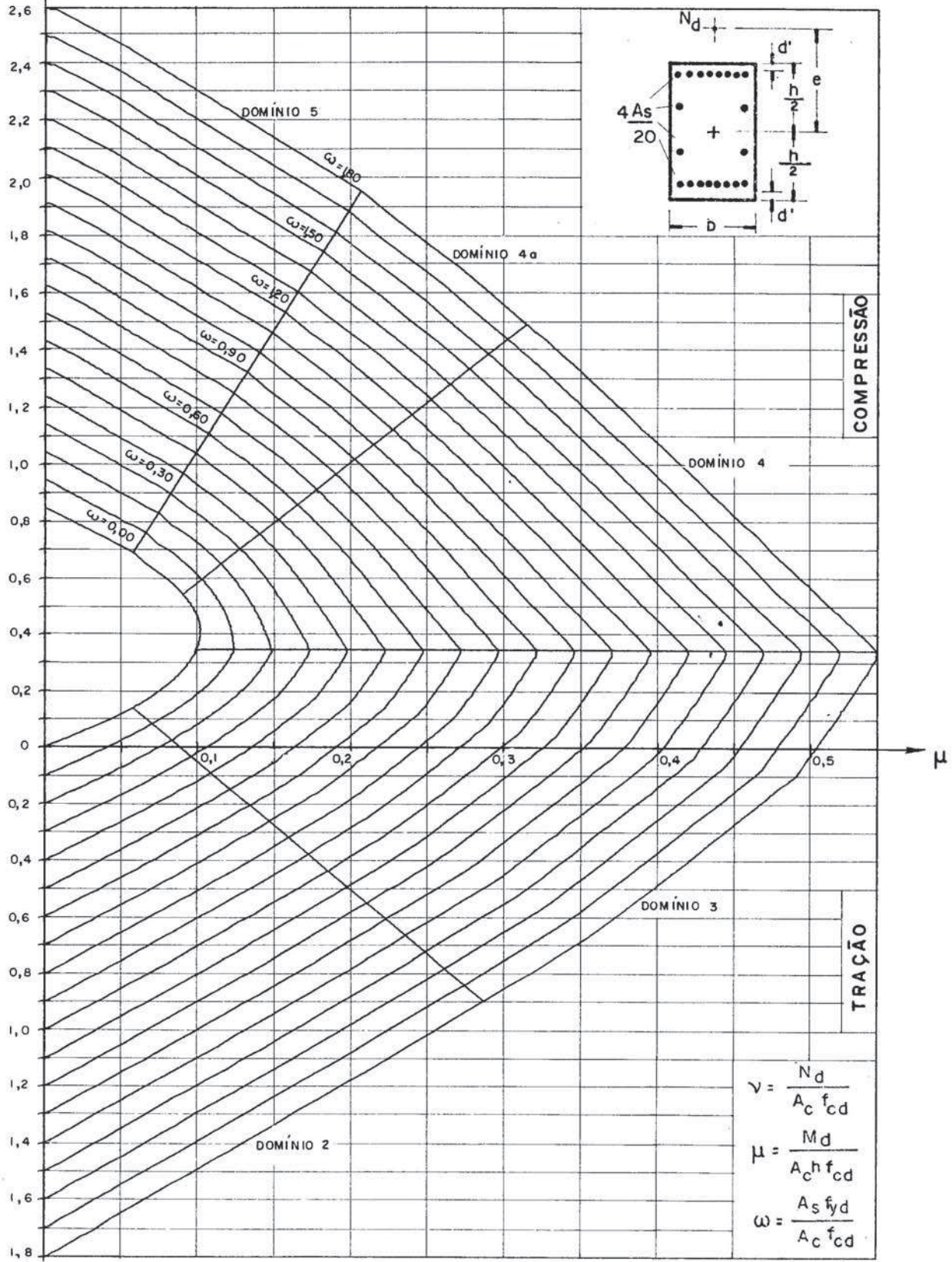


ÁBACO A-92

CA-50A

$\gamma_s = 1,15$

$d'/h = 0,20$

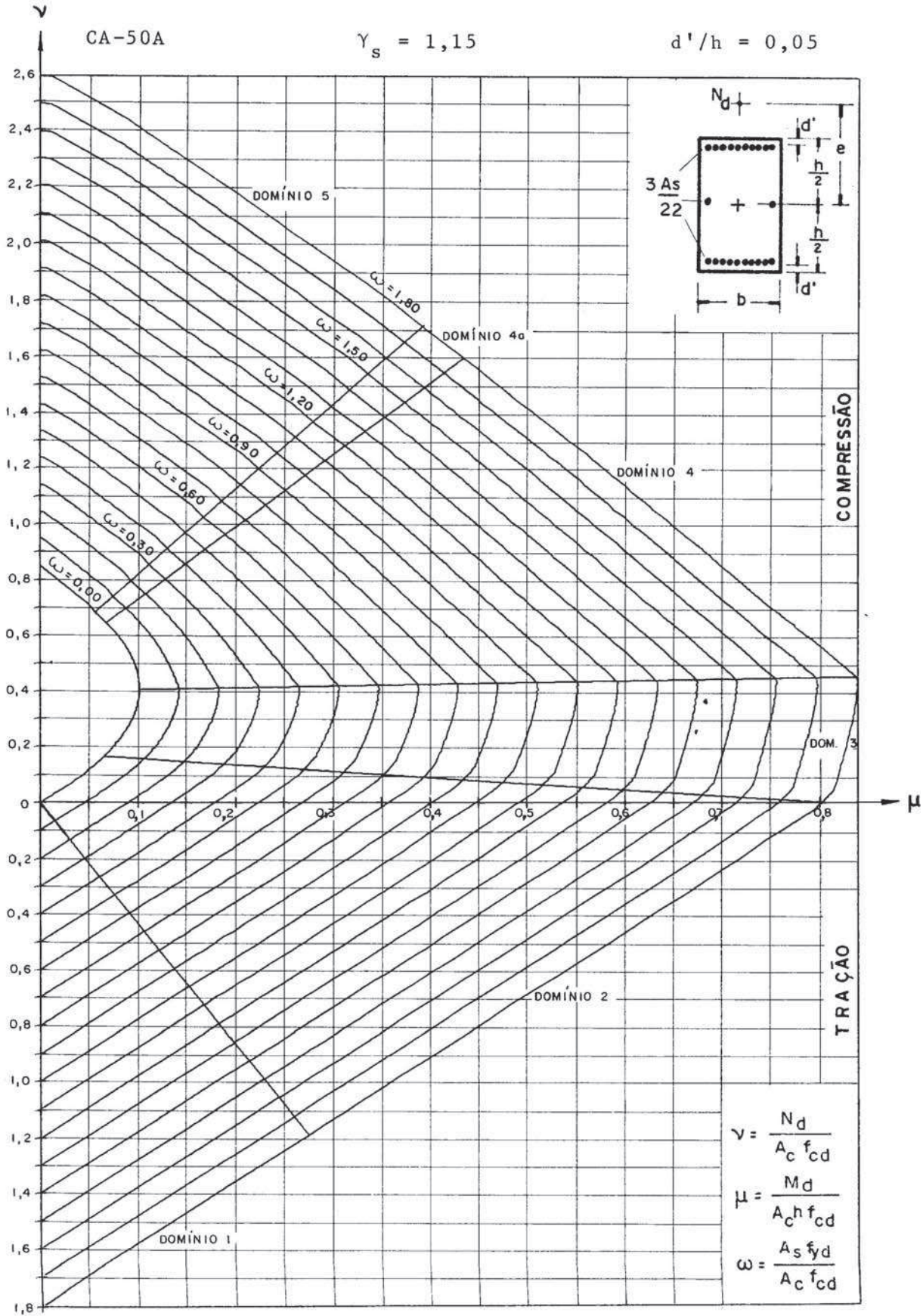


ÁBACO A-93

CA-50A

$\gamma_s = 1,15$

$d'/h = 0,05$

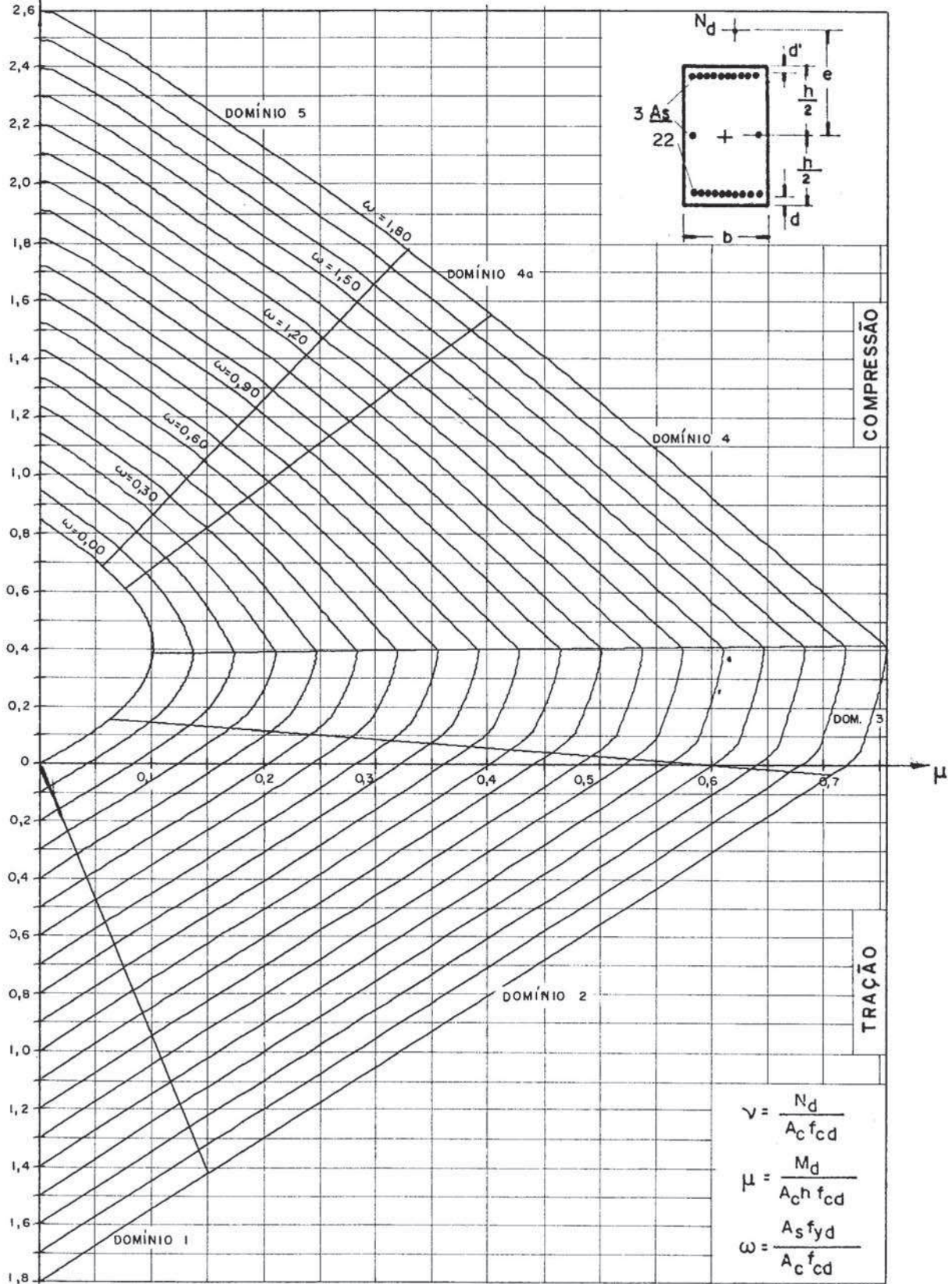


ÁBACO A-94

CA-50A

$\gamma_s = 1,15$

$d'/h = 0,10$

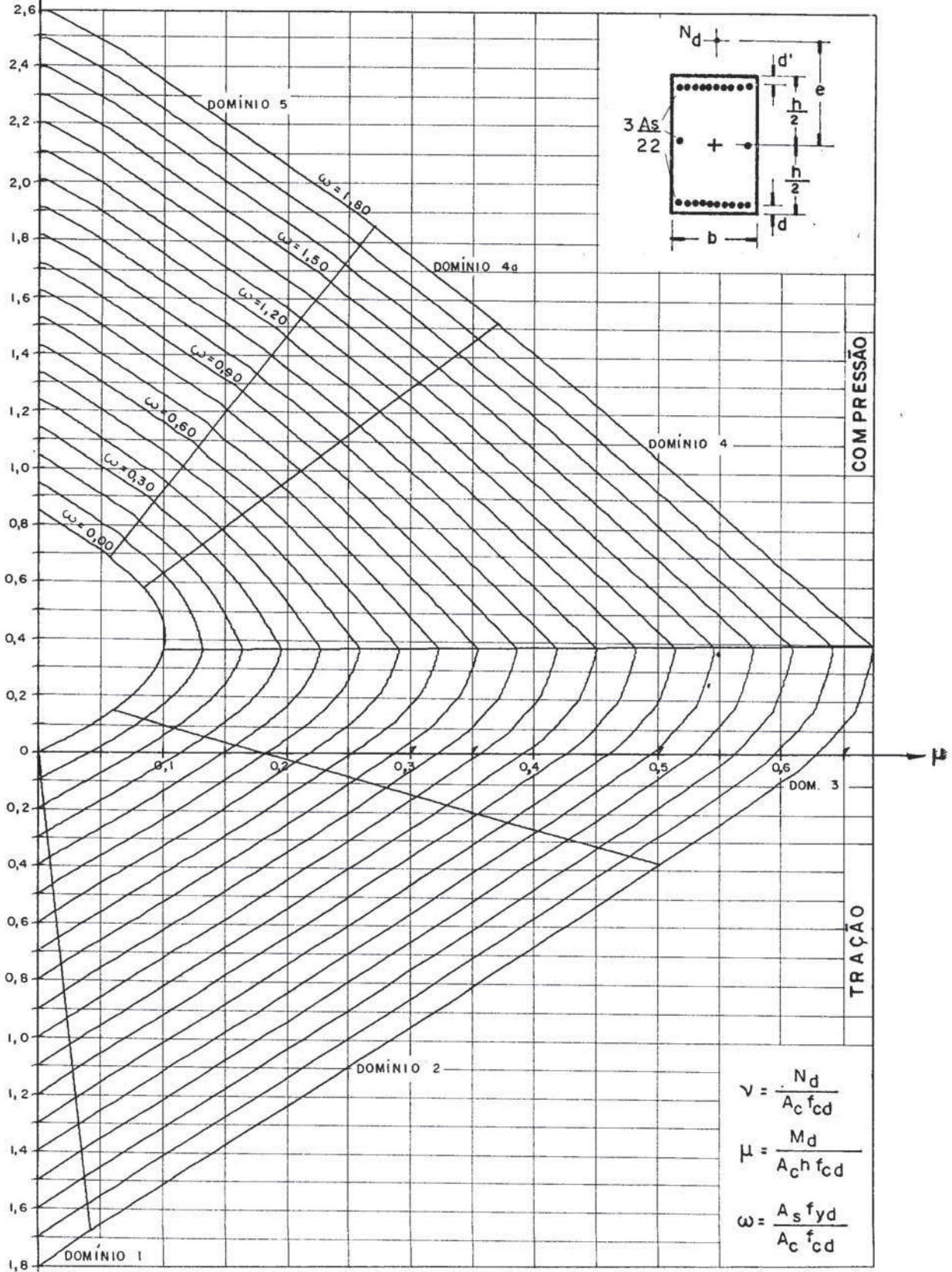


ÁBACO A-95

CA-50A

$\gamma_s = 1,15$

$d'/h = 0,15$



ÁBACO A-96

