```
int_lower_ind  THM

⊢  ∀i:ℤ, E:({...i}→Prop).
|  E(i) ⇒ (∀k:{...i-1}. E(k+1) ⇒ E(k)) ⇒ (∀k:{...i}. E(k))
| by UnivCD
|
1. i : ℤ
2. E : {...i}→Prop
3. E(i)
4. ∀k:{...i-1}. E(k+1) ⇒ E(k)
⊢  ∀k:{...i}. E(k)
| by BackThruLemmaWithUnfolds
|    Thm* ∀n:ℤ. WellFnd{i}({...n};x,y.x>y)    {int_lower_well_founded}
|    [`wellfounded`]
|
⊢  ∀j:{...i}. (∀k:{...i}. k>j ⇒ E(k)) ⇒ E(j)  by UnivCD
|
5. j : {...i}
6. ∀k:{...i}. k>j ⇒ E(k)
⊢  E(j)  by Decide (j = i)
|
|\
| 7. j = i
| ⊢  E(j)  by (Assert (j = i)) THEN (RWH (HypC 7) 0)
|
.\
. 7. ¬j = i
. ⊢  E(j)  by (BackThru 4) THEN (BackThru 6)
END
```