

Tabel 4.6 Penurunan Konsolidasi Primer (Sc) Akibat Adanya Pembebanan Awal (*Preloading*)

| No. | Bore Hole | Lapis | Settlement | | Elevasi Timbunan | | | | | | | | | | | |
|------------------------------------|-----------|-------|--|---|------------------|-----------------------|---------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| | | | $S_c = \frac{C_r \cdot h}{1 + e_0} \log \frac{\sigma'_c}{\sigma'_0} + \frac{C_c \cdot h}{1 + e_0} \log \frac{\sigma'_0 + \Delta\sigma}{\sigma'_c}$ | $\Delta\sigma = \gamma \cdot H_r \cdot 2 \text{ I}$ | H _r | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 |
| | | | | | (m) | Koreksi OSTERBERG (I) | (t/m ²) | 0,5 | 0,5 | 0,5 | 0,5 | 0,5 | 0,5 | 0,5 | 0,5 | 0,5 |
| 1 | BH - 2 | 1 | $S_{c1} = 0,2461 \log 9,77 + 1,969 \log \frac{(0,322 + \Delta\sigma)}{3,15}$ | Sc ₁ | (m) | 1,172 | 1,322 | 1,451 | 1,562 | 1,661 | 1,749 | 1,829 | 1,903 | 1,970 | 2,033 | 2,091 |
| | | 2 | $S_{c2} = 0,167 \log 5,13 + 1,336 \log \frac{(0,935 + \Delta\sigma)}{4,80}$ | Sc ₂ | (m) | 0,541 | 0,637 | 0,720 | 0,792 | 0,857 | 0,915 | 0,967 | 1,016 | 1,060 | 1,102 | 1,140 |
| | | 3 | $S_{c3} = 0,1064 \log 1,78 + 0,852 \log \frac{(2,755 + \Delta\sigma)}{4,90}$ | Sc ₃ | (m) | 0,350 | 0,403 | 0,449 | 0,490 | 0,527 | 0,560 | 0,591 | 0,620 | 0,646 | 0,671 | 0,694 |
| Total Penurunan Primer (Sc) | | | | | (m) | 2,062 | 2,363 | 2,620 | 2,845 | 3,045 | 3,225 | 3,388 | 3,538 | 3,677 | 3,805 | 3,925 |
| 2 | BH - 3 | 1 | $S_{c1} = 0,2598 \log 10,6 + 2,078 \log \frac{(0,296 + \Delta\sigma)}{3,15}$ | Sc ₁ | (m) | 1,244 | 1,403 | 1,539 | 1,657 | 1,761 | 1,855 | 1,939 | 2,017 | 2,088 | 2,154 | 2,216 |
| | | 2 | $S_{c2} = 0,1604 \log 6,02 + 1,283 \log \frac{(0,797 + \Delta\sigma)}{4,80}$ | Sc ₂ | (m) | 0,523 | 0,617 | 0,697 | 0,767 | 0,830 | 0,886 | 0,937 | 0,984 | 1,027 | 1,067 | 1,104 |
| | | 3 | $S_{c3} = 0,2023 \log 2,93 + 1,618 \log \frac{(1,624 + \Delta\sigma)}{4,75}$ | Sc ₃ | (m) | 0,660 | 0,770 | 0,865 | 0,949 | 1,024 | 1,091 | 1,153 | 1,210 | 1,262 | 1,311 | 1,356 |
| | | 4 | $S_{c4} = 0,1075 \log 1,63 + 0,86 \log \frac{(2,945 + \Delta\sigma)}{4,80}$ | Sc ₄ | (m) | 0,363 | 0,416 | 0,462 | 0,502 | 0,539 | 0,573 | 0,604 | 0,632 | 0,659 | 0,683 | 0,706 |
| | | 5 | $S_{c5} = 0,0886 \log 0,89 + 0,708 \log \frac{(4,815 + \Delta\sigma)}{4,30}$ | Sc ₅ | (m) | 0,355 | 0,392 | 0,426 | 0,456 | 0,484 | 0,509 | 0,532 | 0,554 | 0,574 | 0,593 | 0,611 |
| | | 6 | $S_{c6} = 0,1167 \log 0,71 + 0,933 \log \frac{(6,306 + \Delta\sigma)}{4,50}$ | Sc ₆ | (m) | 0,479 | 0,524 | 0,565 | 0,602 | 0,635 | 0,667 | 0,696 | 0,723 | 0,748 | 0,772 | 0,794 |
| | | 7 | $S_{c7} = 0,0751 \log 0,55 + 0,601 \log \frac{(7,825 + \Delta\sigma)}{4,30}$ | Sc ₇ | (m) | 0,336 | 0,363 | 0,387 | 0,409 | 0,429 | 0,448 | 0,466 | 0,482 | 0,498 | 0,512 | 0,526 |
| | | 8 | $S_{c8} = 0,1277 \log 0,5 + 1,022 \log \frac{(8,986 + \Delta\sigma)}{4,50}$ | Sc ₈ | (m) | 0,576 | 0,619 | 0,657 | 0,693 | 0,726 | 0,757 | 0,785 | 0,812 | 0,837 | 0,861 | 0,884 |
| Total Penurunan Primer (Sc) | | | | | (m) | 4,536 | 5,104 | 5,598 | 6,035 | 6,428 | 6,785 | 7,112 | 7,413 | 7,693 | 7,954 | 8,199 |

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|------------------------------------|-----------|-------|--|---|---|------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-----|
| | | | $S_c = \frac{C_r \cdot h}{1 + e_o} \log \frac{\sigma'_c}{\sigma'_o} + \frac{C_c \cdot h}{1 + e_o} \log \frac{\sigma'_o + \Delta\sigma}{\sigma'_c}$ | $\Delta\sigma = \gamma \cdot H_r \cdot 2 \cdot I$ | $\frac{(\sigma'_o + \Delta\sigma')}{\sigma'_c}$ | H _r | | | | | | | | | | | |
| | | | | | | (m) | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 |
| | | | | | Koreksi OSTERBERG (I) | 0,5 | 0,5 | 0,5 | 0,5 | 0,5 | 0,5 | 0,5 | 0,5 | 0,5 | 0,5 | 0,5 | 0,5 |
| | | | | | (t/m^2) | 9 | 10,8 | 12,6 | 14,4 | 16,2 | 18 | 19,8 | 21,6 | 23,4 | 25,2 | 27 | |
| 3 | BH - 4 | 1 | $S_{c1} = 0,4012 \log 20,3 + 3,209 \log \frac{(0,158 + \Delta\sigma')}{3,20}$ | Sc ₁ | (m) | 1,990 | 2,240 | 2,452 | 2,636 | 2,799 | 2,944 | 3,076 | 3,196 | 3,307 | 3,410 | 3,505 | |
| | | 2 | $S_{c2} = 0,1054 \log 8 + 0,844 \log \frac{(0,600 + \Delta\sigma')}{4,80}$ | Sc ₂ | (m) | 0,349 | 0,412 | 0,466 | 0,513 | 0,554 | 0,591 | 0,625 | 0,656 | 0,685 | 0,711 | 0,736 | |
| | | 3 | $S_{c3} = 0,4642 \log 1,32 + 3,713 \log \frac{(3,679 + \Delta\sigma')}{4,84}$ | Sc ₃ | (m) | 1,608 | 1,822 | 2,011 | 2,181 | 2,334 | 2,473 | 2,602 | 2,721 | 2,832 | 2,936 | 3,034 | |
| | | 4 | $S_{c4} = 0,1291 \log 0,61 + 1,033 \log \frac{(7,396 + \Delta\sigma')}{4,50}$ | Sc ₄ | (m) | 0,552 | 0,599 | 0,641 | 0,680 | 0,716 | 0,749 | 0,779 | 0,808 | 0,835 | 0,861 | 0,885 | |
| Total Penurunan Primer (Sc) | | | | | (m) | 4,500 | 5,074 | 5,571 | 6,010 | 6,402 | 6,758 | 7,083 | 7,382 | 7,659 | 7,918 | 8,160 | |

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|------------------------------------|--------|---|---|-----------------|-----|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|--|
| 4 | BH - 5 | 1 | $S_{c1} = 0,4246 \log 9,43 + 3,397 \log \frac{(0,530 + \Delta\sigma')}{5,00}$ | Sc ₁ | (m) | 1,365 | 1,620 | 1,838 | 2,027 | 2,195 | 2,346 | 2,483 | 2,608 | 2,723 | 2,830 | 2,930 | |
| | | 2 | $S_{c2} = 0,509 \log 1,27 + 4,072 \log \frac{(3,684 + \Delta\sigma')}{4,67}$ | Sc ₂ | (m) | 1,820 | 2,054 | 2,261 | 2,447 | 2,615 | 2,768 | 2,909 | 3,040 | 3,161 | 3,275 | 3,382 | |
| Total Penurunan Primer (Sc) | | | | | (m) | 3,185 | 3,675 | 4,099 | 4,474 | 4,810 | 5,114 | 5,392 | 5,648 | 5,885 | 6,105 | 6,312 | |

Sumber : Hasil Perhitungan, 2014